Successful Tool Re-Use in Open Contracting

Guidelines for Open Contracting Tool Authors and Support Providers

THE ENGINE ROOM
OPEN CONTRACTING PARTNERSHIP
THE WORLD BANK
IBRD • IDA

How tool authors and support providers can increase the likelihood that re-use of open contracting tools is successful.

These guidelines are based on research commissioned by The World Bank, conducted by The Engine Room in collaboration with the Open Contracting Partnership from May to October 2019.

Research and writing
Grace Higdon, The Engine Room

Writing, editing and project management
Helen Kilbey, The Engine Room

Review and feedback
Julia Keseru and Zara Rahman, The Engine Room. James McKinney, Open Contracting Partnership. Kristina Aquino and Samuel Garoni, the World Bank.

Design
Dimitri Stamatis

With thanks to all of those we interviewed for this project, who generously contributed their time and expertise.

Acknowledgement and quotes from this publication to be referenced as: The Engine Room. Successful Tool Re-use in Open Contracting: Guidelines for tool authors and support providers, November 2019. This publication is available at https://theengineroom.org and https://open-contracting.org.

Contents

Community and support

1.1 Strengthen the open contracting ecosystem

In our research into re-use of open contracting tools, many of the practitioners we interviewed called for more discussion, collaboration and learning around tools. Events mentioned as being helpful included:

- presentations about open contracting for new entrants to the space
- specific, method-focused seminars (e.g. on ‘red flags’)
- international conferences.

“There was a lot [of engagement] around the data standard development, but there hasn’t been the same conversation about tools and things you can do with OCDS.”

“There’s a disparity of knowledge – not just around OCDS but also generally around technology. People don't understand what it means to process data, to get data from one format to another (scraping, downloading and converting, etc). Most people foreign to programming don't always grasp this.”

“We try to find events and places where people can share their own experiences. Or we create a venue for people to exchange good ideas.”

1.2 Provide support and build community around specific tools

- **Consider how a tool’s GitHub repository could be used to support new implementers.** A number of interviewees cited the importance of GitHub, both in implementing a tool and in communicating with the tool author.
- **Consider how a tool’s GitHub repository could be used to facilitate communication between tool re-users.** GitHub was brought up in interviews as a platform that facilitated communication between re-users of a tool.
- **Consider offering implementation support, or collaborate with an organisation that can provide support.** Re-users cited in-person support as a key factor in deciding to re-use a specific tool, and in the success of their projects, and they benefited substantially from workshops or one-to-one tutorials.

- **Offer clear contact information.** If willing to provide support, make it clear how implementers can get in touch (e.g. by providing an email address) and what kind of support can be provided.

  "It's really helpful to know how to get hold of someone about the tool, and to have a clear idea of who runs it and whether it's maintained or not. Having contact is incredibly useful for any tool [being re-used]."

- **Consider offering in-person training.** Almost every open contracting practitioner we spoke to cited attending a training as being a fundamental precursor to using or adapting a tool. One practitioner chose a tool specifically because the tool author had a local office in the country their project was being conducted in.

- **Formalise and get funding for support provision.** The provision of ongoing support is often informal, unfunded and motivated by a personal wish to assist re-users; however, the more successful re-usable tools have authors who are under contract to provide support to re-users.

  "It needs to be in a job description to provide assistance to people who are trying to re-use tools. You can't assume all developers can provide assistance.Sometimes it might take a conversation; sometimes it might take more hand-holding."

  "Right now it's quite informal – someone comes to me and I can support them, I am excited to support them. But we don't have a process for that."

Learning resources

2.1 Publish more learning resources

- **Develop more ‘intermediary’ resources.** Some practitioners we spoke to cited a need for more intermediate-level resources – i.e. resources that do not assume a technical background, but that go deeper than the basics.

  “There are new concepts that need to be understood and by both technical and non-technical people. They need support.”

- **Publish more re-use success stories.** Interviewees suggested that a comprehensive ‘one-stop-shop’ for published success stories of tool re-use in new contexts would be useful. Generally, success stories were cited as being extremely helpful for understanding, training and advocacy.

