Developing an Open Data Support Capability Within RTI’s Information and Communication Technology (ICT) Unit

Submitted by: BaleFire Global LLC

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# Executive Summary

RTI desires to assume a world leadership position in open data through enhancements to its international project operations.

Balefire Global LLC (BFG), an established international open data consultancy, proposes to help RTI jumpstart its open data program by making BFG resources immediately available to help RTI define and support open data programming.

BFG can support the development of RTI’s open data program in a variety of ways including:

1. Reviewing how ICT currently manages and supports RTI projects.
2. Assessing open data program opportunities associated with current and planned RTI projects.
3. Designing an Open Data Support Program for RTI ICT that describes project specific activities as well as centralized infrastructure and support capabilities.
4. Beginning implementation of the Open Data Support Program in connection with a selected number of current and planned RTI projects (“pilot projects”).
5. Revising and adjust the Open Data Support Program based on learning gained from the pilot projects.

BFG proposes to adapt its own open data project management techniques to requirements of the RTI ICT operation. Selected BFG senior staff will form the core of the initial project team with our goal being to support RTI pilot projects as we simultaneously assist in design and implementation of a self sustaining RTI open data support program.

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# Proposed Approach

## Delivery Channels for Open Data Support

There are a least three channels via which RTI’s ICT unit can deliver support for transformative open data programs:

1. Assist in development of open data programs in the countries where RTI projects operate. Following this approach the ICT unit would provided direct deliverable services to assist client countries to develop their own open data program capabilities.
2. Modify RTI’s project management processes to ensure that project data gathered or generated by the projects adheres to open data best practices. Following this approach the ICT unit would develop standards, training, and technical resources that would be provided as “standard operating procedures” throughout RTI project operations. RTI and in-country staff, for example, would be trained in managing data generation and data gathering to ensure compatibility with open data and metadata standards.
3. Provide on demand and infrastructure support for open data activities as needed throughout RTI operations. By serving as RTI’s “back office” open data support operation the ICT unit could provide open data support on a shared services basios. An example would be the development and operation of a customized open data portal and API support service that would accelerate support for open data access through websites and mobile devices.

BaleFire Global can support any or all of these delivery channels and recommends adoption of a robust service model to guide development of ICT services such as those suggested above. In the following we describe one possible service model for consideration by RTI.

## Government Digital Service as a Model

One possible approach is for RTI to pattern its approach on existing government programs. One model is the UK’s Government Digital Service (GDS) Unit. Another possible model, though less mature, is the U.S. Federal government’s own U.S. Digital Services unit.

The GDS in the UK has a highly effective program of transforming government ICT and data governance. The GDS works using a policy called “Digital by Default”. The Digital by Default Service Standard is the basis for a set of criteria for digital teams building government services to meet the standard where “meeting the standard” means that digital services associated with RTI operations are of a consistently high quality.

For RTI this would, following this model, include creating services that are easily improved, safe, secure and fulfill user needs, regardless of which of the three “channels” described in the previous section is followed.

## Development of an RTI Data Service Standard

Following this model RTI would use open data as the basis for actionable analytics in support of its varied education, training, health, and governance programs. Creating or adapting such a model to drive ICT unit services will require the following types of tasks as recommended by UK’s Digital By Default Service Standard manual[[1]](#footnote-1):

