

# Demonstrating the Impact of Research

## An Overview of International Frameworks and Challenges

Solving societal problems through research and collaborative working is at the forefront of most university, research institute, and public and private sector agendas. Producing high-quality research with real-world impact has become increasingly important to fulfil assessment framework requirements, remain relevant to the challenges of society, and continue to attract all-important funding and resources.

**This briefing looks at the changing landscape of research with the impact agenda, and challenges faced by both academia and research funding officers.**



### Background

Limited public resources and economic instability, particularly in the US in the 1980s and 1990s, spurred a notable shift in trend across the international research landscape. The automatic assumption that research efforts would produce a return on investment was replaced with a need for increased discipline and research accountability, whereby reviews and indicators were formulated to measure outputs and ensure that research demonstrates value for science as well as society.

As a result, academics and research funding officers are tasked with being explicit about what research outcomes are to be delivered and what types and levels of impact will be achieved. Furthermore, they also have to find the balance of managing research projects that not only fulfil their own desired outcomes but also meet national, and in some cases, international research priorities.

### The Impact Challenge & Horizon 2000

The impact agenda has become a global necessity due to a lack of resources and the need for stakeholders and policymakers to see tangible benefits to society. Impact is no longer an afterthought or viewed as an added bonus to the completion of a research project; it must be considered at the very beginning of the project's life. The growing importance of showcasing real-life impact has been steered by national research framework assessments, subsequently increasing scoring weightings in this area. It was further consolidated by the implementation of Horizon 2020.

Under the European Commission's (EC) Seventh Framework Programme (FP7), impact was included as a non-scored section and was mainly evaluated through interviews, surveys, and expert panels. The EC identified that Europe had too much research that did not deliver on its promises.

The arrival of the FP7 replacement programme, Horizon 2020, saw impact elevated to a position secondary in weighting only to Research Excellence and societal challenges became one of the programme's three priorities, which are:

1. Excellent science
2. Industrial leadership
3. Societal challenges

The societal challenges priority seeks to develop innovative research to achieve societal/EU policy objectives (climate, environment, energy, transport etc). It also aims to inspire multi-disciplinary collaborations to provide breakthrough solutions, and for these solutions to be tested and demonstrated. The importance of creating solutions for societal challenges is evident in it receiving the largest funding portion of the total programme investment (totaling €9.7 billion).

## How is Impact Measured?

So how is impact measured around the world?

- » From 2009 to 2011 the Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions (**SIAMPI**) was funded under FP7. It was a European consortium of knowledge and scientific institutions which developed evaluation methods for measuring societal impact of research, focusing on the process by which this impact comes about – the interaction between researchers and stakeholders.
- » Assessments of academic research excellence have been conducted in the **UK** approximately every five years since 1986. The UK was the first country to allocate funding based on how research benefitted society and made a real-world difference, with other countries looking to replicate this model (such as Australia). In 2014, the Research Excellence Framework (REF) increased the wider impact of research weighting to 20% of the total assessment.
- » Since the 1990s, academic research in the **Netherlands** has been evaluated every few years and along with the UK has one of the world's oldest systematic evaluation systems of university research. Evaluating Research in Context (ERIC) was a partnership between a number of Dutch organisations involved in quality assurance in research with a primary focus on the economic value of publicly funded research. The project ran from 2006 to 2011. In recent years the evaluation of societal value has

developed rapidly and has been given a more prominent role.

- » The Excellence in Research for **Australia** (ERA) initiative conducted its first full round in 2010 – the first time a nationwide stock take of discipline strengths and areas for development had ever been conducted in Australia. There have been two subsequent rounds of ERA in 2012 and 2015. In December 2015, the Australian Government released its National Innovation and Science Agenda.

One of the measures within the agenda is for Australia to introduce a national impact and engagement assessment, which will assess the benefits flowing from university research. A pilot assessment took place in 2017 and the first national assessment and reporting is due to take place this year.

