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THE NEXUS OF MICROWORK AND IMPACT SOURCING IMPLICATIONS FOR YOUTH EMPLOYMENT



Photo from Samasource

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ACRONYMS

AMT	Amazon Mechanical Turk
BPO	Business Process Outsourcing
BSR	Business for Social Responsibility
CEO	Chief Executive Officer
CFO	Chief Financial Office
CRM	Customer Relationship Management
CSR	Corporate Social Responsibility
DCC	Digital Campus Connect
DDD	Digital Divide Data
DJA	Digital Jobs Africa
DMO	Digital Management Officers
DNA	Deoxyribonucleic Acid
DRC	Democratic Republic of Congo
FLSA	Fair Labor Standards Act
GTIN	Global Trade Item Number
HIT	Human Intelligence Task
HR	Human Resource
HQ	Headquarters
ICT	Information and Communication Technology
IoT	Internet of Things
IS	Impact Sourcing
IT	Information Technology
JSTOR	Journal Storage
LM3	Local Multiplier 3
MCF	MasterCard Foundation
M&E	Monitoring and Evaluation
MENA	Middle East and North Africa
MIT	Massachusetts Institute of Technology

NDA	Non-Disclosure Agreement
NEF	New Economics Foundation
NGO	Non-Government Organization
OECD	The Organization for Economic Co-operation and Development
OO	Online Outsourcing
PBS	The Public Broadcasting Service
SA	South Africa
SP	Service Provider
S4YE	Solutions for Youth Employment
UCSF	University of California, San Francisco
UN	United Nations
UPS	United Parcel Service
US	United States
USD	United States Dollar
USF	University of San Francisco
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Scientific and technological progress is fueling the digital economy, creating new jobs and destroying or replacing some old professions, while impacting how we live, work, and play. Businesses are creating new products and services, opening new markets, and looking for suppliers, employees, and contractors across borders. New business models are distributing work to distant locations and connecting customers and workers over mobile platforms.

One of these new models is online outsourcing, which is the business practice of engaging a supplier over the internet, with all transactions between the buyer and the vendor, from production to coordination, quality control, delivery, and payment, being processed online. Reduced costs are one of the key drivers of online outsourcing's growth, which includes two distinct sub-types of activities: microwork and online freelancing.

Microwork tasks are broken down into “microtasks” that can be completed in seconds or minutes. Those working in this industry require literacy and basic numeracy and information and communications technology (ICT) skills to undertake simple tasks such as image tagging, text transcription, and data entry. Workers are typically paid small amounts for each completed task, and barriers to entry are lower than in online freelancing, making microwork particularly attractive to individuals with no specialized skills.

In online freelancing, businesses contract professional services from individuals over the internet. Online freelancing often requires a higher level of expertise than microwork, with workers typically possessing various technical or professional skills. Online freelancing tasks tend to be larger projects that are performed over longer durations of time—hours, days, or months.

Examples include graphic design, web development, and technical report writing.

Impact Sourcing. When buyers contract out their projects to suppliers that employ disadvantaged youth and other vulnerable population groups.

For over 70 million unemployed youth and 156 million youth living in poverty,¹ online outsourcing can create economic opportunities that might be lacking in their local markets. Targeting disadvantaged or vulnerable groups to undertake online outsourcing tasks is a form of *impact sourcing*. Low skilled and inexperienced young people, living in developing or emerging countries, such as Kenya, South Africa, Haiti, India, or Romania, can become workers, especially if recruited, trained, and managed by impact sourcing service providers, such as Samasource, Digital Divide Data (DDD), Daproim, Impact Enterprises, or RuralShores.

¹ International Labour Organization. Youth Employment. Available online at: <http://www.ilo.org/global/topics/youth-employment/lang--en/index.htm>.

The nexus of microwork and impact sourcing opens doors to digital jobs, market relevant skills development, work experience, and income to low-skilled youth and can have a positive ripple effect on their families and community. However, this new modality of work also brings the risks associated with a lack of continuous employment, low wages, and limited social benefits, e.g., healthcare. Organizations operating at the intersection of microwork and impact sourcing are struggling to scale up and achieve financial sustainability. At the same time, host country governments lack regulatory mechanisms to protect workers and attract outsourcing projects. Several donors originally embraced and supported microwork, but then rechanneled their youth development investment to other, less controversial models.

The Global Center for Youth Employment and Banyan Global joined forces to produce a study of microwork-impact sourcing and its potential to help address the global youth unemployment challenge. This study investigated a wide range of actors currently involved in microwork and impact sourcing, including service providers, clients, workers, and the enabling environment surrounding them. The research team analyzed more than 90 relevant documents, conducted 40 stakeholder consultations (**Table 1**), visited multiple microwork and impact sourcing centers in Kenya, and sought to establish an in-depth understanding of the microwork-impact sourcing ecosystem. The study maps current trends, opportunities, challenges, and success factors surrounding the implementation of microwork-focused impact sourcing.

Table 1: List of Stakeholders Consulted

Client Organizations	Implementing Organizations	Donor Organizations	Other Organizations
Ancestry.com	CrowdFlower	The MasterCard Foundation	Caribou Digital
Autodesk	CloudFactory	The Rockefeller Foundation	Souktel Digital Solutions
eBay	Daproim Africa		Enshored
Pinterest	Digital Divide Data		Spatial Collective
Felix	iMerit		Avasant Foundation
Getty Images	Impact Enterprises		Nairobiits
Microsoft	Samasource		New York University
Intuit			Open Society Foundations
University of California, San Francisco			

The key findings of our study are as follows:

