Process and economic evaluation of the ODI R&D programme

Final Report – executive summary

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Executive summary

In October 2020 The Open Data Institute (ODI) commissioned the University of the West of England Bristol to provide a detailed review of the InnovateUK-funded "Data Innovation for the UK" ODI programme (the 'R&D programme') to examine delivery and evaluation of the R&D programme, to help future strategic and operational development. The UWE team identified three workstreams:

- H1: a process evaluation of the investments (covering effectiveness in delivery, impact, lessons learned and change management)
- H2: an assessment of economic evaluation methods used to establish impact
- H3: a review of the role of ethics and the governance structure in ODI

The workstreams employed a mixture of desk research, interviews and textual analysis to address their relevant research questions. As well as individual workstream findings, a number of common themes emerged from the review process, summarised below.

Workstream H1: process evaluation

H1 aimed to understand and communicate the current process of delivering how R&D projects are executed, using modelling of business processes to create an illustrated representation of the relevant workflows. As the R&D process has evolved over the four years of the programme, focus was placed on the current or As-Is, process, while also gathering information about changes, and the motivation for those changes, to the delivery process over previous years.

The primary form of data collection was interviews with ODI staff involved at all stages of the R&D project delivery; data collection was supplemented by reviewing related process documentation supplied by the ODI. The observations of the R&D project delivery processes revealed a tension between the need for structured project management and the space and discretion required to conduct exploratory research. The unique nature of ODI projects requires creativity, innovation, and exploration. A common theme in these interviews was that there was always more to understand, and knowing when to stop and move on to the next phase of development is a tacit decision.

The delivery process review shows the existence of both 'fluid' and 'rigid' types of processes in R&D at the ODI. 'Fluid processes' support the freedom of those involved in delivery, whereas 'rigid processes' have known or predictable time-bound tasks requiring relatively little discretion. Research phases are fluid, but are being managed by rigid project management approaches. Hence, researchers may feel as unnaturally constrained and that progression from stage to stage can be arbitrary.

Project selection processes are similarly fluid, drawing heavily on tacit information. There appears to be no formal activity in this process to capture the structure of thoughts or decision making, or to formally consult a knowledge management base, despite the existence of a consultation process. Given that the process is cyclical and regular, capturing knowledge and decision-making logic is likely to make any future decisions either more efficient or more robust. This would be even more beneficial to the ODI in the instances of staff changes at these higher levels.

The interviews revealed differences in perception of the delivery process between different actors. There is some justification in the different perspectives in that process changes have been made in the last year and are still being embedded. However, the analysis does illustrate the importance of different perspectives. A synthesis of the managerial view with the operative's view could create a robust, transferable process which incorporates the multiple approaches to project delivery.

The teams involved in marketing & communications play an important, but informal, role in ensuring institutional knowledge and experience is used. These teams use a 'light touch' approach, often informally engaging as a result of a raised need or concern. Planned engagement of these teams occurs at certain clearly-defined points (Kick-Off meeting, project 'retros'), but they provide a different value to the ODI as a whole.

The members of this team act as knowledge connectors across projects and across different functional areas of the ODI. Their organisation-wide perspective and exposure places them in the valuable position to make connections which can enhance a project. The role and responsibility of a 'Knowledge Connector' is a well-researched role within the domain of Knowledge Management (KM), and can help maintaining momentum or increase efficiency by shortening discovery times.

Recommendations for H1

The recommendations address two intertwined issues: knowledge management, and process improvement.

We propose formalisation of the process by incorporating KM actions into delivery process models. This can help integrate new behaviour into the 'normal' process; a model of the adjusted process can be shared across the team and regularly reviewed and updated. The team suggest the incorporation of work-steps for aggregation (data collection), sensemaking (deriving meaning) and transfer (ensuring knowledge is made available across the organisation over time), with examples:

- Sensemaking: formal worksteps in the early stages of setting context and individual topic exploration where a KM repository is actively searched
- Aggregation: a formal workstep at the end of 'Retros' – allocate and budget for time to write-up lessons learned; amend process models
- Transfer: a wider-team meeting where ideas that have been scoped and defined are pitched; the purpose is to find internal or external connections or centres of knowledge, and robustly test concepts

We suggest that the ODI identify those individuals who act as connectors and make this role more formal. Connectors typically are experienced, engage in networking, and care a great deal about the organisation. They can provide short cuts through a busy and formal workplace.

Workstream H2: Improving economic and social evaluations

ODI commissions economic and social evaluations (ESEs) to understand the economic and social impact of their R&D projects. However, there is little consensus in the literature on ESEs for data investments, and the R&D projects generate very intangible outcomes. Quantitative assessments were seen as highly subjective. The limited usefulness of 'traditional' ESE prompted the tender requirement to investigate whether ESE could be re-imagined to provide more value to ODI. The team identified opportunities for development in three key areas: purpose, planning and measurement.

Purpose

The ESEs could provide greater benefit for the ODI and stakeholders. The imperative to provide a quantitative return on investment limited its usefulness; but the evaluation process was recognised to have value in itself, by shining a light onto ODI activities. The team recommended

- That ODI should take greater ownership and control of the process: being clear who, and what is it for?

