Humanitarian Innovation Fund

Case Study

The Humanitarian Lessons-learned Genome Project 1.0: Facilitating the full use of evaluative processes in the humanitarian sector

Organisation: University of Groningen
Project: The Humanitarian Lessons-learned Genome Project 1.0: Facilitating the full use of evaluative processes in the humanitarian sector
Partner: The Emergency Capacity Building (ECB) Project and others
Start Date: January 2012
Grant Period: January 2012 – March 2013
Total Budget: £150,000
Location: Global

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Summary

This case study explores the development and implementation of the Humanitarian Genome Project, an innovation arising in the University of Groningen and developed in collaboration with humanitarian agencies.

Humanitarian agencies spend millions of pounds each year evaluating emergency response programmes, yet the sector continues to be criticised for repeatedly making the same errors and for failing to assimilate lessons from evaluations. In this context, the Humanitarian Genome 1.0 was designed as the first version of a free, digital, open source and globally accessible application allowing humanitarian workers to quickly access evaluation data to inform their decision making.

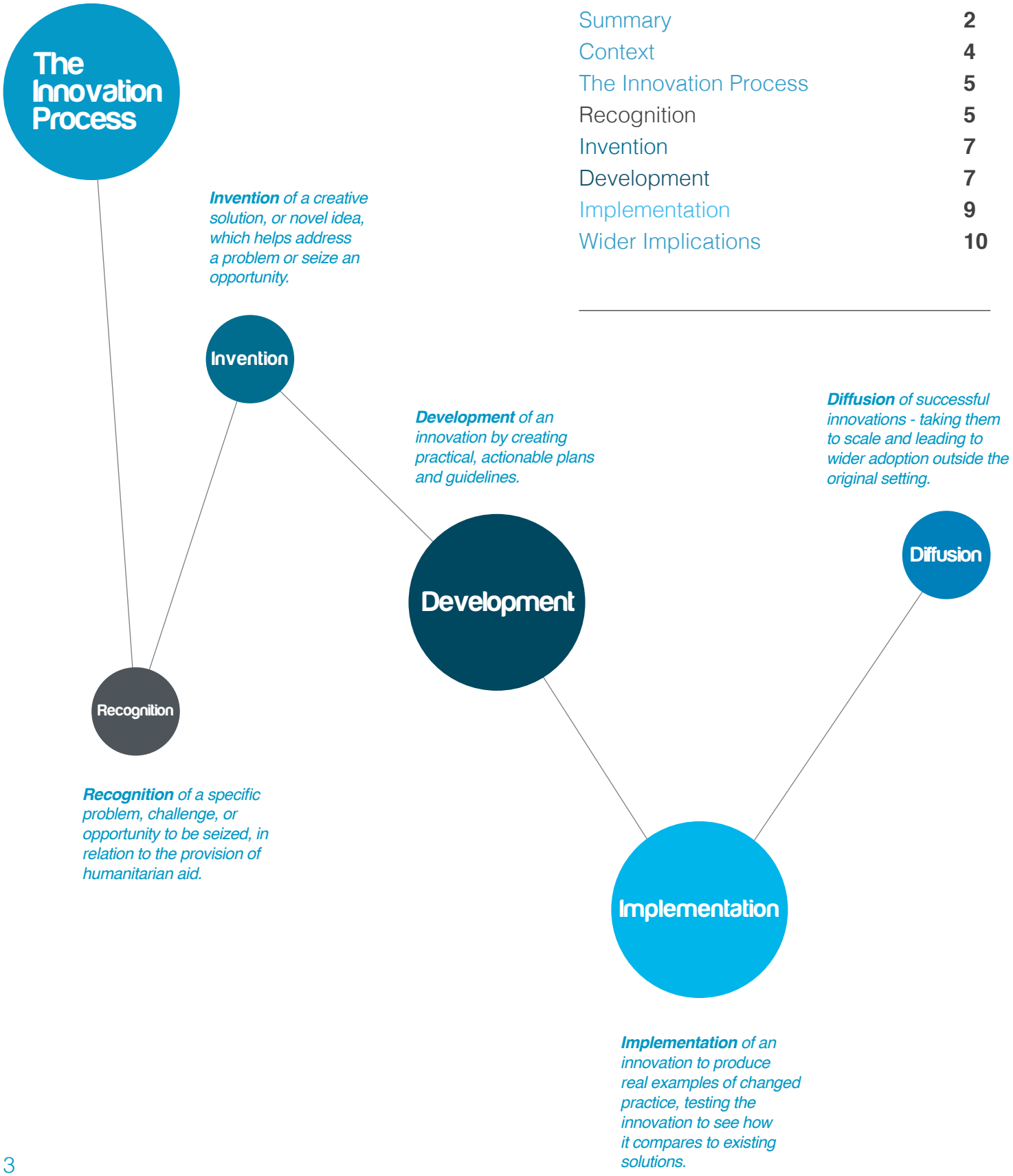
Collaboration was at the heart of the interdisciplinary innovation. The researchers formed a partnership with the Emergency Capacity Building (ECB) Project, a coalition of humanitarian actors interested in accountability and impact (consisting of CARE International, Catholic Relief Services, the International Rescue Committee, Mercy Corps, Oxfam GB, Save the Children and World Vision International). Two consultants in the humanitarian sector, Adriaan Ferf & Leonie Barnes, were contracted to advise on the Humanitarian Genome's content. ICT company Soluto was contracted to develop the search engine and web-based user interface.

