IMPROVING TRAINING FOR COLLABORATIVE INNOVATION

A Joint Study by the Center for International Science and Technology Policy and the Global Knowledge Initiative

Abstract

Innovation involving science and technology is essential to sustainable and inclusive global economic development. The Global Knowledge Initiative (GKI) seeks to train development professionals in the art of collaborative innovation for improved development outcomes. GKI has challenged four CISTP consultants to assess GKI’s methods and how GKI can expand their network through offering trainings to a broader segment of international development professionals.

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# Table of Contents

1 Table of Contents .................................................................................................................. 1

2 Executive Summary .............................................................................................................. 5

   2.1 Introduction to the Global Knowledge Initiative ............................................................. 6

2.2 Structure of Current Trainings ........................................................................................... 6

   2.2.1 Innovation Systems and Framework ............................................................................ 7

   2.2.2 Collaboration Skills ........................................................................................................ 7

   2.2.3 Science, Technology, and Innovation Policy and Strategy ........................................... 7

   2.2.4 Knowledge Partnership Landscape Analysis ............................................................... 7

   2.2.5 Professional Science, Technology and Innovation Skills ............................................ 7

2.3 Organizational Strategy: Top-Down Approach .................................................................... 7

3 Statement of Recommendations ............................................................................................ 9

4 Background & Framework for Recommendations ................................................................. 10

   4.1 Collaborative Innovation ................................................................................................. 10

      4.1.1 What is Collaborative Innovation? .............................................................................. 10

      4.1.2 What is Collaboration? ............................................................................................... 10

      4.1.3 What is Innovation? .................................................................................................... 10

      4.1.4 How Do We Use Collaboration to Enhance Innovation? ........................................... 10

      4.1.5 How Do We Use Innovation to Enhance Collaboration? ......................................... 11

      4.1.6 Collaborative Innovation and the Global Development Infrastructure ....................... 11

   4.2 GKI’s Goal ....................................................................................................................... 12

   4.3 GKI’s Target .................................................................................................................... 13

   4.4 Market Survey ................................................................................................................. 13

      4.4.1 Market Players ............................................................................................................ 14

      4.4.2 Rigor of Research ..................................................................................................... 15

5 Market Research Findings ....................................................................................................... 16

   5.1 Geography of Offerings ................................................................................................. 16

      5.1.1 Lack of Supply in Washington, DC ............................................................................ 16

      5.1.2 High Demand in Washington, DC ........................................................................... 16

   5.2 Cost Structure of Offerings ............................................................................................. 16
5.3 Target Audience of the Competition ................................................................. 17
5.4 Curricular Focus ............................................................................................ 17
5.5 GKI’s Niche in the Market ............................................................................. 17
5.6 Summary Recommendations ........................................................................... 18
6 Needs Assessment .............................................................................................. 19
  6.1 Summary .................................................................................................... 19
  6.2 Findings of the Needs Assessment ............................................................... 19
    6.2.1 Curricular Interest ................................................................................ 19
    6.2.2 Preferred format .................................................................................. 20
    6.2.3 Budgetary allowance .......................................................................... 20
7 SWOT Analysis .................................................................................................. 22
  7.1 Strength of Recommendation ..................................................................... 22
  7.2 Weakness of Recommendation ................................................................... 22
  7.3 Opportunities ............................................................................................. 22
  7.4 Threats ........................................................................................................ 22
8 Conclusion .......................................................................................................... 23
  8.1 Recommendations ...................................................................................... 23
  8.2 Further Study .............................................................................................. 23
Appendix 1: Capstone assignment ....................................................................... 24
Appendix 2: Terms of the project .......................................................................... 25
Appendix 3: Organization Profiles ....................................................................... 26
  NCIIA ................................................................................................................ 26
  T2 Ventures ..................................................................................................... 26
  Harvard Kennedy School ................................................................................... 26
  Ideo.org ........................................................................................................... 27
  Stanford d.school ............................................................................................. 27
  BMGI ............................................................................................................... 27
  Catapult Design ............................................................................................... 28
  KnowInnovation ............................................................................................... 28
  Luma Institute .................................................................................................. 28
  UNITAR ........................................................................................................... 29
Appendix 4: Market Research Data ....................................................................... 30
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodology and Limitations</td>
<td>32</td>
</tr>
<tr>
<td>Appendix 5: Landscape Schematic</td>
<td>33</td>
</tr>
<tr>
<td>Appendix 6: Interview Protocol</td>
<td>34</td>
</tr>
<tr>
<td>Appendix 7: Demand Data</td>
<td>36</td>
</tr>
<tr>
<td>Appendix 8: Interviews</td>
<td>37</td>
</tr>
<tr>
<td>Interview 1</td>
<td>37</td>
</tr>
<tr>
<td>Interviewees</td>
<td>37</td>
</tr>
<tr>
<td>Interview Notes</td>
<td>37</td>
</tr>
<tr>
<td>Training</td>
<td>38</td>
</tr>
<tr>
<td>Training Budget</td>
<td>38</td>
</tr>
<tr>
<td>Preferred Method</td>
<td>39</td>
</tr>
<tr>
<td>Rating Topics</td>
<td>39</td>
</tr>
<tr>
<td>Interview 2</td>
<td>40</td>
</tr>
<tr>
<td>Interviewee’s Current Job</td>
<td>40</td>
</tr>
<tr>
<td>Interviewee’s Training Experience</td>
<td>40</td>
</tr>
<tr>
<td>Preferred Training</td>
<td>40</td>
</tr>
<tr>
<td>Interview 3</td>
<td>42</td>
</tr>
<tr>
<td>Interviewee</td>
<td>42</td>
</tr>
<tr>
<td>Background</td>
<td>42</td>
</tr>
<tr>
<td>Main Challenges</td>
<td>42</td>
</tr>
<tr>
<td>Opportunities for Improvement</td>
<td>42</td>
</tr>
<tr>
<td>Most valuable Skills</td>
<td>42</td>
</tr>
<tr>
<td>Training</td>
<td>42</td>
</tr>
<tr>
<td>Topics</td>
<td>43</td>
</tr>
<tr>
<td>Interview 4</td>
<td>44</td>
</tr>
<tr>
<td>Interviewee</td>
<td>44</td>
</tr>
<tr>
<td>Background on Infodev</td>
<td>44</td>
</tr>
<tr>
<td>Challenges</td>
<td>44</td>
</tr>
<tr>
<td>Training</td>
<td>44</td>
</tr>
<tr>
<td>Useful Skills</td>
<td>45</td>
</tr>
<tr>
<td>Topics</td>
<td>45</td>
</tr>
<tr>
<td>Bibliography</td>
<td>47</td>
</tr>
</tbody>
</table>
2 Executive Summary

The Global Knowledge Initiative (GKI) builds global knowledge partnerships between individuals and institutions of higher education and research. GKI helps partners gain access to essential knowledge, technologies, and human resources needed to sustain economic growth and achieve prosperity for all. GKI draws on a vast network of professionals in the public, private, and government sectors, including experts with on-the-ground experience.