- » In **France** the Agence d'évaluation de la recherche et de l'enseignement supérieur (AERES) was set up in 2007 with the aim of improving the quality of the French research and higher education system. A key factor of the evaluation criteria was openness to societal challenges.
- » Modeled after the French evaluation agency, **Italy's** Agenzia Nazionale di Valutazione del sistema Universitario e della Ricerca (ANVUR) was established in 2006. In 2011 it carried out its first assessment – the eValuation of the Quality of Research (VQR) – of 95 universities, 21 research agencies or institutes, and 17 inter-university consortia. Assessment indicators, (known as 'third mission indicators') focused on the contribution universities and research bodies can give to the society.
- » The **Slovenian** Research Agency (ARRS) provides a framework for scientific research within the national budget and other sources. It monitors the usefulness, innovation level, efficiency, quality, competitiveness and professionalism of research, and participates in national research and development policy making.
- » In 2002 the Program Assessment Rating Tool (PART) was launched in the **US** to rate effectiveness of spending programmes. This tool was discontinued by the Obama administration and replaced with four separate initiatives which concentrated on committing significant time and resources to programme evaluation, in part to assist with identifying what was value for money in relation to the American Recovery and Reinvestment Act (ARRA) which sought to increase public spending in infrastructure during the recession primarily to save and create jobs.

In some countries where research assessments are not directly tied to outcomes of funding (for example, in Germany, where higher education institutions receive a large share of their financial support from the *Länder* or German states), assessment indicators are unclear and measuring impact is not an explicit requirement. However there are other activities in these countries which show that societal impact is considered and measured, albeit not necessarily through a standardised framework. Examples include:

» In 2006 a new model for result based university research funding was established in **Norway**. The main policy objective was to stimulate increased research activities and allocate resources to centres

1. Impact on economy, technology, and commercialisation (e.g. patent applications, entry into new markets)
2. Impact on knowledge, expertise, human capital, and management (e.g. improved research methods, strengthened expertise)
3. Impact on networking and social capital (e.g. improved networking between research partners, firms)
4. Impact on decision making and public discourse (e.g. participation in legislative and strategy planning)
5. Impact on social and physical environment (e.g. promotion of safety, development of infrastructure)



performing excellent research. The Research Council of Norway (RCN) is the country's most important institution as the main adviser to parliament on research policy. The Council's main strategy for 2015 to 2020 – Research for Innovation and Sustainability – is focused on dealing with societal challenges requiring strong, pioneering research environments that are able to compete and develop within an international framework.

» In 2006, the **Danish** Council for Research Policy developed a tool to assess the quality and relevance of Danish research at different levels (from individual researcher up to institution level). It applied indicators for business-related and overall societal relevance.

» In **Finland**, a consortium between five public research organisations developed methods and indicators needed to analyse the socioeconomic impacts of research and development. Five impact measures and example indicators were proposed:

## Challenges in Measuring Impact

Measuring impact is not an exact science and can vary from country to country. Common challenges that arise in the research process as well as the impact assessment include:

- Cost – criticisms of research assessment frameworks costing too much (for example, in the UK the costs for undertaking REF2014 have been estimated at £246 million of which £232 million were costs to the Higher Education sector)
- Time-lags – the societal impact of research can take a long time to become apparent. In some fields it can take up to 15-20 years
- Ethical aspects of research – the societal impact of research can have a major ethical dimension, particularly in the use of people and animals in testing, or the use of databases containing personal information
- Disciplinary differences creating inconsistency and unfairness

- Concerns that an emphasis on impact could shift resources away from fundamental research and discourage innovative and high-risk study which underpins innovation systems
- Homogenisation of research
- Universities taking on board unmanageable amounts of research
- Questions of how much the effectiveness of research steers policy. Do government priorities and the economic landscape override these real-world benefits demonstrated through research programmes?
- Unexpected impacts can emerge, all creating uncertainty in the scale of possible impact

provider of knowledge for industry to a situation where both partners engage in the co-creation of knowledge and the generation of collective impact from it.