The project received funding from the Humanitarian Innovation Fund (HIF) to develop and implement the platform. Evaluative statements in almost 100 reports were tagged with the use of an elaborative encoding dictionary. A search engine was designed to respond to user-specified queries relating to humanitarian interventions by collating relevant texts from across the library of documents. The tool was designed to provide options to broaden or tighten a search on the basis of specific information needs, for example 'success (positive)' stories or 'failure (negative)' stories.

This case study investigates how researchers at the University of Groningen combined their understanding of text-based analysis with the contextual knowledge of humanitarian workers involved in the ECB Project. It describes how the project collaborators built on previous attempts to collate inter-agency cross-sector data on lessons learned within an innovative environment. The case study explores how the platform was developed within an academic environment and implemented with humanitarian workers, and it discusses the challenges associated with dissemination of the new technology. It finishes by considering the wider implications of the innovation for other agencies involved in complex multi-disciplinary collaborations, capturing key lessons around understanding and mitigating risk, multi-agency roll-out, cultural differences between academic institutions and humanitarian agencies, and the unique challenges presented by fast-moving technologies.

The study is based on a review of the project literature and interviews with current and former project staff and partners in February 2014. This case study is part of a series produced by HIF that explores how agencies, which have received HIF grants, have undertaken innovation processes in humanitarian practice.

Contents



Context

Humanitarian agencies responding to emergencies often work in settings that are unpredictable and chaotic and that change rapidly. The decisions they make are complex – for example, with regard to limited resource allocation – and can have widespread consequences. Yet agencies are forced to make decisions quickly and in a context where measuring impact is difficult and often precludes detailed research or baseline measurements of the affected population.

Nevertheless, humanitarian organisations are increasingly emphasising the need to evaluate the effects of their work, make themselves accountable both to donors and to the affected population, and take measures to understand and implement good practice. Between 2005 and 2010 approximately $150 billion was spent in humanitarian assistance[1]. Measuring impact has moved up the humanitarian agenda[2], and millions of pounds are invested each year in monitoring and evaluating humanitarian organisations and their programmes.