This project addresses the needs of GKI’s training programs. Currently, GKI employs a module-based approach that is customizable based on the thematic/geographic nature of the challenge, demographic/quantitative makeup of its participants, and structural preferences of its customers.

The organization is interested in offering training on collaborative innovation designed specifically for DC-based professionals in the field of international development. This demographic represents and integral part of the global development network. While they are not necessarily implementing development programs, they are responsible for directing and monitoring resources, setting criteria for success and making decisions on which programs will receive funding.

Because of the innovative nature of their training modules, GKI is seeking a critical analysis from an external consultancy. In order to determine whether or not GKI would benefit from going forward with the proposed training, the GWU team performed research to answer two main questions:

• Given the variety of trainings and workshops that are available in Washington, DC: is there a space in the market for GKI to offer a course on collaborative innovation for development practitioners?
• Is there any interest among the prospective clientele? Is there a need for a course on collaborative innovation targeted to DC-based development professionals?

The research team conducted market surveys, and also performed an analysis of the strengths, weaknesses, opportunities and threats associated with the proposed training.

Following this analysis, the team recommends that GKI offer training the DC area on the topics of Monitoring and Evaluation, Networking, Collaboration, Intellectual Property Management, Fostering Innovative Ecosystems, and people skills. The trainings should be from 1-3 days and be local, which would foster face-to-face interaction and commitment on the part of participants. There may be a recorded webinar format for those participants whose schedules don’t allow for their attendance at a meeting. Last, the price point should be below $1,000, which the research team realized to be the maximum budget for several government agencies.
2.1 Introduction to the Global Knowledge Initiative

The Global Knowledge Initiative was formed in 2009 as an outgrowth of the 2008 Higher Education Summit for Global Development. That summit identified a set of challenges that could be solved by partnerships among research institutions from developing and developed countries. To build those partnerships Sara Farley formed GKI. GKI is an IRS 501(c)(3) tax-exempt organization consisting of 11 employees,\(^1\) 11 members on its Board of Advisers,\(^2\) and 300 volunteers.\(^3\) In Fiscal Year 2012, GKI’s expenditures were approximately $340,000.\(^4\)

Since its foundation in, GKI has supported the creation of partnerships for the development and transfer of knowledge, technology, and human capacity to foster international development. GKI seeks to fill the gap between researchers and entrepreneurs from technologically advanced countries and those from countries that lack access to such technologies and resources. Through its network of partners, GKI brings together researchers, policy makers, educators, social entrepreneurs and students. But GKI’s mission involves more than just connecting people and institutions. It also determines if there are shared objectives or strategic intersections among those partners. In other words, GKI identifies institutions with critically needed resources and pair them with the people who need such resources. Ultimately, GKI creates opportunities for collaboration to help solve some of the world's most important development challenges. As of now, GKI’s knowledge-sharing and network-growth approach has involved stakeholders from 45 countries.\(^5\)

2.2 Structure of Current Trainings

GKI offers customized courses on collaborative innovation. Participants include local universities, entrepreneurs, and researchers. This audience represents a diverse array of science and technology and innovation stakeholders, with varying needs and interests. As a result, GKI decided to make this training available in multiple modules from which participants can chose. The modules currently offered as part of the training include:

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2 Ibid.
4 Ibid.
2.2.1 *Innovation Systems and Framework*
This module provides participants with a better understanding of innovation and its role in social and economic development. It is designed to equip participants with tools to identify Science, Technology, and Innovation resources in critical sectors.

2.2.2 *Collaboration Skills*
This module teaches participants how to formulate collaborative innovation strategy and design a shared agenda.

2.2.3 *Science, Technology, and Innovation Policy and Strategy*
Topics covered in this module include STI policy formulation, monitoring and evaluating innovation systems. The module also exposes participants to international lessons and experience in STI policy.

2.2.4 *Knowledge Partnership Landscape Analysis*
This module teaches participants how to select optimal partners. Participants can learn how to catalogue essential science, technology, and innovation tools.

2.2.5 *Professional Science, Technology and Innovation Skills*
This module consists in learning how to write research proposals, how to build professional network, how to leverage open education resources.

2.3 Organizational Strategy: Top-Down Approach
GKI’s mission is to enable researchers, academic institutions, and entrepreneurs from around the world to find solutions to development issues in various areas including agriculture, health, education, and energy. To that end, GKI’s LINK (Learning Innovation Network for Knowledge) program serves as a matchmaker that identifies opportunities for collaboration between developing and developed country research institutions and entrepreneurs. Such partnerships facilitate conversion of new ideas in science, technology, and innovation into practical solutions to development challenges.

However, GKI’s LINK program is a *bottom-up* approach to collaborative innovation. This means that field workers at the development site are trained, and those skills and ideas then trickle up to higher-level professionals and grant writers.

GKI is now more interested in adopting a *top-down* approach and sees some potential in exposing Washington, DC-based decision makers to collaborative innovation. By looking at the LINK program from a policymaker’s perspective, GKI identified an opportunity to offer training to international development professionals in the US in collaborative innovation. GKI would like

7 Ibid.
to help development professionals create more sustainable partnerships. They especially want to work with those that are at the center of funding decisions as well as those involved in writing Requests for Proposal (RFPs). Those professionals are located in Washington, DC, not at development sites.
3 Statement of Recommendations

GKI should offer a course for D.C.-based, mid-level development professionals. To appeal to this demographic, the course should be offered locally, in person, and run in length from one to three days, to foster face-to-face interaction and commitment on the part of participants.

The course should be priced below $1,000 per participant, as higher prices would prohibit participation of a large section of the market.

In order to appeal to the target audience, key topics for the course to address include: Networking; Collaboration; Intellectual Property Management; Monitoring and Evaluation for Development Programs; and Communication/People Skills.

In addition, the main skill that GKI is trying to provide, “Collaborative Innovation,” is not well-recognized in the market. Therefore, GKI should either promote the term or not avoid focusing on it.
4 Background & Framework for Recommendations

4.1 Collaborative Innovation

4.1.1 What is Collaborative Innovation?
As the world becomes ever smaller through technology, globalization, and interconnectedness, the speed with which ideas spread is increasing. To capture those ideas and transform them into innovative products, processes, and organizations, knowledge partners must be able to find one another. Igniting and sustaining partnerships also means finding resources: technological, financial, human, institutional, and intellectual. The twin pillars of a knowledge economy are accessing and generating new knowledge and applying that knowledge to enhance livelihoods and create new solutions, products, jobs, wealth, and health. When people with ideas can come together and access the necessary resources, we see the results in the form of new drugs, better crops, breakthroughs in energy efficiency, and innovations in learning.⁸

4.1.2 What is Collaboration?
Collaboration is “united labour, co-operation; esp. in literary, artistic, or scientific work.”⁹ In the case of the Global Knowledge Initiative, collaboration involves the leveraging of ideas, resources, and partnerships between those who need and those who can provide. Those who need gain because their problems are solved. Those who provide gain because an improved and more prosperous world is better for everyone.