- Microwork, as a subset of the online outsourcing industry, brings about \$400 million in revenue and employs fewer than 1 million people. As such, workers probably represent less than one-half of 1% of the world's labor force. However, if microwork is implemented with an impact sourcing focus, it could provide important new job opportunities for low skilled, disadvantaged young job seekers in developing countries.
- There are three distinct client-service provider configurations (models) for microwork-focused impact sourcing, and each has its own potential for scale and impact:
 - The Micro Distribution model (Amazon Mechanical Turk, CrowdFlower)
 - Direct model (DDD)
 - Indirect model, where implementers may work through partnerships (RuralShores, Samasource)
- Microwork contracts are won and retained based on an ability to deliver business results at low cost, often with limited attention to who is being employed or the corporate social responsibility aspect of this employment. Microwork clients place the greatest importance on the quality of inputs, followed by timeliness and cost.
- Impact sourcing initiatives that utilize microwork must be well structured and well managed to help low-skilled, less-educated workers produce high-quality products at a low cost. In addition, implementers need to take into account cultural and social norms, transportation barriers, cost pressures, and other infrastructure issues that may hinder an individual's access to microwork or lead to exploitative circumstances.
- From a business perspective, core constraints to microwork and impact sourcing include concerns about security, implementation complexity, and potentially low-quality products when workers are not sufficiently skilled or managed properly. IT firms that use microwork services may also have preconceived notions about the capacity of low-income, lower skilled workers to produce quality work and their ability to work across cultures. Some donors that had originally supported impact sourcing as a possible vehicle to create employment for low-income workers have subsequently terminated their funding due to concerns about the impact of this business model on these individuals.
- Lower attrition in impact sourcing workers is attributed to job aspects such as training, continuing educational opportunities, reduced need to migrate or travel to work, payment that is above poverty levels, and attractive or meaningful work.

It is projected that the microwork market could grow to \$2.5 billion and provide employment to 2.9 million workers by 2020.

- For vulnerable groups, work center-based configurations ensure both high-quality output to clients and professional and personal development of workers. In work centers, disadvantaged youth have access to steady work and pay, skill training programs, job coaching and mentoring by managers and peers, and other workplace-related benefits. This requires a shift in the conceptualization of microwork as remote, individualized, and done via mobile phone.
- Emerging evidence points to impact sourcing workers' being able to access other job and educational opportunities following their employment with an impact sourcing service provider, based on improved soft and technical skills, increased familiarity with work environments, and stronger resume and job references. From service providers' perspective, when recruiting disadvantaged job candidates, it is not enough to market microwork and impact sourcing platforms – additional programming is needed to engage with potential workers if they come from low-income or marginalized communities.
- Non-profit implementers are slowly seeing a reduction in subsidies required for operations as they improve their quality, gain new clients, automate their processes, and begin to generate more profit.
- For example, DDD employs at-risk youth in offices in Cambodia, Laos, and Kenya; trains them in English, technology, and soft skills; and subsidizes their college tuition, while paying them a salary. Upon completing the work-study program, DDD graduates are earning more than four times the average regional wage. Still, more research is needed to accurately evaluate the long term impact of microwork on the lives and careers of young people and to better understand their experience as workers.
- Independent work, freelancing, online outsourcing, and crowdsourcing are evolving trends, predicted to grow over the next several years. In some developed countries, there are already innovative solutions to counter perceived challenges and risks of these new work models. For example, in the United States, several entities, such as Care.com and Freelancers Union, already offer portable benefits for independent workers.
- There is a need for a standard definition of impact sourcing, with guidelines and a framework that can identify, validate, and certify who is doing true impact sourcing. Some believe that governments should establish or adapt appropriate governing bodies to monitor pay, conditions, and competition and to uphold the objectives of impact sourcing and microwork. Others fear that regulation would reduce the number of available jobs and decrease the labor pool or restrict payment to workers in certain countries.

Upon completing a work-study program, Digital Divide Data graduates are earning more than four times the average regional wage.

Based on careful review of all information gathered for this study, and taking into consideration input from interviewed stakeholders, the research team synthesized a set of recommendations for various groups.

Summary recommendations for existing and potential service providers:²

- Maintain a mission-oriented focus and conduct rigorous data collection and tracking of effects on workers to improve impact measurement and learning for the wider sector.
- Explore the economic viability of providing different types of support to microwork workers. This includes additional job training, accreditation programs, and health and well-being training to motivate workers and improve the quality of work output. Service providers also should explore the importance of providing skills training to workers to address workers' lack of basic numeracy and/or employment skills.
- Design recruitment processes and scorecards to ensure that hired workers explicitly fall within targets of vulnerability, for example, in terms of their education level, work history, neighborhood, and financial needs.
- Conduct targeted community outreach to engage with women workers and ensure that working conditions take women's specific needs and constraints into consideration, such as workplace safety, work time flexibility (including care constraints), clean and separate toilet facilities, mobility constraints and/or reduction of travel.
- Promote recruitment and hiring of disabled workers and accessible working conditions, centers, and tasks.
- Conduct ongoing sampling, feedback, and quality improvements to both enhance worker skills and performance and to produce higher-quality work for the client.
- Use intelligent assessment technology and recruitment procedures to assist in the identification of available and qualified workers for different types of tasks.

Summary recommendations for existing and potential investors (donors, grant making agencies, clients, philanthropic organizations and individuals, and other socially responsible investors):

- Invest in the development of an assessment and guidance tool to assist businesses in successfully launching new impact sourcing efforts and ensure learning from previous efforts. This will include profit models that delineate the financial viability of microwork and the length of time to reach break-even.

² The complete list of recommendations is included in the main report.

- Contribute to the establishment of client-focused best practices for microwork and impact sourcing, based on client priorities, needs, and experiences and in collaboration with impact sourcing service providers and workers.
- Engage the public sector as a potential partner for future growth and expansion. Explore how the public sector can capitalize on and engage in microwork and what government processes might benefit most from microwork.
- Support field research and compilation of sector-wide inputs that could contribute to the development of a standard definition of impact sourcing, with guidelines and a framework that identifies, validates, and certifies who is doing true impact sourcing.
- Facilitate development of industry bodies and standards for impact sourcing and microwork to reduce potential worker exploitation and to ensure that social impact remains a core aspect of impact sourcing.
- Conduct comparative research and longer-term evaluation and comparison of microwork versus other forms of employment and income generation aimed at vulnerable youth. Look at microwork in different countries, microwork set-ups in rural versus urban versus peri-urban settings, and the different microwork models identified in this paper.
- Initiate exploration of racial, gender, and class bias in microwork and recommendations on how to address it.
- Ensure a more thorough exploration of the potential intended and unintended effects of microwork on the wider community and quantification of their impact on economic stability and infrastructure development.
- Design research into which types of jobs and microwork efforts can be developed and successfully done via smart phones; development of mobile platforms that mimic in-person good practices to extend some of these benefits and enhancements to remote workers.
- Pursue ongoing research and tracking of digital jobs trends to identify new areas and potential improvements in microwork and impact sourcing.