In the last decade, there have been several initiatives to improve organisational learning for humanitarian interventions, including:

- organisational networks such as the ECB Project
- publicly accessible evaluation databases by Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP) and CARE
- networks of donors and coordinating bodies such as the Good Humanitarian Donorship group
- good-practice evaluation guidelines such as ALNAP's Quality Proforma, and Humanitarian Accountability Partnerships' (HAP) Standard in Humanitarian Accountability and Quality Management Standard

However, the sector continues to be criticised for repeatedly making the same programme errors and for its deficiencies in taking on lessons from evaluations[3]. The 2012 State of the Humanitarian System report argues that with an increasingly diverse humanitarian system, 'it is more important than ever to track trends in progress, inaction or indeed retreat, in order to increase the accountability and transparency of the whole system.'[4] Humanitarian evaluations are often long and cumbersome, and tend to be poorly structured. Moreover, the exponential growth in documents, combined with inconsistent formating and a lack of public access to most reports, makes it difficult to extract lessons-learned within a single organisation and almost impossible on a cross-sector basis.

The ECB Project working group on accountability and impact measurement recognised the need for improved transparency and accountability within the humanitarian sector and in 2005 took steps towards disseminating lessons-learned information by making short summaries of agencies' evaluations available in the public domain. Simultaneously, researchers at the University of Groningen had begun using text-based analysis of humanitarian evaluations to try to measure and understand the effectiveness of humanitarian organisations. The Humanitarian Genome project was built on the experiences of both groups and reflects a commitment by agencies in the ECB to improve the quality of humanitarian interventions across the sector.

[1] *ALNAP, 2012. The State of the Humanitarian System. ALNAP.*
[2] *Roberts, L., Hofmanns, C.-A., Shoham, J., 2004. Measuring the impact of humanitarian aid: a review of current practice. ODI.*
[3] *Donahue, A., Tuohy, R., 2006. Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them. Homeland Security Affairs 2.*
[4] *ALNAP, 2012. The State of the Humanitarian System. ALNAP.*

The Innovation Process

Understanding the process through which an innovation has emerged is a valuable tool for evaluating its success or failure. HIF employs a model of innovation based on five stages:

- the recognition of a specific problem or challenge
- the invention of a creative solution or novel idea that addresses a problem or seizes an opportunity
- the development of the innovation by creating practical, actionable plans and guidelines
- the implementation of the innovation to produce real examples of change, testing it to see how it compares with existing solutions
- the diffusion of successful innovations – taking them to scale and promoting their wider adoption.[5]

These five steps provide a useful archetype for the innovation process, and are used in the HIF case study methodology. But they come with the caveat that innovation is complex and non-linear, and identifying deviations from this model is just as important as (and possibly more so than) confirming the applicability of the model itself when documenting the progression of an innovation.

In this case study, we apply this innovation model to the Humanitarian Genome Project.

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Recognition

***Recognition** of a specific problem or challenge*

The Humanitarian Genome Project emerged organically from research at the University of Groningen. Professor Liesbet Heyse and PhD student Chamutal Eitam had been using evaluation reports to analyse organisational effectiveness and learning in the humanitarian sector. They quickly discovered that the sector was lacking a tool that allowed quick and focused searching of evaluation documents.

At the same time, Jock Baker was overseeing a PhD thesis on evaluations of humanitarian interventions at CARE. As part of its wider strategic work to improve accountability, CARE had committed to a policy of making its lessons-learned documents publicly available. It had also started producing an annual synthesis of lessons that was intended to help inform directors in their decisions on resource allocation. CARE observed that many of the same problems, mistakes and lessons were

[5] *Ramalingam, B., Scriven, K., Foley, C., 2009. Innovations in international humanitarian action, ALNAP 8th Review of Humanitarian Action: Performance, Impact and Innovation. Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP), London.*

emerging in multiple consecutive emergency scenarios. Like several other organisations, it was increasingly aware of the need to make better use of its evaluations.

Timing was an important factor in recognising the need for the Humanitarian Genome innovation. The lack of learning by humanitarian agencies was becoming seen as a fundamental problem for the sector. However, the exploding number of reports and their varied formats made it hard to find the right information at the right time. In 2005, six humanitarian agencies began to work together under the umbrella of the ECB Project. Jock Baker describes the collaborative environment as 'an open invitation to be innovative'. One of the three focuses of the joint initiative was accountability and impact measurement. The working group defined 23 lesson categories (water, food security, accountability, etc) and created the ECB Evaluative Database as a customised means of reporting lessons-learned across agencies. A series of interns at CARE trawled through hundreds of evaluative reports to populate the database with lessons-learned data in each category.