4.1.3 What is Innovation?
Innovation is finding novel ideas for solving problems and addressing needs. In GKI’s case, this inevitably involves leveraging technology and partners with expertise in technology. It also involves the unique assembly of various ideas and backgrounds of partners to achieve GKI’s clients’ goals.

4.1.4 How Do We Use Collaboration to Enhance Innovation?
Collaboration brings together partners from disparate backgrounds and skillsets to find unique and technologically-informed solutions.

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4.1.5 How Do We Use Innovation to Enhance Collaboration?
GKI and many other market participants use innovative and technologically-robust ways to collaborate, including videoconferencing, e-learning modules, interactive processes, social networking, cloud computing, and telecommunications. Through these methods, innovative solutions are found.

4.1.6 Collaborative Innovation and the Global Development Infrastructure
Partnerships that connect researchers in less developed countries with their counterparts, and the research capacities, in developed and emerging economies can yield more successful development outcomes and greater returns on investment for donor countries. GKI’s approach of promoting partnerships and forming knowledge-sharing networks supports inclusive and sustainable economic development.

Science, technology and innovation (STI) are well-recognized as important tools for achieving global development goals. Science and technology can also be applied to inform policy decisions to support sustainable and inclusive economic policies. As we face increasingly complex development challenges, such as ensuring that the world’s farmers can produce enough food to feed a growing population while dealing with emerging crop diseases and climate change, it is important to build networks of scientists, researchers and policy-makers to support STI-led solutions.

The individuals and organizations that possess the resources to fund scientific research and development, and the implementation of development programs, are an essential part of the global development network.

4.2 GKI’s Goal

The Global Knowledge Initiative (GKI) is interested in offering a course on collaborative innovation designed specifically for DC-based professionals in the field of international development. Such a course could benefit GKI because it would increase GKI’s market, as well as GKI’s network of potential partners. The course could also have broader impacts, such as improving the strategic use of resources for international development initiatives, and sharing lessons and best practices for promoting sustainable and inclusive economic development.

While GKI has compelling reasons to pursue this interest, GKI also has concerns. There is a possibility that GKI, which is a small NGO, could invest limited time and resources in designing the course only to discover that there is weak demand for such a course on collaborative innovation.

In order to determine whether or not GKI should invest in designing and marketing a course for DC-based development professionals, two primary considerations must be addressed:

- Given the variety of trainings and workshops that are available in Washington, DC: is there a space in the market for GKI to offer a course on collaborative innovation for development practitioners? Is the market crowded out?
- Is there any interest among the prospective clientele? Is there a need for a course on collaborative innovation targeted to DC-based development professionals, specifically employees of government agencies and multilateral organizations that fund development programs?

Additional considerations, also to be addressed through market analysis and needs assessment, include the following:

- **Course structure** – What is the appropriate length and preferred method of instruction (in-person or remote learning)?
- **Cost** – Do prospective clients have a budget for this training?
- **Curriculum** – What are the priority topics for instruction and how can training best serve the broader goal of the clients and GKI?
4.3 GKI’s Target

The objective of GKI’s training programs is to “equip students, lecturers, researchers, policymakers, and science, technology and innovation professionals with collaboration skills” and to “build the collaboration capacity of [their] partners to use a wider set of tools, optimize content, and improve performance, particularly in scientific fields.”

This course will be designed for employees of the government agencies and large non-governmental organizations (NGOs), who are responsible for funding and implementing international development programs. Washington, DC is a strong potential market for this course because it has a very high concentration of federal government employees and a large NGO community. In 2013, the greater Washington metropolitan area had the highest count of federal executive branch employees of any core based statistical area in the United States. The agencies and organizations that represent GKI’s potential market, including USAID, the USDA and the World Bank have large workforces based in Washington, DC.

Executive Branch government agencies represent an important market for GKI’s training because of the resources that they control, specifically grants and agreements that fund international development programs. During calendar year 2012, the federal government disbursed a total of $30.7 Billion for official development assistance. This included $25.5 Billion for bilateral development assistance and $5.2 Billion in contributions to multilateral organizations.

During fiscal year 2012, 21 U.S. government agencies funded economic assistance activities. The top five agencies in this category cumulatively accounted for 93% of total economic assistance obligations. These agencies include: USAID, Department of State, Department of the Treasury, Department of Agriculture, and Department of Health and Human Services.

4.4 Market Survey

The field of training for international development professionals is a large and potentially


lucrative field. For a sense of scale, consider that a precise Google search for the exact phrase “training for international development” yields about 141,000 results. As such there are often multiple organizations offering very similar trainings that cover nearly identical topics. This duplication is seen as an inefficient allocation of resources. The presence of strong competition would also make the launch of a new GKI training more difficult and potentially less successful. Moreover, by encroaching on another organization’s territory, GKI would run the risk of alienating potential partners and collaborators, a potentially undesirable outcome. Thus, if other organizations are already offering similar trainings, engaging in partnerships and collaboration with these organizations may be a more effective strategy than engaging in direct completion. In order to ensure that GKI’s potential training is not duplicative, and that the appropriate partners are engaged, the research team conducted a market analysis in order to map the landscape of trainings being offered.

4.4.1 Market Players
The research team was given six organizations by GKI which they viewed as offering “parallel” training programs. These organizations are:

1. NCIAA
2. T2VC
3. Harvard Kennedy School
4. Ideo.org
5. Stanford d.school
6. BMGI

The research team also surveyed the field and selected four additional organizations that offered parallel trainings. These organizations were:

7. UNITAR
8. Catapult Design
9. KnowInnovation
10. Luma Institute

The research team proceeded to conduct research on each of these ten organizations (see Appendix 3: Organization Profiles). In addition to a general understanding of what the trainings offered and how the trainings were structured, the research team sought to collect several key standardized metrics so that the trainings could be easily compared. Data points gathered can be thought of as falling into one of two categories; logistical data, and curricular data. See Appendix 4: Market Research

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14 | Page
4.4.2 Rigor of Research
The team believes that the scope of the market research was sufficiently strong. Yet, while the research team made every effort to ensure that the included parallel organizations were representative of the field, our research was by no means exhaustive. There is a distinct possibility that there are additional organizations that were missed in this research that in one way or another would alter this landscape. However, based on our research and knowledge of the field, the possibility that a missed organization would dramatically alter our understanding of the landscape and dramatically alter our recommendations is very low.