1. Understand user needs. Research to develop a deep knowledge of who the service users are and what that means for digital and assisted digital service design.
2. Put in place a sustainable multidisciplinary team that can design, build and operate the service, led by a suitably skilled and senior service manager with decision-making responsibility.
3. Evaluate what user data and information the service will be providing or storing, and address the security level, legal responsibilities, and risks associated with the service (consulting with experts where appropriate).
4. Evaluate the privacy risks to make sure that personal data collection requirements are appropriate. Privacy risks and privacy tolerance vary by country and region.
5. Evaluate what tools and systems will be used to build, host, operate and measure the service, and how to procure them.
6. Build the service using the agile, iterative and user-centred methods.
7. Establish performance benchmarks using key performance indicators (KPIs) against which the service will be measured.
8. Analyze the prototype service’s success, and translate user feedback into features and tasks for the next phase of development.
9. Create services that are simple and intuitive enough that users succeed first time, unaided.
10. Put appropriate assisted digital support in place that’s aimed towards those who genuinely need it.
11. Build a service consistent with a user experience based on design patterns and style guides developed by RTI.
12. Make all new source code open and reusable, and publish it under appropriate licences (or give a convincing explanation as to why this can’t be done for specific subsets of the source code).
13. Use open standards and common government platforms where available.
14. Test the end-to-end service in an environment identical to that of the live version on all common browsers and devices.
15. Put a plan in place for ongoing user research and usability testing to continuously seek feedback from users.
16. Establish a benchmark for user satisfaction across the digital and assisted digital service.
17. Establish a benchmark for completion rates across the digital and assisted digital service.

## Open Data Team Products and Services

The new RTI unit should work as a technology agnostic service supplier specializing in open data governance and business development around open data programs. As BaleFire Global we have developed partnerships with Socrata, Open Data Soft, and CKAN. These partnerships allow comparing the functional requirements of our clients and matching them to the technology most suited to the client strategy.

Our business services have one core outcome, to engage citizens and the private sector to create application rich and data aware environments. Without creative approaches to engaging the public and private sectors, the value of open data to government is low.

Our clients do not think of us merely as a vendor for an open data or a development project, but as a primary partner that could add value across many areas as needed. Our unit divides open data initiatives, deployments and programs along three basic lines:

1. Pre-implementation
2. Implementation
3. Post-Implementation

In addition we score each part of our business offerings with a “Capabilities Index” that allows us to demonstrate to our clients the maturity roadmap from the current state and potential state in regards to their open data program.

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# BFG’s Service Core Offerings

We propose to adapt BFG’s core service offerings, where appropriate, for use by RTI ICT in supporting RTI projects and programs.

## Pre-implementation services

1. Assessments (Readiness as well as assessing current open data portal against best practice rubric)
2. Data Audits
3. Gap Analysis
4. Training
5. Program advisement, strategic planning
6. Project SDM advisement and development

## Implementation services

1. Data extraction and transformation and loading (ETLs)
2. Developing programmatic ETLs
3. Designing API strategies and architectures
4. Enterprise Architecture advisement
5. UX and CX analysis and recommendations

## Post-implementation services

1. On-going training via subscription
2. Program development and advisement
3. Policy and legal strategies for privacy, adherence to local and state laws recording record disclosures
4. Data set certification
5. Program audit and accreditation
6. Client staff professional development (helping them certify on the technology they are using)
7. Data governance up to providing a virtual CDO

Additional details of these core service offerings are provided in Appendix A.

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# BaleFire Global LLC and Proposed Project Staff

Data is the 21st century’s new raw material. The availability of data is the key to the identification of economic opportunities and policy decision-making. Without a strong program aligned to promote reuse of open data, the data itself will have little value.

We have a record of successful engagements with municipal, state and national governments to fundamentally change the way governments interact with their citizens. This interaction centers on the concept of “data as infrastructure” where data is a strategic asset that belongs to everyone.

**All of our services and strategies are aimed at providing measurable business outcomes aligning to an open data strategy.**

Our staff work with government executive teams, departments, agencies and ministries to map out open data strategies that create value and provide a path to citizen engagement and collaboration. This business unit is built on collaboration between government and civil society.

## Business Overview

Being located in the heart of the Research Triangle Park gives our company access to some of the biggest technology companies in the world. RTI ITC engaged with BaleFire Global to develop a plan that could become the core of RTIs efforts to operate within the international open data community. BaleFire Global has deep roots in the international open data community as well as NGOs. Nicole Raimundo, Jason Hare and Dennis McDonald worked on this plan.

Our mission is to foster regional collaboration between cities, states and countries to create vast data ecosystems that promote innovation through the creation of data aware applications. This is fundamentally at the core of what we deliver. Creation of sustainable two-sided data markets through citizen engagement and the widespread adoption of data aware devices.