Microwork, when implemented on behalf of socially responsible companies, represents a viable entry point into the digital economy for less educated, unemployed youth. To leverage its opportunity, governments, private sector, investors, implementers, and researchers must collaborate to resolve existing concerns, while maximizing its potential for catapulting disadvantaged groups into the digital economy.

INTRODUCTION

Youth unemployment remains a major development challenge around the world. Many developing economies simply cannot create enough jobs to absorb the new entrants into the labor market every year, especially when those individuals are low-educated youth. At the same time, in developed and emerging markets, technological advances are destroying more than 7 million entry- and mid-level jobs over the next 5 years, as predicted in a recent study by the World Economic Forum.³ Young people living in marginalized areas often lack skills, credentials, and connections, and face significant constraints to secure even the existing formal employment opportunities.

Meanwhile, internet access is spreading at an incredible rate and an increasing number of young people are using internet-enabled phones.⁴ According to the most recent World Development Report, which focused on digital technology and its potential for global development, the number of internet users has more than tripled since 2005, with an estimated 3.2 billion people using the internet in 2015.⁵

While business process outsourcing⁶ (BPO) is an established practice, in recent years companies have sought ways to capitalize on the increasing global digital connectivity in a further effort to reduce costs, manage and process ever-increasing amounts of data, and retain quality business outcomes. Online, or virtual, outsourcing has emerged as a business practice of contracting a third-party provider (often in a distant country) to supply products or services that are delivered and paid via internet. Those virtually contracted suppliers can be individuals (“e-lancing”), online communities (“crowdsourcing”), or firms.

Microwork is a segment of online outsourcing where projects or complex tasks are broken into simple tasks that can be completed in seconds or minutes. Workers require numeracy and understanding of internet and computer technology, and advanced literacy, and are usually paid small amounts of money for each completed task. Therefore, online outsourcing could contribute to addressing the challenge of unemployment even for low-educated youth in developing economies, by increasing their access to the global marketplace and creating income generating opportunities for young workers over the internet.

³ World Economic Forum. 2016. The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. Available online at:

http://www3.weforum.org/docs/Media/WEF_Future_of_Jobs_embargoed.pdf

⁴ Rockefeller Foundation. 2013. Digital Lives: Building Skills for the Future. Available online at: <http://etjackson.com/wp-content/uploads/Digital-Jobs-Building-Skills-for-the-Future.pdf>.

⁵ World Bank. World Development Report 2016: Digital Dividends. 2016. Available online at: <http://www.worldbank.org/en/publication/wdr2016>.

⁶ Outsourcing is a business practice used by different companies to reduce costs by transferring portions of work to outside suppliers rather than completing it internally. When an entire business process is outsourced, it is called business process outsourcing.

Impact sourcing, also known as socially responsible outsourcing, is a business practice in which companies outsource to suppliers that employ people at the base of the pyramid.⁷ It is believed that utilizing microwork within an impact sourcing strategy has the potential to create additional jobs for disadvantaged youth and disconnected, vulnerable populations and to provide them with income opportunities they need to support themselves and their families. It is hypothesized that if microwork is utilized as a tool to reduce youth unemployment it will have a butterfly effect and empower marginalized people to better feed, clothe, educate, and care for themselves and their families. While proponents of microwork believe it can equip workers with skills and experience that can enable them to increase their individual employability regardless of gender, age, socio-economic status, previous levels of employment, or physical ability, it is not always intentionally aimed at vulnerable populations. Only when buyers adopt impact sourcing as their business strategy does microwork directly benefit the most disadvantaged.

This study specifically focuses on the opportunities, challenges, and promising practices of microwork, within an impact sourcing business strategy. The cases where microwork and impact sourcing intersect, and the resulting potential for social impact, have not yet been rigorously evaluated for long-term effects, particularly on the growing problem of youth unemployment. This study has explored the nexus of microwork and impact sourcing in order to further our understanding of the potential for leveraging a combination of these approaches in efforts to safely and equitably reduce youth unemployment.

OVERVIEW OF THE MICROWORKING STUDY

The Global Center on Youth Employment (the Center) brings together practitioners, policymakers, researchers, civil society organizations, funders, academics, and other stakeholders committed to addressing the challenge of youth unemployment worldwide, through the creation, adoption, and integration of innovative, evidence-based and evidence producing interventions and tools.

In collaboration with the Center, Banyan Global and FutureWork Consulting conducted a research study of the key players involved in both microwork and impact sourcing, and explored the concept of microwork as a workforce development and job creation tool in various countries around the world. The study investigated a wide range of players including service providers, clients, workers, and the enabling environment surrounding them. It sought to establish an in-depth understanding of the landscape of microwork coupled with impact sourcing, examine the ecosystem, and map current trends, challenges, and success factors surrounding implementation.

By applying a development lens to the microwork industry, this study assessed the potential of microwork, when implemented through an impact sourcing business

⁷ The base of the pyramid represents more than 3 billion people living on less than \$2.50 per day.

strategy, to impact development outcomes. These include workforce development, job creation, skill building, and income generation. Understanding the potential to affect such outcomes for young people, women, and vulnerable and marginalized populations is critical to achieving sustainable international and national development.

METHODOLOGY

The study team consisted of Lis Meyers, senior gender specialist at Banyan Global; Branka Minic, president of FutureWork Consulting; Linda Raftree, independent consultant; Tanya Hurst, program officer at Banyan Global; and Sacha Green-Atchley, independent consultant. In addition, Erica Vasquez, Banyan Global program coordinator, provided support in finalizing the report.

The literature review was complemented by over 40 stakeholder consultations, including 14 interviews with 6 different microwork implementers – Samasource, Digital Divide Data, iMerit, Daproim, Impact Enterprises, and CloudFactory; 6 interviews with 4 providers in the crowdsourcing or BPO industry, including CrowdFlower; 9 client interviews – including Getty Images, Autodesk, Microsoft, eBay, Pinterest, University of San Francisco, Ancestry.com, Intuit, and Felix; 5 interviews with two donors – The Rockefeller Foundation and The MasterCard Foundation; and interviews with several other stakeholders, including researchers and academics and technology sector professionals. RTI also engaged an independent consultant based in Kenya, Lilly Bekele Piper, to conduct brief site visits to three implementers with offices in Kenya, including Samasource, Digital Divide Data, and Daproim.