This research is also limited in that it is based exclusively on information that is publically available and published by the organization. While this information has allowed us to gain a functional understanding of what organizations claim to be offering, we miss the nuance of what is actually offered. We also do not account for the quality of the trainings. The presence of low quality trainings would have different implications to our analysis. However, we assume that if a training is being offered, it has survived the “market test” for quality and can thus be thought of as high quality.
5 Market Research Findings

There is a diverse group of organizations offering training programs in innovation and technology for international development. Our team researched ten organizations that we believe provide an accurate representation of the broader market, or at least within the constraints of our project’s time and resources. These programs differ greatly in geography, target audience, cost structure and curriculum. While there appears to be market saturation in certain areas, there is a clear missing middle that a potential GKI program could fill. See Appendix 3: Organization Profiles for a survey of some of these organizations.

5.1 Geography of Offerings

5.1.1 Lack of Supply in Washington, DC

Of the ten organizations researched, five of them offer trainings in the San Francisco Bay Area / Silicon Valley while only three have offerings on the East Coast. Additionally, several organizations make trainings available online, and several conduct their trainings at the clients’ facilities. While several have offered trainings for organizations in DC, no organization offers a relevant training based in the Washington, DC Metro Area.

5.1.2 High Demand in Washington, DC

Given that many of GKI’s prospective client organizations such as United States Agency for International Development (USAID), World Bank, International Monetary Fund, International Finance Corporation, Overseas Private Investment Corporation, International Development Bank, and others are all based in the DC area, it seems that Washington, DC would in fact be a suitable location for a potential GKI training. As well, a local training option would spare cash-strapped organizations from costly travel expenses.

5.2 Cost Structure of Offerings

The cost of the trainings researched range from no cost to $3,300 per day; while the length of the courses ranged from two days to a five-week online training. The average range in price seems to be between $800 - $1200 while the average length seems to be between 2-3 days. The research team recommends that GKI stay within the 2-3 day range for their training program. The research team also recommends that the trainings be offered toward the low end of the range stated above. While it was not uncommon for trainings to cost over $1000 per day, these trainings were largely targeting senior management and high-level executives. Since GKI is looking to target mid-level management, the trainings should be offered at less than $1000 per day. The research team found that besides the organizations offering free online trainings, the lowest price per day was $800. GKI should be cautious in pricing much below this point as a lower price could be perceived as an indicator of lower quality.
5.3 Target Audience of the Competition
In examining the target audience of the offerings, we found that there are many organizations that focus on practitioners or those who would be directly developing and commercializing technologies. While some of these trainings were targeted at those who would be tinkering themselves, others were targeting the managers of technology development teams. We also found that there are a number of programs that focus on extremely high-level executives and government officials. **We also found that there are few organizations that offer trainings to mid-level staff or program officers at development finance institutions, foundations, government agencies and other organizations that GKI is interested in working with.**

5.4 Curricular Focus
There is a clear saturation in courses that focus on design (see appendix 3, Organizational Profiles). In addition, many organizations offer very similar trainings that teach best practices in prototyping, iteration, market feedback and product development: some of these are focused on developing economies while many are not. There are also several programs that take a very macro look at innovation and focus on teaching about the institutional ecosystem that is critical for supporting innovation. Again some of these are focused on developing economies while some do not. One organization, NCIIA, offers a program that parallels the program GKI might be interested in, and focuses on teaching entrepreneurship and commercialization skills to academic researchers. **However, our research found no organizations that offer a curriculum that would help DC institutions to better support collaborative innovation.**

5.5 GKI’s Niche in the Market
While the general field of trainings for innovation, technology and international development is somewhat cluttered with organizations, there is a clear niche that GKI is ideally positioned to fill. This primarily due to the confluence of three factors:

1. Geographic Niche
2. Clientele Niche
3. Curricular Niche

GKI’s first niche is in geography. The prevalence of international development professionals based in DC, and the lack of trainings being offered in DC creates an opportune geographic niche for GKI. GKI’s second niche is its target audience, which we call clientele. This research revealed no organizations that target the mid-level management of DC based development organizations. Given the important role these individuals play in formulating development programs, there is a clear niche here for GKI to fill. The third niche is curricular. While many organizations offer trainings in very specific skills such as design thinking and managing product develop teams, and other offer much broader ecosystem thinking trainings, there is no one offering the unique set of collaborative innovation skills that GKI could offer.
5.6 Summary Recommendations

Based on this market and SWOT analysis (see 7, SWOT Analysis), the research team recommends that GKI offer 2-3 day trainings that target mid-level staff at DC-based development foundation institutions, foundations, government agencies, and other large nonprofits. These trainings will educate participants in building programs and structure requests for proposal in a way that fosters collaborative innovation. The exact needs of this clientele will be determined in the next phase of research. This program should likely cost between $800 and $1000 per person per day. The possibility of offering a specialized training to a single organization at a flat daily rate should also be explored as it could feasibly reduce the financial burden to the organization, while increasing participation and maintaining profitability.
6 Needs Assessment

6.1 Summary
The market analysis revealed that there is a clear absence of competition in this space and demonstrated that GKI’s entry into the training market would likely fill a much-needed niche. Profiles of parallel organizations are given in appendix 3. This, however, does not indicate that there is a strong interest in this niche, or that there is a high demand for such training.

Understanding exactly what the market would find appealing and gauging the market’s level of interest in the training that GKI could offer is an important step for GKI before moving forward with program development.

By developing a more nuanced understanding of what specific topics and skills the market would find useful, GKI can better customize its training program to meet demand. Furthermore, this information will assist GKI in developing targeted marketing strategies that promote the elements of the training that potential clients would find most useful.

It is also essential that GKI understand the risk associated with developing this training and have a realistic perception of the probability their programming may fail. The research team believes that the primary source of risk for this program stems from a potential lack of market demand for such a training which would make it difficult for GKI to draw sufficient participation numbers to make the program profitable, or at least financially sustainable. Thus in order to gauge the level of risk, the research team sought to determine the level of market demand.

6.2 Findings of the Needs Assessment
Our research found that there is a clear interest in, and need for, a potential GKI-produced training (see appendices 7 and 8). The research also revealed that most organizations, which GKI is targeting, have sizeable training budgets that would allow the target clientele to participate without making special allowances. However, the research also revealed that while the market was interested in learning skills relevant to “collaboration” and “innovation,” the term “collaborative innovation” which is often utilized by GKI was not widely recognized or appealing to the market.