Researchers at the University of Groningen became interested in working with the ECB Project in order to make use of the agencies' evaluative reports, which tend to be confidential and difficult for researchers to access. The ECB working group on accountability and impact measurement recognised the potential benefit of a collaboration in which the researchers could help to review and synthesise the information. A funding call for large grant applications to HIF catalysed the Humanitarian Genome Project. Chamutal Eitam wanted to collate humanitarian learning into a single database, and the two researchers saw the funding opportunity as an ideal way of combining their expertise in analysing humanitarian reports.

Populating the ECB Evaluative Database was very labour-intensive, and many of the ECB Project agencies had not been able to adopt the practice. When the researchers approached the ECB Project to suggest partnering on the Humanitarian Genome Project, Jock Baker of CARE describes that the humanitarian workers responsible for the ECB Evaluative Database 'breathed a sigh of relief'. The ECB Project agencies were looking for an exit strategy, and the Humanitarian Genome Project offered the possibility of developing the work of the ECB Project working group and of collating lessons-learned in a more consistent way.

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Invention *of a creative solution*

The Humanitarian Genome Project arose in an opportune environment. The ECB Project consortium was a platform for fostering innovation and testing new ideas. Importantly for the project, the ECB Project's work on accountability and impact measurement was built around principles of transparency and shared learning.

The underlying objective of the Humanitarian Genome Project was to produce comprehensive information that would enhance the speed, frequency and intensity with which humanitarian workers could apply information and lessons learned in past scenarios. The deliverable objectives for the project were developed at the university but with input from the humanitarian partners, who understood the contextual need for the project and balanced the researchers' technical focus. The working group leads sensed that the researchers understood their problem and were working on software that could solve it.

The collaboration benefited from strong relationships from the outset, most notably between the researchers and ECB Project members Jock Baker and Kevin Savage, who became champions of the project within the humanitarian sector. As soon as funding was granted, the team held a workshop in Geneva to discuss the early phases of the project. Shared decision making was pivotal: the researchers recognised that they were inclined to delve into the methodological details, while the humanitarian agencies had a broader focus that enabled the group to develop a more comprehensive picture of their aims.

The team contracted ICT company Soluto, based in Tel Aviv, to develop the web interface for the Humanitarian Genome. Soluto's key contribution during the invention phase was to advise the team to write a strategic plan for the project that would outline the objectives on the basis of end-user scenarios. Maintaining a focus on end-user experience proved important advice for the project's development and implementation.

Development *creating practical, actionable plans and guidelines*

The first 12 months of the project were set aside for development of the Humanitarian Genome platform. This was a technical and labour-intensive process. Keyword searches, the basis of most modern search engines, do not include all relevant texts (eg, a topical search on 'leadership' should include many relevant texts not containing the word 'leadership'). Coding schemes, by contrast, allow more complex searching, for example of high/low performance. The approach was therefore to first develop a baseline database of evaluative reports coded by hand, using the coding schemes already developed at the University of Groningen. The team planned to collect and manually code 500 documents.

The project was jointly led by Liesbet Heyse and Chamutal Eitam. The university hired a team of research assistants who coded the evaluative documents, following schemes to meticulously label evaluative statements according to a detailed coding dictionary (codifying, for example, a programme's performance, evaluation, methodology, sector, actors). Coding is a repetitive activity and coders can often lose concentration and motivation. However, the members of the small team were enthusiastic researchers and created a strong team ethos that fostered creativity and high-quality work. They used the web-based platform tracky.com to encourage communication, discussion, creative thinking and learning.