This increasing trend of impact places greater demands on the knowledge and skills of RFOs who must now be able to understand impact in terms of:

- funder expectations;
- realistic outcomes, routes, tracking and metrics; and
- appropriateness within disciplines and as aligned to REF.

RFOs also encounter logistical challenges. Centralised research funding offices require RFOs to apply a generic understanding of impact sensitively across disciplines. Where support is



## Changing Role of the Research Funding Officer

The changing requirements of research outcomes has meant a change in the role of the research funding officer (RFO). Many report that their role has become more pressurised with increased competition for funding bids and resources to strengthen their cases of providing value for money.

When it comes to research collaboration, which universities in particular are keen to engage in to further help demonstrate real-world impact, meet funding body requirements and to submit collaborative Horizon 2020 bids, some RFOs noted a change in views in collaborating with industry. As reported in the Idox paper – The Third Mission – An Overview of University-Industry Collaboration – several academics feel that the impact agenda has brought a significant shift from academics being seen as a

more localised, challenges involve cross-disciplinarity and engaging broader sets of stakeholders than is perhaps usual.

## How to Demonstrate Impact - Top Tips

Key elements of a good Horizon 2020 project:

- Innovative
- Brings about a positive change
- Has a European element
- Clear beneficiaries
- Ambitious – bigger picture driving change

The EC guidance document – How to successfully manage a Horizon 2020-funded project – provides tips on practical management for research projects. These include:

- » Closely adhere to the call text when developing your project
- » A good consortium is built on proven track records on the specific task(s) appointed to the partner, rather than on existing relationships

*“In a country with a very strong currency and in a region where industrial, export-oriented activities are crucial for the economic development, it is essential to identify tailored funding opportunities for research and innovation that will contribute to maintaining and enhancing competitiveness.*

*This holds true for the academic but also for the industrial sector and in particular SMEs. The RESEARCHconnect service helps us, the Research and Innovation Department of our University, to discover new and interesting funding opportunities to be shared with the researchers of our institution and also the private sector in our region.”*

**Rolf Klappert, Head of Grant Office at Université de Neuchâtel**

- » Dedicate sufficient time to management of the project
- » People first – use all-inclusive and straightforward management structures with clearly defined roles and responsibilities throughout the project
- » Invest in building and maintaining trust with consortium partners throughout the project
- » Invest in a good working relationship with the EC project officer



- » Be prepared for changes – about one third of all consortia change at least one partner during the execution of the project
- » Intellectual Property (IP) agreements should meet all partner needs

For research to have an impact in society, it is essential that there is interaction between a research group and societal stakeholders. Examples of productive interactions include:

- **Personal contact:** joint projects, networks, consortiums, consultancy relationships, part-time practitioner work; and also through stakeholder input into the group’s research agenda
- **Publications:** papers in journals, reports, protocols and educational material
- **Artefacts:** exhibitions, software, websites, models, musical scores
- **Stakeholder contributions to the research:** financial, direct involvement, or facility sharing

Many universities are already implementing the above interactions, combining courses with team-based projects and working with clients to solve real-life problems. A great example of this in action is at Tsinghua University in Beijing and the Centre for Research and Interdisciplinarity in Paris where, rather than studying existing knowledge, they have been encouraging students to be innovative and do most of their course work on unsolved problems.

The benefits of this are two-fold, helping universities produce cutting-edge research while enabling students to work on real-life solutions and gain experience of working with industry – in turn making the latter more attractive to employers.

## Conclusion

It is evident that the impact agenda and the increasing importance of demonstrating real-world societal benefits for national research assessment frameworks have transformed the international research landscape. Therefore it is imperative that researchers and research funding officers aren’t left behind in what is already an incredibly competitive field.

Fortunately, tools such as Idox’s RESEARCHconnect service are available to help search for and identify a whole host of suitable funding opportunities, thus saving them time and effort (and possibly frustration!) and allowing researchers to concentrate on what really matters to them – planning and progressing their research.

**For more information on how your institution can benefit from access to RESEARCHconnect, please contact us at [rc.research@idoxgroup.com](mailto:rc.research@idoxgroup.com)**