6.2.1 Curricular Interest
As demonstrated by the market research there are a large number of trainings that offer courses in design thinking, human-centered design, and managing the innovation process (see appendices 4 and 5). However, data gathered from interviews indicated that the target clientele is largely not interested in these topics. Mid-level managers at DC-based development organizations tend not to be the ones doing the innovating or designing themselves. Thus, these skills were not found to be useful. Rather, these “hard skills” were easy for them to acquire if necessary.
The research team found that a major challenge for the target clientele is a lack of the necessary soft skills needed to function in the country of interest. While these organizations had a great deal of technical expertise, they lacked the ability to identify networks, build coalitions, work collaboratively and remain culturally appropriate. When asked to rate their interest in various skills, “Network Building” and “Collaboration” were unanimously ranked as either very important or important, with several respondents claiming that these were the most important skills for them to learn.

These demanded skills seem to mesh well with GKI’s core capabilities and the research team believes that GKI will be able to provide valuable training to this clientele. However, GKI generally brands these skills as “Collaborative Innovation.” When asked to rate the importance of “collaborative innovation,” nearly every respondent rated it as not applicable. It appears that some may have mistaken this term to mean crowdsourcing or open source innovation. To avoid this misconception GKI should consider using alternate terminology or marketing collaborative innovation in a clearer way. While the research team is not comfortable making a formal recommendation as to which alternative language to use, we would be happy to brainstorm with GKI.

6.2.2 Preferred format
Our research found that the target clientele have a wide range of experiences with trainings and have enjoyed various formats.

Several respondents reported to have a strong preference for online trainings. The primary reported advantage of an online format was the ability to move at your own pace and fit the training into a busy work schedule without taking time off. However the same respondents acknowledged the limitations of the format, and especially its ineptness at teaching the soft skills, such as collaboration and partnership building, that they valued so highly.

The type of training that most respondents had experience with were “in-house” trainings in a “lecture” format. However, while respondents were accustomed to these trainings, they were not necessarily excited about them. Rather several respondents reported being excited about the opportunity to get out of the office and do an off-site training.

Overall, the research revealed that **an off-site, face-to-face training would likely be ideal**, although there is some flexibility within this preference.

Most respondents also reported that most of their trainings lasted between 2 days and 1 week. This is well within the range found in our market analysis and our previous recommendation of a 2-3 day training remains.

6.2.3 Budgetary allowance
The research team believes it is important to price this training at a point where individuals can use their preexisting budgetary allowances without having to request special approval. This added barrier to entry would likely reduce the demand for this training. Our research found
that most of the likely target organizations do provide a significant professional development or training stipend for each employee. This stipend could easily be spent on a potential GKI training.

Our research found that US government organizations and NGOs tend to fall in the lower end of the training budget spectrum: between $1000 and $2000 per year. Multilateral Organizations like the World Bank on the other hand had much larger training budgets of between $5,000 and $15,000 per employee depending on their position and seniority.
7 SWOT Analysis

7.1 Strength of Recommendation
To begin with, GKI has a large network of partners. This network is crucial for its match-making effort. More partners means better chances of identifying parties with a common objective. For GKI’s clients, it means more opportunities for collaboration. In addition, GKI has experience in designing training curriculum from its programs in developing countries. This experience can be leveraged to develop course curriculum for DC-based international development professionals. GKI is based in Washington, D.C. while the parallel organizations are not. This proximity to the target audience is an important advantage. Also, to some extent, the proposed training program is similar, in terms of content, to GKI’s current offerings. Therefore, existing curriculum and modules can be adjusted to satisfy the client’s needs.

7.2 Weakness of Recommendation
GKI has limited human and financial resources. Developing the proposed training program could involve increasing its staff workload, or hiring external consultants. Also, GKI lacks brand recognition and its limited of funding could affect advertising efforts for this program. In addition, our research was based on publicly available information. We must acknowledge limitations to the information provided online by the parallel organizations we researched.

7.3 Opportunities
The current policy environment favors innovation for development. Many international development initiatives involve the use of Science, Technology and Innovation to address social and economic challenges. In addition, we discovered, through our interviews, that potential clients have budget allocated specifically for training. Also, the majority of GKI’s potential clients are based in Washington, D.C.

7.4 Threats
As with many organizations, GKI potential clients’ are subject to fluctuations. Our interviews revealed that some organizations that need to reduce their spending simply cut their training budget. In addition, clients have varied schedule. Uncertainties regarding their availability could affect the proposed training program.
8 Conclusion

8.1 Recommendations
The research team recommends that GKI conduct training the DC area on the topics of Monitoring and Evaluation, Networking, Collaboration, Intellectual Property Management, Fostering Innovative Ecosystems, and people skills. The trainings should be from 1-3 days and be local, which would foster face-to-face interaction and commitment on the part of participants. There may be a recorded webinar format for those participants whose schedules don’t allow for their attendance at a meeting. Last, the price point should be below $1,000, which the research team realized to be the maximum budget for several government agencies.

8.2 Further Study
Due to time and resources constraints, this study merely represents the beginning of a larger analysis of an important aspect of preparing international development professionals for their work. More time and resources would have allowed the research team to conduct more interviews, surveys, and assess the market better. As well, the research team would have liked to observe some actual training sessions by GKI and other organizations in GKI’s market. With this data, a more thorough analysis could have been conducted.

<table>
<thead>
<tr>
<th>The Ideal Training</th>
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<tr>
<td><strong>Aspect</strong></td>
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| **Topics** | • Monitoring and Evaluation  
• Intellectual Property  
• Fostering Innovative Ecosystems  
• Networking  
• Collaborative Innovation  
• “People Skills” | Focus on topics that interest mid-level professionals, not just engineers and senior managers. |
| **Cost** | <$1,000 | Budgets provided by government agencies are slim. |
Appendix 1: Capstone assignment

Students produce a policy paper for a client under conditions that are as close to those experienced by a professional consultant as possible. Students find a client with a policy problem, negotiate a terms of reference, research the problem, and produce a policy recommendation. That policy recommendation is given in a policy paper and in a public presentation at the end of the semester.
Appendix 2: Terms of the project

The project officially began in January 2014 and culminated in April 2014. GWU’s team interfaced with two representatives from GKI: Amanda Rose (Senior Program Officer) and Andrew Bergmanson (Innovation Trainings Coordinator). The GWU team communicated with GKI, both in person and virtually, on a bi-weekly basis, and with GWU’s faculty advisor, Professor David Grier, on a weekly basis.

GWU and GKI agreed to a Terms of Reference that included a protocol for interviewing subjects, conducting market research on other players in GKI’s market offering similar services, a timeline, and intermittent progress updates. The terms allowed GWU’s team much discretion in how this study was conducted. In the end, the key deliverable for this project is a presentation and paper that documents the study.