  “We need more success stories available to citizens about what you can do.”

Tool development and maintenance

3.1 Develop tools with adaptability in mind

- **Consider how tools/code could be extended by others.** In interviews, extensibility came up as a desirable quality.

  "Great if I can change it with minor adjustment, if there is 20% I want to change – to build upon it, expand upon it (for example, with plugins)."

- **Consider building smaller, more modular tools that can be used together.** Open contracting practitioners we spoke to expressed, in general, a preference for smaller, less complex tools built for specific utility (that can be used together and/or extended) rather than a single large platform.

3.2 Write thorough documentation

"You should be able to give it to someone who has never seen it before, and they should be able to get it running."

Even adept technical users we spoke to found gaps in many tools' documentation that prevented them from being able to successfully re-use those tools.

Some suggestions for high-quality documentation that emerged from our research include:

Key elements

- Clear statements on what the tool does and how it does it
- Explanation of the tool's architecture
- Step-by-step outline of the setup process
- Reference materials
- Use cases and examples (demonstrate how to use the tool to solve simple problems based on the different ways people may try to use it).

Nice-to-haves

- Multilingual documentation
- Online demo
- Contact details for the tool author (if willing to answer questions).

This blog post lays out some key features of good documentation in more detail.

! It is also important to update documentation as the tool evolves.

3.3 Consider the skills and knowledge of potential re-users

Re-users of a tool will have varying degrees of knowledge and skill related to open contracting, data and software development.

Interviewees from both open contracting and civic tech discussed instances where practitioners had to learn a new programming language in order to re-use a tool, as well as situations where new re-users required a lot of unexpected support from the tool author due to gaps in technical skill or open contracting knowledge.

With this in mind, consider:

- What programming languages are most popular in the contexts you expect the tool to be re-used in?
- Who will provide assistance if the requisite skills are not there?
- What resources can be shared to help get a potential re-user up to speed? (E.g. well-written documentation, short tool explainers, or other explanatory resources)

3.4 Consider working on 'lower-tech' alternatives where possible

- Interviewees cited a need for more 'low-tech' tools. Suggestions included tools for spreadsheet users (e.g. data visualisation and analysis in Excel) and web-based applications.
- One interviewee said that though some open contracting initiatives have targeted governments in the Global South, in many areas government and civil society partners are most comfortable using spreadsheets and URLs (instead of JSON and the command-line interface).

  "We're looking at building a web front-end to plug a gap in the middle, so that it's more flexible, but also easier to use. At the moment you've got quite inflexible tools on the one end and command-line tools at the other end."

3.5 Formalise a plan for tool maintenance

Questions to consider:

- What resources are needed (e.g. human resources, time, and funding) to keep the tool updated? Compensating developers for time spent on free tools came up frequently in interviews as an issue.
- How do users report issues with the tool and who is responsible for responding? Tool authors interviewed noted that they continue to build on tools as new types of users contacted them.

  “We’ve had two or three sprints a year, for three or four years – it’s never finished.”

Funding

4.1 Consider a variety of funding models

"If you want people to use to use [a tool] on an ongoing basis, you need to plan longer term, have a feedback loop so you can understand how it needs to change, and you need funding."

- Look into 'joint funding' as a possibility. In interviews with those involved in tool re-use in the civic technology sector, joint funding – i.e. funding that financed the original tool author (for tool building and ongoing maintenance) as well as the tool re-users – was cited as providing the greatest chances for successful re-use of a tool.

Example

MySociety's parliamentary monitoring platform TheyWorkForYou was most successfully replicated in Kenya and South Africa due in part to joint funding provided to both countries as well as to MySociety.

- Seek funding for long-term maintenance and infrastructure. For both the tool authors and the tool re-users we spoke to, the resources required for longer-term maintenance of their tools were persistent concerns. In most cases, the people we spoke to saw the long-term sustainability of their tool to be in jeopardy because of this.

  It's also worth noting here that some of the most re-used open contracting tools are made by tool authors working under long-term funding contracts, which allow them to continue to provide updates and maintenance.