- Aims and scope (including what is measurable, what is quantifiable, and what is neither but still of interest) need to be defined at project start, and should include social and environmental impacts

Planning

Evaluations tend to be planned late in the process, limiting the value for data collection; and yet, because of the long-term nature of many R&D projects, too early to reliably identify impacts. The ODI's strategic theory of change does not seem to play a major role in the evaluation process, and so evaluators tend to develop their own idiosyncratic theory of change. The evaluation process is usually seen as an addition to the project planning process, meaning there are limited opportunities to design KPIs, for instance, or design other data collection which might help in the evaluation. Finally, the lack of integration of the process meant that there is greater opportunity for additional knowledge sharing.

In order to improve the effectiveness of evaluation, planning for the evaluation needs to be fully integrated into project planning; this may include offering the evaluation tender at the beginning of the project. The evaluation budget should also reflect the value of early planning, with a substantial portion devoted to the planning stage, and identification of KPIs. Finally the evaluation needs to more clearly involve both a strategic perspective (to link to the organisation KPIs) and operational links, particularly to the communications team who are the effective collectors and guardians of key pieces of evaluation data. Finally, there is an opportunity to build on the formal structures to ensure that lessons are learnt and can carry over into the planning of future projects and evaluations.

Measurement

The outputs and impacts of the R&D programme (and wider ODI outputs) are inherently difficult to identify and measure. These issues can be reduced by creating the specification for the analysis in advance: exactly how the KPIs will be gathered and what they mean, what can and cannot be measured, which part of the evaluation the metrics are providing evidence on, and so on. A substantial part of the evaluation budget should be set aside for the planning stage to set up effective data collection.

Recommendations

We propose a refocussing of the ESEs. First, ODI needs to take greater active ownership of ESE: deciding what it wants to get out of the evaluation, which elements are important, and how it is going to use the findings. Second, ODI needs to take a more structured approach, and integrate its 'ownership' at all stages. We outline a six-step model, to ensure agreement between all parties (ODI, stakeholder, evaluators) as to what the evaluation is covering, why it matters and what needs to be done. Third, ODI could usefully develop a taxonomy or typology providing some structure and comparability across its evaluations; this would simplify the role of evaluators and the need for ODI to get buy-in from all parties for an evaluation. We provide an example of what this taxonomy could cover.

Workstream H3: governance and ethics

Ethical considerations play a pivotal role in the ODI programmatic documents. The creation of an "open, trustworthy data ecosystem" is envisaged as something broader than an operation involving private and public companies and institutions. In this workstream, a document review, conceptual analysis and case study were used to understand how R&D projects bridge the gap between direct outputs and mission goals.

"Trust" is a central concept in ODI documents and discussions, but in the first year of the R&D programme there is only a general reference to the necessity of improving trust. In subsequent years, trust becomes progressively more embedded in the design and delivery of individual projects, particularly years 3 and 4, where several projects place ethical/trust concerns at their core.

This progressive approach allowed the ODI to iterate and refine their strategy, theory of change and how they express their mission. However, this more retrospective inclusion of ethical considerations within the programme delivery also presents some criticalities. Rather than ethics and trust being central to the R&D programme constantly in all its phases, it was more likely to be applied a posteriori when the programme was moving towards its conclusion.

As a case study, the team analysed the ODI's Data Ethics Canvas (DEC). Designed to highlight and resolve gaps in existing ethical frameworks, the DEC project goals should be closely aligned organisation goals; and the interviews showed that the trainers appreciated this. However, whilst the DEC has had a substantial impact on users (both during and post-project), it is less clear how well this is linked to the overall mission of ODI. In particular, the focus on practical use may mean that the wider public is not being engaged in the attitudinal change that the DEC embodies.

Drawing wider lessons for the governance of the R&D programme, there are opportunities for ODI to better bind its ethical model to project outputs via better linkage between measurable impact, ethical considerations, and ODI mission. In addition, widening the range of potential beneficiaries allows the R&D programme (and others) to address the wider societal goals. Both of these simplify explanation of how ODI projects meet its wider mission goals.

Recommendations

Two recommendations were made to enable ODI to bind projects to its mission more effectively:

- The nature of the tools developed at ODI, or other project outputs, be measured explicitly against the ethical ambitions in the ODI mission
- A wider set of social sectors should be identified as project beneficiaries (rather than just direct users of the service), via a clearer public engagement strategy

Common themes

A number of gaps or opportunities cut across the different workstreams:

- **Linkages between goals, objectives, missions, impacts and outcomes:** gaps in these linkages limited the ability of ODI to integrate activities and outcomes
- **Limited planning time/resources:** planning processes limited the gains, or restricted the scope of what could be achieved
- **Knowledge management**: improved KM could substantially improve outcomes across programmes and projects

However, this should be seen as a positive development. The recommendations made in one part often address gaps in the other work streams; for example, better integration of project and programme goals (recommended in Workstream H2) also improves project selection and promotion, in Workstreams H1 and H3 respectively. Similarly, all workstreams identify a change in the way that KPIs are selected as contributing to improved outcomes. There are substantial gains for ODI from viewing the recommendations in each workstream as different sides of the same coin.