The research team acknowledges GKI’s help in providing a list of possible interviewees, as well as business-sensitive documents. GKI’s employees made themselves available to the research team throughout the duration of this project.
Appendix 3: Organization Profiles

NCIIA
NCIIA offers three separate training programs, each of which target a very specific clientele. The first, I-Corps, is limited to NSF grantees and is designed to train these individuals in lean innovation practices. The next, Xcelerator, is open only to USAID grantees and Grand Challenges Grantees, and provides training and mentoring on entrepreneurship and commercialization to help innovators develop and scale their innovations. Finally, Research to Innovation (R2I) is open to a large audience of faculty, students, postdoctoral students, technology transfer officers and academic leaders, and is designed to teach these individuals skills to help them translate their research into commercially viable innovation. While the target audience of these trainings has little overlap with GKI’s prospective audience, the targeted nature is interesting. This approach enables NCIIA is to offer very practical, implementable trainings through catering to a very specific clientele. In developing its training program, GKI may want to follow this paradigm, defining a very specific target demographic rather than staying broad and theoretical. NCIIA’s expenses in 2012 totaled approximately $4.3 million.¹⁸

T2 Ventures
T2 Ventures offers an exclusive training program for members of their network, Rainforest Architects. This training uses Silicon Valley as a point of analysis to understand innovation ecosystems and has a heavy emphasis on site visits with leading innovators in Silicon Valley. The training also introduces participants to the various factors that make up innovation ecosystems and tools that they can use to create a better ecosystem. T2 Ventures model is less applicable for GKI as it is focused almost exclusively on Silicon Valley, whose model of innovation is of little applicability in the developing world. The organizations target clientele are also much more exclusive. Participants must apply for a competitive membership in T2 Ventures and pay an annual membership fee on top of workshop tuition.

Harvard Kennedy School
The Harvard Kennedy School offers a highly applicable executive education program that focuses on innovation for economic development. While their target audience is of a much higher level (government ministers, Fortune 500 CEOs, etc.), their mission and curriculum are in line with GKI’s. The Kennedy School’s curriculum is focused on understanding systems of

innovation and entrepreneurship as well as specific policy mechanisms and strategies that can be implemented to strengthen a country’s science and innovation framework. While the program may be of interest to GKI’s potential clientele, specifically those who work with foreign governments and advise foreign ministries, the extremely high level target of the Innovation for Economic Development program leaves little demographic overlap with a potential GKI program.

**Ideo.org**

IDEO.org is an IRS 501(c)(3) tax-exempt organization, and in 2011 their total expenditure was approximately $700,000.\(^\text{19}\) teamed up with +Acumen to offer a free online course on human centered design for social innovation. This course is offered to self-organized teams of entrepreneurs or social innovators and teaches the elements of human centered design. Regarding the curriculum, it is very similar to Catapult Design or the Stanford D. School. The major differences between the two approaches are the price (free) and the online format which spaces sessions out over five-week periods with about five hours of work per week expected. An interesting element of this program is its requirement for participants to be in self-organized teams, which fosters collaborative innovation and team building. GKI may also wish to explore the option of requiring teams to attend their trainings.

**Stanford d.school**

The Stanford D. School primarily offers classes and seminars to Stanford students. Yet, they also offer a highly targeted Executive Education Seminar. This seminar, intended primarily for high-level executives in startup companies, Fortune 500 companies, and nonprofits, offers a fully hands-on experience that aims to instill “creative confidence” by walking participants through an entire design cycle. Training focuses on ideation, low-resolution prototyping, and frequent iteration. While the program would be applicable for those interested in innovation for development, it is neither specifically targeted toward developing markets, nor would it be appropriate for the policy makers that GKI is interested in targeting. This is because it focuses on teaching practical design skills for executives and offers little in the way of understanding systems of innovation.

**BMGI**

BMGI is a business-consulting firm that offers courses on operational strategy, performance excellence, innovation, and managing change. The firm has 150 employees located in 15 offices around the globe. They offer several courses on innovation, including a five-day course on innovation and design tools and a two-day course on leading innovation. BMGI also facilitates “ideation sessions” to help companies approach and solve difficult problems. Their courses are

designed to provide professionals in research and development, product development, management and marketing with a framework and strategies to innovate and design new processes, products and tools. BMGI’s training programs are focused on problem solving and operational improvement. Last, while they have worked with governments and nonprofits, they do not have a development or policy focus.

**Catapult Design**

Catapult Design runs a customizable training program that is tailored to meet the needs of individual organizations. Catapult offers seven 120-minute “labs” that focus on different stages of the design process. These include understanding values, effective brainstorming, prototyping, participatory design, and running a field test. An organization can select any or all of these labs. Each lab can accommodate up to 30 people and an organization pays a flat rate regardless of how many people attend. While the curriculum is targeted toward innovators themselves rather than the policy experts, this “menu” option and pricing framework is unique and should be strongly considered by GKI especially in targeting large organizations like USAID, World Bank, or IFC that may want training for a larger group but face budgetary constraints. Catapult Design’s expenses were approximately $198,000 in 2012.²⁰

**KnowInnovation**

KnowInnovation (KI) designs and facilitates academic innovation workshops, primarily for organizations that fund scientific research and innovation. The organization consists of 12 trainers located in four countries. Their tagline is “accelerating scientific innovation.” Their signature program is a five-day residential workshop that brings together individuals from multiple disciplines, fostering collaboration for creative problem solving. This program usually involves 20 to 30 participants who form groups, similar to Ideo’s method, to create research proposals in response to a given challenge. KI also offers a shorter version of this program that can run from two to three days. In addition to the in-person workshops, they have also designed online courses to facilitate the innovation process and creative problem solving. KI has facilitated workshops for academic institutions, government agencies (including the National Science Foundation) and other international organizations. Recently KI facilitated a lab for USAID’s Partnering for Innovation program, which is under the Feed the Future Initiative.

**Luma Institute**

Luma Institute offers interactive workshops on human-centered design to drive innovation. Their program is comprised of a collection of 36 design methods organized in three essential skills sets: Looking, Understanding, and Making (Luma). Their public workshop is a two-day program open to the general public. Luma Institute's private workshop targets businesses,

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schools, nonprofits, and government organizations. These workshops range in length from one to three days and are tailored to address the needs and challenges of each organization. The standard rate is $1,900 per person but they offer a $1,600 per person rate for nonprofit, education professionals, and government. Some of their notable clients include Harvard Business School, the White House, Knight Foundation, and Google.

UNITAR
UNITAR (the United Nations Institute for Training and Research) offers an e-learning course on innovative collaboration for development. The primary objective of the course is to provide their students with tools and techniques to better use social media for development initiatives. The course is broken up into six modules. Its online participants learn through hands-on tasks, discussion and collaboration with other students.
Appendix 4: Market Research Data

Curricular Elements

<table>
<thead>
<tr>
<th>Training</th>
<th>Innovation for Development</th>
<th>Human-Centered Design</th>
<th>Understanding Context of Innovation</th>
<th>Ideation</th>
<th>Prototyping/iterate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series1</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Entrepreneurial Elements

<table>
<thead>
<tr>
<th>Training</th>
<th>Business models</th>
<th>Commercialization</th>
<th>Business Incubation</th>
<th>Financing innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Source: analysis of organizations’ websites and promotional materials
Methodology and Limitations

Conveniently, the market analysis revealed that there is a certain ideal clientele demographic for this training. This demographic can be summarized as “DC-based development professionals, specifically, mid-level management in government agencies and multilateral organizations that fund development programs”

In order to gauge the market demand the research team contacted individuals who met the following criteria

1. Based in the Washington, DC Metro Area.
2. Working with an organization that designs or funds international development projects with a significant “innovation” component.
3. Qualified as “mid-level management” generally with a title such as: Program Officer, Program Manager, Assistant Director, etc.