In addition to stakeholder consultations, the microwork study team analyzed over 90 documents while conducting the literature review, including academic papers, donor reports, articles, and annual reports and case studies from microwork implementers. The preliminary set of documents was identified through Journal Storage, Google Scholar, and through recommendations of several key stakeholders, including implementers and donors. These documents were reviewed by at least one member of the study team and the reference sections of relevant reports were mined for additional sources. Key findings and evidence from the reports were summarized into an evidence map that was then consulted for the writing of this report. Please refer to the bibliography at the end of this report for a complete list of documents reviewed.

The research team then synthesized all findings and developed a set of recommendations for various stakeholders.

CONSTRAINTS

Limited research has been done on microwork's capacity to offer employment for vulnerable populations. Much of the existing research on microwork is over 3 years old, which limits its applicability to current economic models and technologies. In addition, much of the research blurs the lines between the effects and benefits of microwork

versus impact sourcing and does not always clarify when discussions are about microwork more broadly, impact sourcing more broadly, or the nexus between the two.

Researchers experienced challenges in identifying and connecting with a number of key stakeholders to include in interviews. It was often difficult to identify appropriate individuals at multi-national corporations who could speak to their company's microwork or impact sourcing. Contacts made *within* large companies, such as Google, were unable to identify specific staff who could speak to microwork and impact sourcing experiences. Additionally, some clients were unable to gain corporate approval to be interviewed and other clients could only share limited information during interviews as a result of strict information-sharing protocols. Several implementers, including Jana, Techno Brain, and RuralShores, failed to respond to multiple requests for interviews and therefore were not included in implementer consultations.

Finally, researchers were unable to speak directly with micro- or impact-workers over the course of the research, mainly due to funding constraints. As a result, this perspective is largely absent from the present research and is only included through secondary literature review resources.

Nevertheless, this study brings together a wealth of facts, figures, and insights from practitioners, academics, clients, and investors in hope of refocusing the attention of development community on the potential of leveraging microwork to produce business benefits for socially responsible companies, and social impact for young disadvantaged unemployed people.

UNDERSTANDING MICROWORK

Outsourcing or contracting out is a business practice used by various companies to reduce costs by transferring portions of work to outside suppliers (contractors) rather than completing it internally. When an entire business process (such as payroll or recruitment of staff, etc.) is outsourced, it is called “business process outsourcing (BPO).” With the rise of the internet, businesses and outsourcing service providers can be connected faster, cheaper, and across any distance. Online outsourcing emerged as the practice by which a third-party supplier assists a client with delivering a service or manufacturing a product in such a way that all transactions between them are completed online. Everything from production to coordination, quality control, delivery, and payment can be processed online.

As of 2013, the online outsourcing industry was estimated to employ approximately 48 million workers worldwide.⁸ It is a growing industry, not only due to the increasing amount of data being produced, processed, and consumed by individuals and enterprises around the world, but because it has the power to transform how, where, and when work is performed.⁹ By using technology to open up new labor and production channels, companies can outsource their paid work to a large, globally distributed labor pool of remote workers. Flexibility is one of the reasons that remote digital work has been suggested as a solution to youth unemployment, as it allows individuals to circumvent constraints imposed by social restrictions, conflict, or remote location.¹⁰ Based on how workers access online outsourcing opportunities, and how businesses identify their suppliers, online outsourcing presents itself under different business models and names.

WHAT IS MICROWORK?

Microwork (or microtasking) is a form of online outsourcing that deconstructs a service or the development of a product into a virtual assembly line of simple, highly-repetitive tasks which are then completed by a group of individuals. A key defining feature of microtasks is that, while they are often relatively simple and highly repetitive, they require human judgment and are found to be more efficient if performed by humans. Such tasks usually require literacy, but only basic numeracy skills, and some understanding of ICT. Image tagging, data entry, data verification, and transcription are all examples of microtasks. Workers are usually paid small amounts for each completed

⁸ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/pdf/ACS14228-ESW-white-cover-P149016-Box391478B-PUBLIC-World-Bank-Global-OO-Study-WB-Rpt-FinalS.pdf>

⁹ Ibid.

¹⁰ S4YE (Goldin, N. & M. Hobson with P. Glick, M. Lundberg, S. Puerto). 2015. “Toward Solutions for Youth Employment: A Baseline for 2015.” Solutions for Youth Employment, Washington D.C

task. While online freelancing and microwork can overlap, they typically differ greatly in terms of the size and complexity of the tasks, as well as the compensation.¹¹

Often, upon completion, a third-party service provider will aggregate the microtasks into a completed service or product. Importantly, the deconstruction of large projects into microtasks means that individuals with low skill levels can be qualified to perform the work with limited training. **Table 2** highlights a series of basic entry level tasks and more complex tasks within the microwork space that are currently in demand.

STIGMA ASSOCIATED WITH THE TERM “MICROWORK”

During interviews, many service providers, including Digital Divide Data and iMerit, acknowledged the tension around using the word “microwork” to define the work they do. They felt that the term had negative connotations, implying that work is broken up into tiny tasks and that workers completing these tasks typically have little understanding about the larger work flow or purpose of the work for the client. According to Radha Basu of iMerit, “Staff need to understand how their task fits into the wider process. Not just taking up a microtask without context.”

While some service providers are indeed conducting microwork as described above, other service providers, including Digital Divide Data, iMerit, and Samasource, break up work into small tasks while providing workers with some understanding of larger contexts, processes, and purpose behind tasks. Researchers thus adopted a wider definition of “microwork” for this study – with our definition of microwork referring to online work that is typically broken up into smaller, highly-repetitive tasks that require human judgement but can be accomplished by individuals who lack advanced ICT skills, but including such work performed both with and without an awareness of bigger picture and overall purpose.