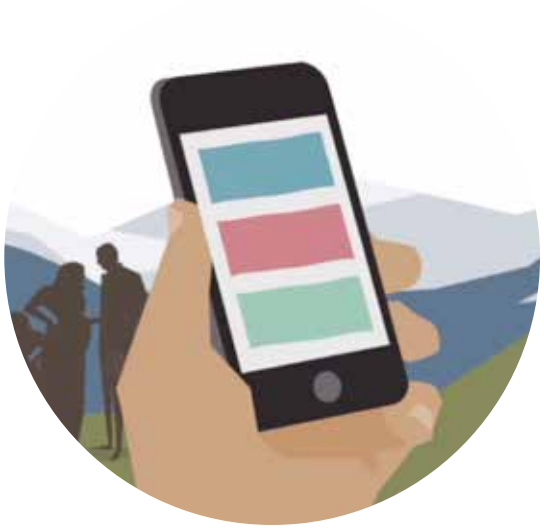
The humanitarian agencies, through the ECB Project, had been involved in the initial stages of the innovation, but development of the Humanitarian Genome fell largely to the researchers. Broadly, this approach was successful from both perspectives. The humanitarian partners were informed of progress, approached when their advice was needed, and asked to input on critical decisions. Several workshops allowed the whole team to meet to review progress and discuss next steps. However, this approach meant there were long pauses in the involvement of humanitarian partners.

To be useful in the long term, technical innovations require the involvement of humanitarian workers who understand the context. For the humanitarian partners, who had limited understanding of the technical aspects of the encoding, progress seemed slow. Moreover, the language and methodology of the research team, humanitarian advisors, and ICT partner were all very different. The academic team focused on the technical details, ensuring the academic value and quality of their work. With the researchers discussions centred on the technical details of the coding, the humanitarian partners' input was limited. They did, however, play a valuable role in recommending evaluative reports underutilised in the sector for coding.

The project was a steep learning curve: the researchers had expertise in the coding methodology but not in launching or managing an innovation with a broad coalition of partners. They were working intensively on the Humanitarian Genome and partnering with stretched humanitarian advisors balancing many competing commitments. On occasion they found it challenging to ensure timely input and keep the project team working together.

The platform (interface, search engine and database) was built by Soluto. There were challenges in focusing the programmers at Soluto on the project's end-goal, and the academic team provided very detailed guidelines and feedback on the functionality, format, appearance and search options/ outcomes of the platform. Soluto provided its services at a significantly reduced rate, so it was challenging for the researchers to be exacting. This was exacerbated by cultural differences: the researchers slow and thorough in their approach, and the ICT team looking to incorporate the latest 'hot' solutions. With the help of the humanitarian advisors, the team was able to emphasise its common goal for the sector.

The critical resource for this innovation was time. A total of 270 codes had been developed, and each paragraph in an evaluation could have as many as 20 codes attached to it. The original plan to code 500 documents was unattainable given the length of the evaluative reports. The team made a decision to focus on the quality of the coding documents rather than on the quantity in order to ensure the value of the Humanitarian Genome in generating valid and relevant information.



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Implementation *to produce real examples of change*

A prototype for the Humanitarian Genome was finalised in late 2012. The uniqueness of the tool is its ability to collate tagged texts from various documents and deliver them into a single location in response to a query. The tool then gives options to broaden or focus the search according to other criteria (such as programme 'successes' or 'failures').

Humanitarian agency partners became more actively involved in January 2013, when the tool was presented to humanitarian workers. The test events were not part of the original HIF proposal (which focused on the technical parts of the innovation). This was later recognised as an oversight given the importance of embedding the project within the humanitarian community. Feedback was important, and the team hoped to attract a wide audience of evaluators, donors, NGO representatives and academics. The event was attended by a narrower group than hoped, but was well represented by the advisors, ALNAP and HIF alongside some of the agencies involved in the ECB Project. The test event also provided an opportunity for the wider team to meet, give feedback and begin planning for the future of the project.

An unexpected challenge in the implementation phase was confidentiality of evaluation reports. Early on, the humanitarian advisors at the ECB Project recommended a core set of underutilised evaluative reports for coding. Some of the suggested reports were confidential, and so the Humanitarian Genome has not been made publicly available as originally anticipated.