The research team developed this call list based on contacts provided by GKI as well as the research team’s own personal contacts. In total the research team contacted 15 individuals that could be considered potential clients.

The research team initially intended to conduct approximately 10 interviews with these potential clients in order to determine market demand. However, the research team was only able to conduct interviews with 4 potential clients. While this small sample size does detract from this research team’s ability to be broadly representative, the consistency of our findings leads us to believe that our sample is a decent gauge of the broader market in general.

These interviews followed a loose interview protocol that was developed in consultation with GKI. The full protocol can be found in Appendix 8: Interviews. However, there are several salient points:

1. The interviews sought to understand what particular topics would be interesting or useful to their work, their preferred format, their budgetary allowance for such trainings and their interest in a hypothetical training that offered collaborative innovation skills.
2. While interviewers made their best effort to be consistent and follow the same line of questions, there was a degree of freedom allowed in order to further explore topics of interest. While this may detract from the rigor of this research in a scientific sense, it allowed the research team to gain a much better qualitative understanding of the client’s needs.
3. As requested by GKI, these interviews made no mention of GKI and interviewers were instructed to say they were representing an anonymous NGO client that was considering offering training. This anonymity prevented the research team from gauging GKI’s brand recognition amongst this potential client demographic.
Appendix 5: Landscape Schematic

Source: analysis of organizations’ websites and other materials
Appendix 6: Interview Protocol

Interview Protocol

1. Please tell me a little about yourself and your work as it applies to innovation and knowledge sharing for international development...

   a. Name
   b. Organization
   c. Title
   d. Time in position at organization
   e. Job description
   f. Geographic / subject focus

2. What are the main challenges you face in this work?

   a. What skills do you think would been helpful in allowing you to better do your work?
   b. What do you wish you had known earlier in your time with this organization / in this field?
   c. What opportunities for improvement do you see in this field?
   d. What do you see to be key elements for success in these projects?

3. Have you attended other trainings?

   a. Who conducted this training?
   b. What did you like/ get out of that training?
   c. What did you dislike?
   d. What do you wish that training had covered?
   e. How long how much where etc.?

4. Envisioning the ideal training...

   a. Which 3 subjects would it cover?
b. How long would it be?

5. Is there an interest in this training more broadly in your office?

6. Do trainers typically come to you, or do you attend off site trainings?

7. Specific topic usefulness on Likert scales.

8. If an organization offered a 2 day training on X Y and Z here in DC how likely would you be to attend?
Appendix 7: Demand Data

![Interest in Topics Chart]

- Context Analysis: 0.00%
- Innovation: 100.00%
- Design Thinking: 50.00%
- Design for Development: 25.00%
- Finding Needed Resources: 75.00%
- Building Networks: 100.00%
- Collaboration: 100.00%
- Human Centered Design: 25.00%
- Collaborative Innovation: 0.00%
- Strategy Mapping: 0.00%
- Clarifying Challenges: 25.00%

![Preferred Training Format]

- Face to Face: 75%
- Online: 25%

Source: Interviews
Appendix 8: Interviews

Interview 1

Interviewees

Tim Sheehan
International Agricultural Program Specialist
Trade and Scientific Exchange Division
Office of Capacity Building and Development
U.S. Department of Agriculture, Foreign Agricultural Service
Office: 3224-South Bldg.
Phone: (202) 690-1940

Jill Luxembourg
International Agriculture Development Specialist
USDA/FAS/OCBD/DRDA/RDNR
Email: Jill.Luxenburg@fas.usda.gov
Phone: (202) 690-1944

Susan Waage
International Agriculture Development Specialist
USDA/FAS/OCBD/DRDA/AMSD
Phone: 202-720-9059
Email: Susan.Waage@fas.usda.gov

Acronyms:
- FAS = Foreign Agricultural Service
- OCBD = Office of Capacity Building and Development
- DRDA = Development Resources and Disaster Assistance Division
- AMSD = Agricultural Market and Systems Development
- RDNR = Rural Development and Natural Resources

Interview Notes

Background on Org/Position:

- FAS is represented at 75 posts abroad (U.S. missions and embassies)
- Support building collaborative relationships between scientists
- FAS funds, other implement projects (Network extremely important – academic research institutions, land grant universities – for getting technical experts to work on projects)
- Grants proposals, travel by word of mouth (tend to be tiny amounts of money, with very specific eligibility requirements)
Training
A majority of training happens on the job:

- Various training programs and workshops have been offered – some take individually others contracted trainings for the office (teambuilding)
  o Experience: these trainings have been “off-the-shelf” and didn’t necessarily apply to job - it is difficult to find tailored training because projects are so specific
- FAS management are very supportive of individual pursuit of training, esp. content based (ex. Seminar on water or climate change)
  o Attending MCC and State Dept. talks on geographic area of focus
  o Jill took course on needs assessment at GW evaluators institute
  o OPM offers leadership for non-supervisors
  o Susan took course on managing teams in a virtual environment (through Ag learn?)

Top 3 transferable skills gained in job or in training:

- Basic financial skills- accounting and budgeting
- Dealing with people – Soft skills often taken for granted - listening and synthesizing information to convey results
- Program management
- Bonus: Federal Procurement Regulation – reporting requirements (for govt fnd)

Suggestion: Cultural sensitivity training – working in international field, want to know how to work with people on higher level, not accidentally offend

Another essential: knowledge management- what to pay attention to in work

- Lessons learned
- M&E data
- Reporting

Tech and innovation, doesn’t really apply in their jobs – use basic tools to follow-up (survey monkey) – low tech applications

Training Budget
- Each employee gets $1000 annually for training (but differs by year - when there are budget cuts training is often the first thing to go)
- Employee can choose courses (can be technical or management based), but must have it approved by manager
Preferred Method
- Tim: online, to work at own pace
- Susan: online, but prefer to have a scheduled time to log on, need commitment
- Certain things better in person (teambuilding)