Microwork is a subset of the expanding online outsourcing industry, comprising about 10%¹² of the online outsourcing market revenue and employing fewer than 1 million people.¹³ Experts from the World Bank predict that it will generate \$0.4 billion in revenue in 2016 and that it could generate from \$1.5 to \$2.5 billion by 2020, if it continues to grow at the current rate.¹⁴ The Rockefeller Foundation projects that by 2020 the microwork industry itself will employ approximately 2.9 million individuals.¹⁵

Table 2: Microtasks in High Demand

Basic Entry Level Tasks	More Complex Tasks
Data entry	Voice and data transcription
Tagging or screening images	Transcribing audio and handwritten files
Search and click	Entering data in Word

¹¹ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/pdf/ACS14228-ESW-white-cover-P149016-Box391478B-PUBLIC-World-Bank-Global-OO-Study-WB-Rpt-FinalS.pdf>.

¹² Macrowork, or e-lancing (online freelancing) represents the other 90% of the online outsourcing industry.

¹³ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/pdf/ACS14228-ESW-white-cover-P149016-Box391478B-PUBLIC-World-Bank-Global-OO-Study-WB-Rpt-FinalS.pdf>

¹⁴ Ibid.

¹⁵ Accenture and the Rockefeller Foundation. 2012. Exploring the Value Proposition for Impact Sourcing: A Buyer’s Perspective. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Exploring-the-Value-Proposition-for-Impact-for-Impact-Sourcing.pdf>.

Basic Entry Level Tasks	More Complex Tasks
Bookmark webpages	Write reviews
Watch videos	Post comments on blogs
Data validation	Post tweets
Download app and install	Administrative support
Voting	Checking or honing algorithms

The microwork industry represents an ecosystem of various stakeholders, including the following:

- **Clients** are the demand-side within the microwork industry and are comprised of for profit or not for profit organizations that outsource tasks.
- **Service providers** facilitate the process of outsourcing by liaising with clients, breaking down an activity into a series of microtasks, employing and managing workers, and providing overall management and quality control.
- **Workers** are either individual freelancers operating independently to complete microtasks, or groups of people, direct employees or contractors, working through a service provider on assigned microtasks.
- **Donors/Investors** are those organizations (governmental, private sector, foundations or multi-lateral donors) and individuals who provide grant, seed capital, or other types of investment.
- **Government** creates the enabling environment through policies, regulations, and subsidies.
- **Community** in which workers live and work can also influence them and benefit from microwork.

Microwork is often implemented through **crowdsourcing**, an online-based approach to product development or service provision in which a client (e.g., an individual, institution, or company) proposes the undertaking of a task to a large network of individuals (i.e., workers or users). These individuals will vary in knowledge, experience, and education and typically operate independently from each other. Certain workers will then take up the task, if they meet requirements and have the availability, and complete the work in exchange for various forms of payment.¹⁶ Tasks completed by crowdsourced workers are generally routine, highly-repetitive tasks that do not require advanced skill and innovation, as described above in Table 2, and typically meet the definition of microwork. This is in contrast to **online freelancing** (macrowork and e-lancing) that

¹⁶ Estelles-Arolas, E., and Gonzales-Ladron-de-Guevara, F. 2012. Towards an Integrated Crowdsourcing Definition. Available online at: <http://www.crowdsourcing-blog.org/wp-content/uploads/2012/02/Towards-an-integrated-crowdsourcing-definition-Estell%C3%A9s-Gonz%C3%A1lez.pdf>.

generally requires a bigger-picture view of the project and/or greater creativity and innovation.

Clients practicing a crowdsourcing approach can vary the openness of the recruitment process from a true open call to a call limited to a community with specific knowledge and qualifications (including language skills). Alternatively, clients can use a combination of the two recruitment methods and put out an open call, but control or screen who can participate, often through focusing on worker performance and quality rates or specifications on geographic base and language skills.¹⁷ The entire process is managed and completed online, with workers typically performing tasks remotely.

Although the key driver for outsourcing for businesses is the reduction of costs, online outsourcing brought socially responsible companies an opportunity to channel their business investment to those suppliers working with disadvantaged people through a business strategy called **impact sourcing**.

Impact sourcing is a form of mission-oriented online outsourcing that focuses exclusively on employing disadvantaged individuals, often in developing countries, who experience specific barriers to employment. Barriers to employment can be due to gender, disabilities, age, location (e.g., slums or rural areas), mobility constraints, educational achievement, lack of viable job opportunities, and poverty. A key component of

Impact sourcing is purposefully hiring those who have, or sourcing with companies that have, significant barriers to employment, such as poverty, education, gender, or disability. Microwork is a way that impact sourcing is delivered in which work is broken down into small pieces in a way that is more easily trainable and manageable with multiple people delivering. – Wendy Gonzalez, Managing Director at Samasource

impact sourcing is that it focuses not just on producing high-quality work at a reasonable cost, but also on having a positive impact on workers, their families, and communities. Those service providers engaging in impact sourcing often do so by employing people to perform microtasks; however, microwork is not the only form of impact sourcing. According to 2012 estimates, the impact sourcing market represented approximately 4% of the entire business process outsourcing industry.¹⁸

MODELS OF IMPACT SOURCING RELATED TO MICROWORK

The literature suggests various business models for impact sourcing. However, service providers often operate within several different models based on client requirements and market conditions. For the purposes of this study, and focusing on microwork-related impact sourcing business models, three distinct configurations of clients, service providers, and workers can be identified: the micro distribution model, the direct model, and the indirect model. Below, we describe these models, their advantages and

¹⁷ Ibid.

¹⁸ Selim, N. 2013. Innovation for Job Creation. Available online at: http://siteresources.worldbank.org/EXTNWDR2013/Resources/8258024-1320950747192/8260293-1320956712276/8261091-1348683883703/WDR2013_bn_Innovation_for_Job_Creation.pdf.