There were also technical challenges at the implementation stage. Terminology and topics of interest in humanitarian dialogue change rapidly. Some of the original 270 codes had already become outdated. In certain cases it was possible to replace them with synonyms. Resilience had emerged as a major theme in the humanitarian sector, for example, and was listed as a synonym for coping (ie, resilience=coping). Secondly, quality encoding of evaluative documents requires expertise in the context of humanitarian work, and so lessons were not always recognized. Moreover, identifying lessons learnt for tagging is subjective. More esoteric searches became like simple keyword searches.

Finally, manual coding takes time. The researchers manually coded 95 reports, but the long-term success of the project will require automated or semi-automated encoding. Humanitarian organisations may be reluctant to invest in a tool that is time-intensive to maintain. Algorithms generated from the current database could allow the system to identify relevant parts of evaluative texts and suggest automated code words.

An important legacy of the project is its role in helping agencies think about the use of evaluations. For the academics, the prototype has demonstrated that it is possible to collate humanitarian data and to make it accessible, transparent and accountable. For the humanitarian community, it has demonstrated the real problem of collating valuable lessons-learned material and the technical complexity of finding a solution. The innovation process has identified possible solutions, ruled out others, and moved discussions forward. Significant challenges remain, particularly around the subjective nature of identifying lessons-learned for coding and populating the Humanitarian Genome with a larger set of evaluations.

This section considers the wider implications of the Humanitarian Genome Project for our understanding of innovations within the humanitarian sector.

Understanding and mitigating risk

The researchers believe the space to innovate and, most importantly, permission to fail were key factors in their instigation of the Humanitarian Genome Project. At the outset, the Humanitarian Genome team had identified several risks, including the ability to integrate into the sector and to meet planned targets. This case study highlights the importance of understanding risks at the outset to ensure early planning.

The Humanitarian Genome Project was rooted in academia. There was a risk that researchers would produce a tool with high academic value but little chance of embedding into the sector. The researchers recognised the importance of contextual input and developed strong relationships within the sector to ensure relevant report selection and ongoing feedback from practitioners. The pilot phase, beginning in January 2013, provided an opportunity for humanitarian workers to give feedback on a prototype of the tool. The researchers originally planned to pilot the tool with a range of INGOs and user groups (field staff, operational management. M&E teams) at different phases of humanitarian programmes (preparation, implementation, evaluation) to gain insight into the contexts and results yielded. A number of factors limited uptake, including:

- closure of the ECB Project in 2013
- the long-running development phase, during which several key humanitarian advisors changed roles
- cultural and language differences between partners
- the technical challenge of encoding new evaluative documents

Like any search engine, the tool improves as its database grows and as it learns popular search terms. The tool currently contains 95 evaluative documents encoded with over 250 search terms. The end-of-project evaluation suggested that 500–800 would be a reasonable number of documents to encode for sector relevance. This would require agencies to provide evaluation reports and lessons-learned documents and to encode the documents themselves using the complex codebook. This is a cyclical challenge: until a greater number of documents are encoded, humanitarian agencies may not appreciate the value of the tool, but encoding those documents will require the tool to be integrated into agencies' work.

A second risk was meeting the project deadlines. The objectives for the project were ambitious, and encoding the evaluation reports and creating the interface took longer than anticipated. The team reduced their original ambitions to allow for a more modest number of encoded reports, but continued to set high objectives for the implementation and dissemination stages. The end-of-project evaluation report noted that the list of activities for dissemination and improvement remains ambitious, and the team was encouraged to focus on a smaller number of targets.

Collaboration

Interdisciplinary environments can foster innovation. At the same time, divergent perspectives and expectations may threaten the smooth running of a project. The Humanitarian Genome Project relied on a broad range of expertise and backgrounds, and in this environment it was important to spend time understanding each other's perspectives, building trust, and managing differences. The personal relationships at the heart of the collaborations proved to be vitally important. The team created an environment in which there was flexibility to alter plans and space to give critical feedback. In particular, they learned to focus on the common goal, differentiate strengths and divide tasks accordingly.