Rating Topics
a. context analysis – not applicable for scientific exchange programs
b. innovation – important across development, but not a top priority for them
c. design thinking – doesn’t apply
d. design for development – people skill important
e. finding needed resources – “not unimportant” – a necessary skill
f. building networks – top of the list – most important
g. collaboration – high on the list (they are dependent on collaborative relationships with land grant universities)
h. human centered design – not applicable
i. collaborative innovation – not applicable
j. strategy mapping – Handled at a different level (strategic priorities – ag ministers)
k. clarifying challenges – Important, understanding challenges is key to finding the right solution – part of good project design and management, critical thinking
Interview 2

Time: April 4, 2012 (Friday), 4:00pm
Location: Ronald Reagan Building, Washington, DC
Duration: About 45 minutes
Interviewer: Jonathan Berliner
Interviewee: Callie Raulfs-Wang

Interviewee’s Current Job
Dr. Raulfs-Wang serves as a Research Advisor in USAID/Global Health’s Center for Accelerating Innovation and Impact. She works on USAID’s global health research and product development portfolio, research capacity building programs, research policy issues, and partnerships with other federal agencies. She is interested in peer health issues. She is also interested in using statistics to determine the optimal way to deliver health solutions to Third World countries in Africa, e.g. malaria/TB drugs. She would characterize her current work as more policy than technical.

She has a PhD in biochemistry and a hard science background. Following her graduate work, she took a postdoctoral fellowship at NIH to develop cancer treatments. After her time at NIH, she became a AAAS Science and Technology Policy Fellow at USAID, where she currently works. She explained that USAID typically hires AAAS fellows because they are well-trained already. AAAS fellows serve for two years and find their host organizations via career panels.

Interviewee’s Training Experience
USAID has not provided her with any substantial training. Most of her training is from her AAAS experience, and actually notes that’s why USAID hires so many AAAS fellows. AAAS provided her with an intensive 2-week orientation on Government and S&T issues. USAID University (https://university.usaid.gov/ secure site) is an online training system for USAID employees but she doesn’t use it. USAID also offers the Global Development Lab (http://www.usaid.gov/GlobalDevLab). NIH did provide the following training services
- Day-long workshops
- Webinars
- Speakers

Preferred Training
Callie strongly prefers in-person training. She feels that the face-to-face aspect yields greater networking opportunities which are essential in her field and force the student to make a commitment. Therefore, she would not prefer webinars. Rather, she would prefer live sessions
or workshops in the DC area. Travel would also be nice but it is expensive and time-consuming. She feels that our client should not be in the e-learning business.

Topics:
- Monitoring and Evaluation (M&E)
- Intellectual Property
- How to create innovation ecosystem from the African countries themselves
- How to find the next Bill Gates in the developing world (similar to creating innovation).

Callie also felt that it is very important that participants earn a tangible **certification** from the workshop facilitators. As well, she emphasized training the representatives from Africa as well, not just America.

In summary, Callie felt that the client should be in the business of training; however, not e-learning. See topics above.
Interview 3

Interviewee
Jean-Louis Racine

Science, Technology and Innovation Specialist
Innovation Technology and Entrepreneurship practice
The World Bank Group
Email: jracine1@worldbank.org
Phone: 202-473-1719

Background
• He has worked for 7 years at the World Bank, in the Europe and Central Asia region
• He designs programs that provide loans to developing countries to spur innovation. Examples include funding the creation of research commercialization centers at local universities
• He designs and runs partnership programs with collaborators not affiliated to his region (Europe, Central Asia)

Main Challenges
• Difficulty to spur innovation because of various bottlenecks
• Finding local people with the skills and knowledge required to run entrepreneurship programs supported by the World Bank (the people qualified are more likely to join big companies)

Opportunities for Improvement
• A major improvement would be finding the best approach to spur entrepreneurship in developing countries, as it is the case with developed countries using accelerators, incubators, venture capital.

Most valuable Skills
• Experience is extremely valuable: having seen lots of failures is very important, since failures are usually not documented (They very often hire senior consultants to provide guidance)

Training
● Training attended:
  ○ 2-3 days “Innovation and Entrepreneurship” training. Done in house conducted by a hired university professor
  ○ A few hours on “Administrative Processes” to help navigate the bureaucracies at the World Bank
• Suggested topics:
  ○ negotiations
  ○ communications
  ○ leadership

• Ideal training:
  ○ face to face, prefers to have a commitment, at a scheduled time
  ○ interactive, action training, very practice oriented

• How training is facilitated:
  ○ Central department/office in charge of hiring trainers and professors
  ○ Supported by management, each department has a training budget that staff can use for attending courses, webinars, conferences.

• Topics
  • Context Analysis - not applicable
  • Innovation - very important
  • Design Thinking - important
  • Design for Development - important
  • Finding Needed Resources - very important (finding the right people is one of the main challenges)
  • Building Networks - important
  • Collaboration - important
  • Human Centered Design - important
  • Collaborative Innovation - not applicable
  • Strategy Mapping - not applicable
  • Clarifying Challenges - potentially important
Interview 4

Interviewee

Michael Ehst
Business Incubation Specialist
Infodev program
The World Bank Group
Email: mehst@worldbank.org
Phone: 202-641-0493

Background on Infodev

• Develops programs specifically for mobile, climate and agribusiness enterprises
• Supports growth-oriented entrepreneurs in developing countries through creative ventures

Geographies: mostly Africa

Challenges

• Science, Technology, and Innovation is a very broad subject, knowledge in a lot of topics (Science and Technology, skills, entrepreneurship,...) is required to make a difference
• Opportunities for improvements: more evidence on what works for development interventions.

Training

• He is planning to take an Innovation Policy course (online)
• Average length of training is 1 week per year, offered on site.
• Training is mostly done face to face and modeled after a lecture course, but recently there has been more and more online training.
• Cost: $5000-$15000 per year spent on WB staff for training. Not for all staff but for those who feel the need to enhance their skills
• preferred training:
• face to face training
• external training (Most World Bank training is done in house)
  ▪ He would like the opportunity go to MIT for a week and take a “Value Chain Analysis” training.

**Useful Skills**
• in entrepreneurship and business
  o economics
  o public policy analysis
• Transferrable skills
  o communications
  o project management
  o leadership
  o public speaking

**Topics**
• Context Analysis
  o not applicable
• Innovation
  o very important
• Design Thinking
  o important - some colleagues are trying to push the department towards this concept
• Design for Development
  o not applicable
• Finding Needed Resources
• Building Networks
  o important - once or twice a year the WB invites professionals from LinkedIn to speak at conferences on how to improve LinkedIn profile and expand networks

• Collaboration
  o important

• Human Centered Design
  o not applicable

• Collaborative Innovation
  o Not applicable

• Strategy Mapping
  o not applicable - higher level

• Clarifying Challenges
  o Not particularly


UN ECOSOC. Report of the Secretary-General on “Science, technology and innovation, and the potential of culture, for promoting sustainable development and achieving the Millennium Development Goals” for the 2013 Annual Ministerial Review. April 2013.