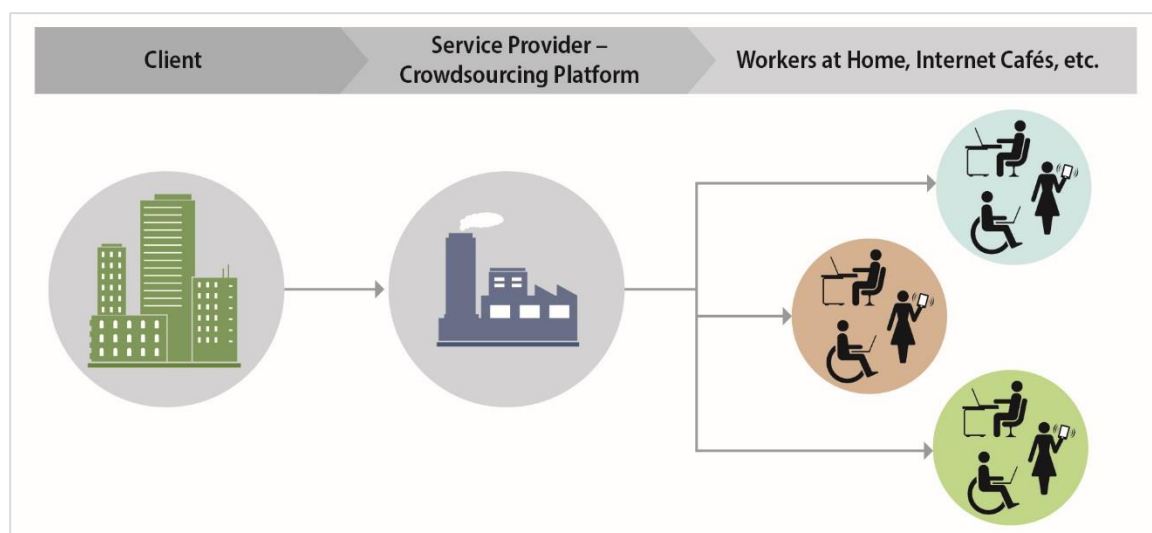
disadvantages, and provide examples of firms using each of these models. Profiles of various service providers are presented in **Appendix 1**.

MICRO DISTRIBUTION MODEL

Service providers, operating under the micro distribution model, run a crowdsourcing platform; break down large complex tasks, obtained from clients, into a series of small, basic algorithm-driven data microtasks; and present them on their platform to potential workers. Individuals register on that platform and complete selected tasks from home, internet cafés, libraries, or anywhere with an internet connection with sufficient bandwidth.¹⁹ Compensation is provided through a mobile payment platform.

The micro distribution model (**Figure 1**) is highly scalable and low cost, largely due to the lack of on-the-ground infrastructure.²⁰ Under this model, the service provider has no local management or offices, and offers minimal training to workers, which translates to low capital expenditure for the client. This service delivery model has the potential for broad impact, as it is accessible to anyone who has literacy and numeracy skills, as well as reliable internet access.²¹ However, since the workload is sporadic, it is uncommon for individuals participating in this model to receive a steady or sufficient stream of income.²² The service provider is responsible for business development, marketing, and client acquisition and has limited ability to impact workers and the quality of their output.²³

Figure 1: The Micro Distribution Model



¹⁹ Monitor Inclusive Markets and the Rockefeller Foundation. 2011. Job Creation Through Building the Field of Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

²³ Ibid.

The micro distribution model can be challenging for workers, given its fluctuating demand for services. Workers are provided very limited skill development, usually through online courses. While there have been a handful of examples of the micro distribution model channeling opportunities to rural areas, the majority of work tends to favor those individuals living in urban areas who have consistent access to computers and the internet. In addition, this model often causes “race to the bottom” cost pressures as the buyer’s decision for these projects is driven exclusively by price.²⁴ In order to secure jobs or tasks, workers can undercut each other by offering lower rates, thereby driving down the monetary value of their work. Such practices threaten the livelihoods of the worker, but allow the company to drive costs down, which is often a company’s ultimate goal.

For service providers and clients, the main challenge is to efficiently manage quality control while soliciting services and work from a numerous, and geographically dispersed, labor pool. The lack of on-the-ground infrastructure exacerbates this challenge and therefore virtual quality control mechanisms, such as specially-designed algorithms that check accuracy²⁵ or by embedding test questions known as Gold throughout tasks,²⁶ are often utilized to ensure a satisfactory product.

Most of these organizations do not have an explicit impact-oriented approach and do little to promote or track worker welfare or results. Socially responsible buyers and service providers utilizing this model have limited, often unintentional, impact on workers lives. It is also particularly challenging to assess impact with this model, as the relationship between the service providers and workers is virtual and without commitment.

Examples of organizations operating under this model are Amazon Mechanical Turk, CrowdFlower, Jana (formerly txteagle), and microwork.io.²⁷

DIRECT MODEL

Under the direct model (**Figure 2**), service providers build and operate delivery centers, and employ and train local workers to complete work in those centers. As a result, the ability to scale up this model is directly associated with availability of adequate growth investment and the service provider’s ability to consistently secure large contracts.²⁸

²⁴ Graham, M. 2016. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online at: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

²⁵ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/pdf/ACS14228-ESW-white-cover-P149016-Box391478B-PUBLIC-World-Bank-Global-OO-Study-WB-Rpt-FinalS.pdf>.

²⁶ See page 40 for more about “Gold.”

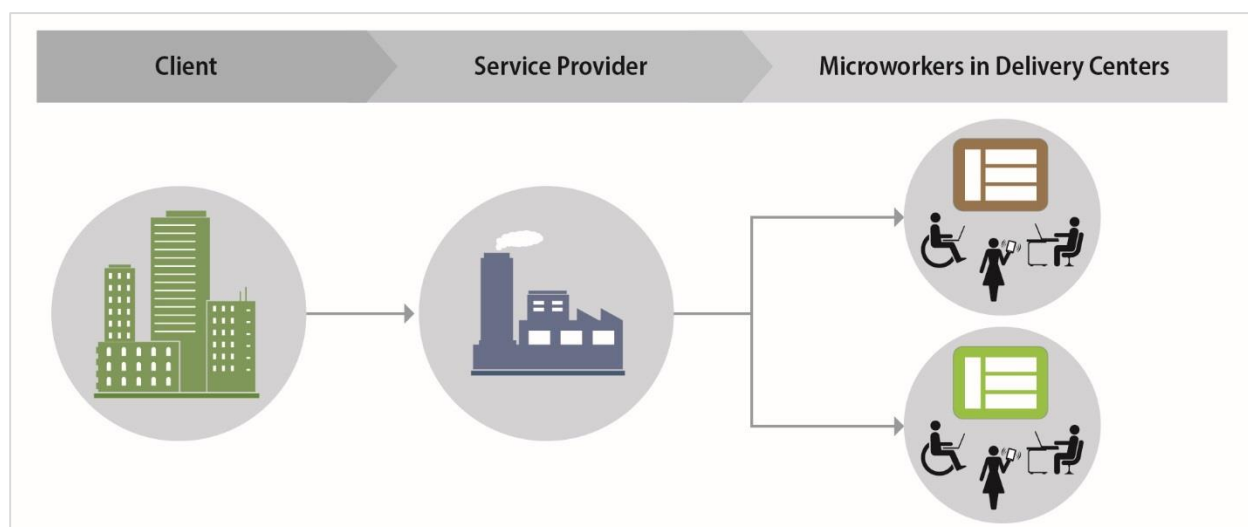
²⁷ For detailed profiles of these service providers, please see Appendix 1.