The collaboration was based on strong personal relationships. The university administration insisted on formalising collaborative agreements with the humanitarian advisors and the ICT company. This was fortuitous and proved to be important in defining expectations.

The Humanitarian Genome Project held a mid-term and end-of-project review, but team members believe more frequent networking events with external input might have injected new ideas and helped the researchers to reflect on and document their learning.

Cultural challenges of academic partnerships

Combining academic and practical insight into humanitarian evaluation was fundamental in this case study. CARE, the lead ECB Project agency for accountability had first recognised the need for the innovation through the original PhD thesis by Monica Oliver. Her thesis created a precedent for academic partnerships and emphasised the practical role of academic research in evaluation and lesson-learning.

The value of collaboration had been established, but a key challenge in the innovation process was managing the cultural and linguistic differences between the academic researchers and the humanitarian agencies. The innovation approach was typical of an academic collaboration: the researchers took a light-touch approach to management, developed tight terms of reference typically required by university institutes, and placed high value on research assistants and consultants. However, they did not always appreciate the need to run test events or to concentrate on how users would respond to the system. Communications messages and reports tended to focus at length on the technical aspects of the tool at the expense of clear messaging on how the tool would benefit the user in their day-to-day work. The relative benefits of the Humanitarian Genome, in comparison with other search engines, were not always clear.

The invention and development of the tool took 12 months, during which the researchers were focused on the details of the technical encoding. Academic projects are often wide-reaching with long-term deadlines. Academic publications tend to give ambitious future work objectives that aim to position the results within their broader context and encourage blue-sky thinking. By contrast, humanitarian organisations tend to be fast-paced, driven by immediate priorities and short-term deadlines. Several of the humanitarian contacts disengaged during the long development time, especially because it was hard for them to understand the technical process or visualise the progress that was being made. However, a major contribution of the project was the expertise bought by the academic team in facilitating humanitarian agencies in understanding the complexity, necessity and possibility of this type of system.

Technology innovations

Two implications arise from this case study in relation to technological innovation: the first is related to technology for charity and the second to the speed of technological innovation.

The ICT company employed to develop the search engine and user interface had an existing relationship with the researchers and provided its services at a reduced ‘charity’ rate. The developers were based in Tel Aviv and used an online tool for registering their progress and reporting problems. The developers did not have previous experience of the sector, so the researchers managed their work closely to keep end-user needs in mind. However, with the reduced rate, the researchers found it hard to be too exacting in their requirements and were not able to achieve their ideal tool. For the next phase of the project a formal contract at commercial rates with fixed deadlines would enable them to be more demanding.

The second implication relates to the speed of technological innovation. The ALNAP database of evaluative reports was first developed at the turn of the millennium and contained several hundred reports. At the time, it was seen as highly innovative. But technology is moving, and today, thousands of digital evaluative reports are generated by humanitarian agencies – the ALNAP database, for example, has registered 5,657 evaluation resources in its library.[6] Developing techniques for mining very large databases of complex information is a priority for search engines globally, and many approaches are emerging. The Humanitarian Genome is one approach to solving the challenge in the humanitarian sector. The approach is grounded in techniques developed for complex sociological text analysis within an academic context. The tool provides extensive features which can produce search results based on user-defined search parameters. Its main advantages over other search engines (for example, Google or Yahoo) lie in its ability to deliver specific texts from various documents that answer the search query and its lack of dependence on keywords.

Cutting-edge technological innovation can be a challenge within the sector, because few humanitarian agencies have the expertise or time to really understand the new technologies. In the medium term, other data-mining approaches are likely to develop that will be relevant to the sector. The techniques of the Humanitarian Genome can be developed, but the focus will be on academically valuable text analysis techniques rather than providing a conduit for other new technologies. The Humanitarian Genome Project is making progress in describing the challenge of sorting and using large databases of humanitarian information and the case study demonstrates that collaborative projects can catalyze technological innovation within the sector.

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[6] *ALNAP Evaluation & Resources website: http://www.alnap.org/resources/*