## Key Staff

Nicole Raimundo is the CEO and Co-Founder of BaleFire Global LLC. Jason Hare is the other Co-Founder and acts as the Director of Open Data as well as the Executive Director of our overseas offices. Dr. Dennis D. McDonald is a Sr. Consultant with Balefire and supports BaleFire’s project management and strategy work.

### Jason Hare

In 2013 Jason Hare became an Open Data Institute Member and founded an ODI Node in North Carolina. In the same year he became an Open Government Partnership (OGP) Delegate. Jason Hare has guest-blogged on the OGP website. He also is on the Open Data Working Group for the US OGP Civil Society Delegation.

Jason is a charter member of the Open Data Institute Nodes and has close ties with the senior management of that institution. Jason also consulted with the Open Knowledge Foundation to help craft Ireland’s OGP submission and has spent several years working on the ground with Irish Civil Society. Jason Hare also has strong ties to Microsoft Public Sector in Ireland, Central Europe and the Middle East Africa group.

Jason Hare earned his BS in Applied Anthropology, Summa Cum Laude, at Washington State University and attended graduate studies in Cognitive and Applied Archaeology at Simon Fraser University. His specialty is pre-literate communications and technology. Jason Hare is a Department of Defense NORCUS Scholar and did his internship at Battelle Pacific Northwest Laboratories, Hanford Cultural Resource Laboratory. He then worked on UNESCO projects in Brescia, Italy and the Quinghai Province in China. Since 1991 Jason Hare has been involved in geospatial analysis of data relating to environmental carrying capacity and human response to environmental stress. He has authored papers on symbolism and adaptation in the post-Holocene world on both the Columbian and Qinghai Plateaus.

Over 20 years Jason has worked on the web stack from user experience design to heuristic usability analysis to online user behavior analysis to stress testing and security at the server and cloud level. His customers have included Duke University, Merkle, US Fish and Wildlife, Verizon, British Telecom, Bank Atlantic, Durham Public Schools, City of Raleigh, Ireland’s Ministry of Reform, Colombia’s Ministry of Information and Communications, The Commonwealth of Puerto Rico, The Colorado Secretary of State’s Office and several cities across the US and Europe.

### Dr. Dennis McDonald

Dr. McDonald has collaborated since 2013 with BaleFire Global and frequently publishes on open data strategy and project management (http://www.ddmcd.com/open-data). His specialty is the enhancement of project and program management methods in data intensive publishing and information management operations. He has worked as a strategist, project manager, and analyst in the U.S. and in Europe, Egypt, and China.

His clients have included communication and IT departments in various organizations including the World Bank (collaboration metrics and SharePoint adoption), the US Environmental Protection Agency (research program management), the U.S. National Academy of Engineering (social media support for STEM careers), Catalyst RX (enhanced project management support for enterprise system integration projects), the U.S. National Science Foundation (improvement of Egyptian scientific and technical information resources), AIG (requirements for improved insurance system support operations in Hong Kong and Chinese markets), and Keyspan Energy (integration of mainframe data management and application software following a corporate merger).

He earned his MLS and PhD in Library and Information Science at the University of Maryland where he obtained NSF support for the mathematical modeling of cancer researchers’ and physicists’ selection of journals in which to publish research.

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# Appendix A: Description of BFG Core Service Deliverables

Our project approach focuses on both business and technical priorities for our clients. We partner with clients to develop sound open data strategies in the context of industry best practices, business goals, and existing constraints. We have a proven track record of delivering our projects on time and on budget and we are proud to boast that the majority of our work comes from referrals. The following is a list of the services we are prepared to adapt to support RTI’s open data program goals:

## Pre-Implementation Deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| Business Service | Service Team | Deliverables | Pricing |
| Assessment and Analysis   * Research and analyze information and data landscape * Research best practices and emerging trends to identify candidate functionality for the portal. | * Project Manager * Open Data Strategist * Business Analyst * Open Data Trainer | * Assessment Report * Project management * Current Site Analysis Presentation * Candidate Data Set Matrix | Cost is estimated on the size of the jurisdiction |
| Gap Analysis   * Prepare for and conduct interviews with key stakeholders (up to 10) * Define Business Requirements and strategic priorities * Conduct Citizen Research * Analyze current functionality and level of engagement against best practice maturity models. | * Project Manager * Open Data Strategist * Business Analyst | * Gap Analysis * Interview Business Reqs | Cost is estimated on the size of the jurisdiction |
| Training   * Interactive training workshops * 1 day training course: beginners * 3 days training course: beginners/ intermediate * 5 days intensive training course: intermediate/ advanced | * Open Data Trainer * Open Data Strategist | * Data Literacy (1 day) * Open Data in One Day (1 day) * Open Data Strategies  (3 days) | Cost is estimated on the time to travel and number of attendees and length of training engagement |

|  |  |  |  |
| --- | --- | --- | --- |
| Data Audits   * Review available existing data and produce an inventory together with recommendations. * Expert team members will be able to build on and extend the work that has already been carried about by local open data advocates | * Project Manager * Open Data Strategist | * Assessment of data assets * Creation of data asset inventory * Train stakeholders to curate data asset inventories | Cost is estimated on the size of the jurisdiction and scope of data audit. |

## Implementation Deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| Business Service | Service Team | Deliverables | Pricing |
| Extract, Transform and Load  * Data extraction and transformation and loading (ETLs) * Developing programmatic ETLs | * Project Manager * Open Data Strategist * Business Analyst | * Data set location * Data set mining * Data loading and visualizations * Project management | Cost is estimated on the number of data sets and effort to mine the data. |
| API and Enterprise Data Governance  * Designing API strategies and architectures * Enterprise Architecture advisement * Developing data governance models | * Project Manager * Open Data Strategist * Business Analyst | * EA design * Beta architecture and testing * Business Requirements * Data governance best practices strategy document | Cost is estimated on the scope. The engagement should start with an assessment on what the design of the architecture. |
| Training  * Interactive training workshops * 1 day training course: beginners * 3 days training course: beginners/ intermediate * 5 days intensive training course: intermediate/ advanced | * Open Data Trainer * Open Data Strategist | * Data Literacy (1 day) * Open Data in One Day  (1 day) * Open Data Strategies  (3 days) | Cost is estimated on the time to travel and number of attendees and length of training engagement |
| UX and CX Audits  * UX and CX analysis and recommendations * Site UX and site integration | * Project Manager * Open Data Strategist | * Assessment of data assets * Creation of data asset inventory * Train stakeholders to curate data asset inventories | Cost is estimated on the size of the jurisdiction |

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## Post-Implementation Deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| Business Service | Service Team | Deliverables | Pricing |
| Subscription Services  * Ongoing training * Program Management * Ongoing Civic Engagement | * Project Manager * Open Data Strategist * Business Analyst * Open Data Trainer | * Training engagements * Develop and maintain programs * Map program to business outcomes * Project management | Cost is estimated on the size of the jurisdiction |
| Program Development and Advisement  * Designing strategic outcomes for your open data program * Working with civic leaders * Developing sustainable data ecosystems | * Project Manager * Open Data Strategist * Business Analyst | * Best practices documentation * Learning sessions and seminars * Presentations to civic and private sector leaders | Cost is estimated on the size of the jurisdiction |
| Training (Ongoing)  * Interactive training workshops * 1 day training course: beginners * 3 days training course: beginners/ intermediate * 5 days intensive training course: intermediate/ advanced | * Open Data Trainer * Open Data Strategist | * Data Literacy (1 day) * Open Data in One Day  (1 day) * Open Data Strategies (3 days) | Cost is estimated on the time to travel and number of attendees and length of training engagement |
| Program Audits, Certification and Accreditation  * ODI data set audit and certification * Program accreditation * Program Audits | * Project Manager * Open Data Strategist | * Assessment of programs * Data certificates * Program certificates * Audit reports and recommendations | Cost is estimated on the number of data sets. Accreditation is priced separately but can be bundled. |

1. “Digital By Default Service Standard” <https://www.gov.uk/service-manual/digital-by-default> [↑](#footnote-ref-1)