²⁸ Monitor Inclusive Markets and the Rockefeller Foundation. 201.. Job Creation through Building the Field of Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

United States-based impact sourcing service providers usually place their main office, housing their sales force, in developed markets where their clients are and their delivery centers in developing and emerging countries where they can recruit a low-cost workforce.

Bringing workers together in a physical delivery center is theorized to improve product quality and productivity due to the presence of management and, often, the provision of educational or training programs.²⁹ This model represents the highest level of investment for the service provider, given that they are responsible for all infrastructure (e.g., office space, equipment, and internet services), but there is also the potential for performing high volumes of work at a high level of quality. This, in turn, can improve the service providers' reputation and lead to greater market share.³⁰

Figure 2: The Direct Model



The direct model offers a stable solution to workers as new geographically dispersed delivery centers are established if and when there is growth capital and a reliable workload to support additional employees.³¹ Given the presence of such centers, the direct model increases stability in terms of business supply and outputs, while increasing the level of quality control.³² This model is also capable of serving more complex client tasks and projects and creating significant impact in the lives of workers.

Though promising, the direct model presents a variety of challenges. Naturally, workers must live in the vicinity of job centers in order to access employment, which limits the

²⁹ Ibid.

³⁰ ICTs for Development. 2013. Factors Shaping Management of IT Impact Sourcing Service Providers. Available online at: <https://ict4dblog.wordpress.com/tag/impact-sourcing/>.

³¹ Monitor Inclusive Markets and the Rockefeller Foundation. 2011. Job Creation through Building the Field of Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

³² Ibid.

labor pool to those in the immediate geographic area. Travel to such work centers can be arduous for people living with disabilities, those living in areas with poor transportation systems, or women and girls who are not able to travel freely due to restrictive cultural or social norms.

With regard to clients, the direct model can present a significant risk when the infrastructure to support the work has not yet been established, resulting in the slow start up of activities.³³ Scaling up activities can be slow and difficult, due to limited space within brick and mortar centers, the need for sound infrastructure, technological issues, and timely engagement of local labor force.³⁴

Examples of service providers with direct model operations are Digital Divide Data, a US non-profit, with delivery centers in Cambodia, Laos, and Kenya; and Impact Enterprises, a US for-profit firm, with a delivery center in Zambia, as well as iMerit.³⁵

INDIRECT MODEL

The indirect model (**Figure 3**) adds an additional layer in between client and workers, in the form of delivery partners, service intermediaries, or subcontractors. While there are several variations of this model, the partner/intermediary model is most relevant to microwork and impact sourcing.

This partner/intermediary model is similar to the direct model, the primary difference being that the intermediary does not own delivery centers, and instead partners with smaller or location-specific entities for implementation of the work. Under this model, the primary service provider or intermediary is responsible for marketing, business development, and client and project acquisition, while local partners run the delivery centers; recruit, train, and manage employees; and ensure quality control. Partners are geographically dispersed, either within countries or globally, and employ individuals in proximity to their base of operations,³⁶ connecting to the client through the intermediary. The intermediary and partners may or may not invest in skill development for workers. Often, the intermediary or primary service provider is involved in final quality control and reassembly of the subtasks into a final product. An example of service delivery through the partner model is RuralShores, a for-profit firm with partner centers in rural India. Samasource is an example of an intermediary with a network of partner/service providers in India, Uganda, Kenya, and Haiti.

Another variation of the indirect model, is the subcontractor model, used by large business process outsourcing companies, which engage service providers on exclusive

³³ Ibid.

³⁴ Zyskowski, K., Ringel Morris, M., Bigham, J., Gray, M., and Kane, S. 2015. Accessible Crowdwork? Understanding the Value in and Challenge of Microtask Employment for People with Disabilities. Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15.

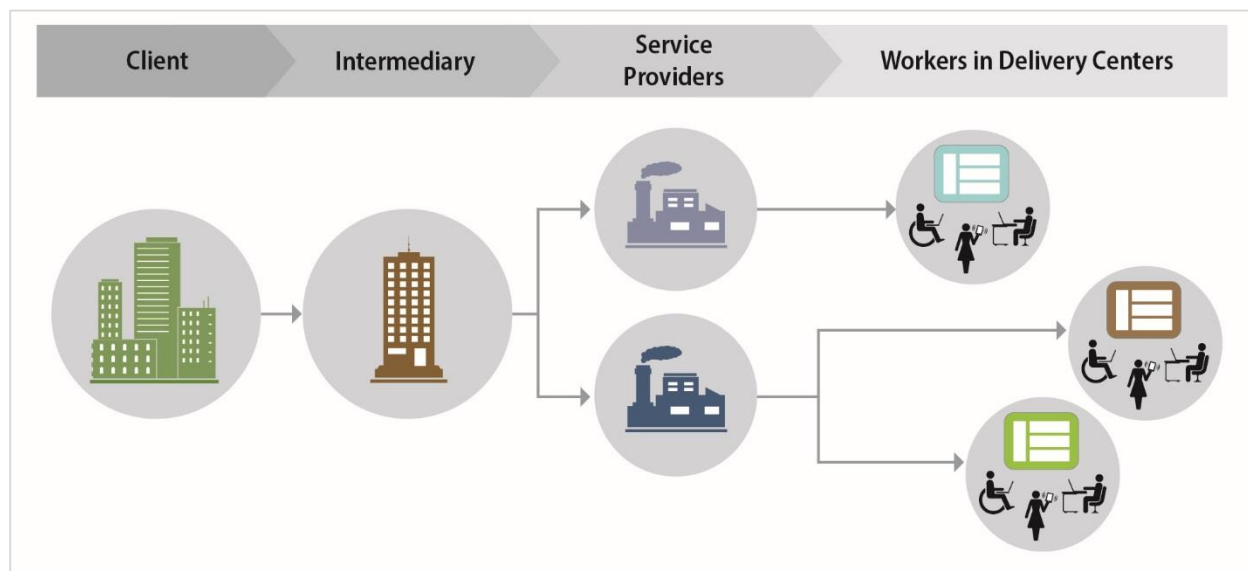
³⁵ For detailed profiles of these service providers, please see Appendix 1.

³⁶ Monitor Inclusive Markets and the Rockefeller Foundation. 2011. Job Creation through Building the Field of Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

contracts and ensure a steady workflow through their vendor-supplier relationship with clients. Paradigm Express in Kenya is a subcontractor of Paradigm Infotech from India and represents an example of this model.

Although the three types of the indirect model differ in terms of how they organize stakeholder relationships and roles, they share very similar advantages and disadvantages (**Table 3**).

Figure 3: The Intermediary Model, a Type of Indirect Model



The indirect model proves to be scalable because the costs and efforts to scale are shared by multiple organizations. Quality control is complex and affected by all collaborating firms. Potential for delivering higher value and higher volume of services does exist, although more complex, larger projects require additional management expenditures. Since the client is not responsible for infrastructure or human investment costs, there is potential for significant cost savings.³⁷ Under this model, workers typically have access to full-time employment and often work in dedicated centers. There is a near-constant flow of work, and workers benefit from various skill development programs and training opportunities, enhancing their ability to seek future employment opportunities and resulting in higher quality of outcomes to clients.³⁸ The existence of brick and mortar work centers can increase opportunities for workers to improve their skills, including time management and interpersonal skills, through trainings and frequent, direct interaction with co-workers and management.³⁹

³⁷ Ibid.

³⁸ Ibid.

³⁹ Schulz, B. 2008. The Importance of Soft Skills: Education Beyond Academic Knowledge. Available online at: <http://ir.polytechnic.edu.na/handle/10628/39>.

The primary drawback to the indirect model stems from the complexity in quality control of final products. With so many levels tied to production, it can be difficult to ensure quality control at each phase. In addition, it entails the management of a range of smaller providers, both to guarantee quality and to ensure that the employees of each subcontractor are from the target population (e.g., young people or people living with disabilities).⁴⁰ Both partners and intermediaries might have different priorities and varying levels of dedication to ensuring impact.

All interviewed service providers highlighted the importance of the indirect model and partnerships for scaling and, often, for cost effectiveness. However, both intermediaries and partner service providers raised a number of challenges that can occur through partnerships. Interviewees from Samasource indicated that because most of Samasource's partners are for-profit companies, it can be challenging to convince partners to invest in worker welfare and capacity-building measures. Samasource interviewees also said that it is challenging to oversee quality control over worker trainings when working with partners and that some partners have made false claims about delivering trainings or worker welfare measures.

In contrast, Daprom insisted that non-profit intermediaries with donor funding placed unrealistic expectations on for-profit partners that have limitations on how much they can invest in worker welfare and training without explicit grants. One service provider interviewee that had partnered with intermediaries was critical of the overly corporate social responsibility approach some international intermediaries take, feeling that excess reliance on donor funding and "save the world" narratives detract from the efforts of those who are developing viable business models that do not rely on pity or charity. This interviewee also discussed how intermediaries often devalued contributions and roles of local partners.

Table 3: Key Differences Between Impact-Oriented Microwork Models

	Micro Distribution	Direct	Indirect
Scalability	Highly scalable	Limited scalability	Scalable
Quality Control	Algorithm-driven	High-level quality control can be implemented by service provider	Complex quality control because of multiple stakeholders
Investment Requirements	Low investment requirements	High investment requirements	Investment requirements distributed across stakeholders
Products/ Services	Limited products and/or services	Potential for higher value and higher quality products and/or services	Potential for higher value and higher quality products and/or services
Social Impact	<ul style="list-style-type: none"> No full-time employment opportunities Limited training provided Difficult to monitor impact 	<ul style="list-style-type: none"> Full-time employment provided Training provided Easy to monitor impact 	<ul style="list-style-type: none"> Full-time employment provided Training provided Complex impact monitoring
Examples	Amazon Mechanical Turk, CrowdFlower, Jana (formerly txt eagle)	Digital Divide Data, Impact Enterprises, iMerit	RuralShores, Samasource, Paradigm Infotech – Paradigm Express

⁴⁰ Monitor Inclusive Markets and the Rockefeller Foundation. 2011. Job Creation Through Building the Field of Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

CLIENTS

There is a growing demand for large-scale data processing due to the digitization of business processes, services, and products, as well as to the ever-increasing amount of data being produced by individuals and enterprises. Experts' projections estimate that data production will quadruple between 2015 and 2020, resulting in over 35 zettabytes⁴¹ of data being produced annually around the world.⁴² Many countries have accelerated their economic growth through information technology exports and there are also significant in-country markets for IT services, including data management and processing. The Everest Group, for example, notes that while sophisticated BPO systems have emerged in a number of countries, there are still labor shortages and only a small portion of those seeking employment are qualified to perform the work.⁴³ Deconstructing large projects and outsourcing the microtasks to workers in the developing world can be a successful method of addressing this labor shortage for businesses, freeing up internal human resources and ensuring a high-quality product at a competitive price.

Based on a study conducted in 2015, the World Bank Group identified medium and large technology enterprises originating almost exclusively from Australia, Canada, India, the United Kingdom, and the United States as the dominant demand side actors of the online outsourcing industry, including the microwork sub-industry.⁴⁴ While the demographics of the demand has begun to shift in recent years, the vast majority stems from the private sector in developed countries. To date, the public sector has not been recognized as a strong microwork client. The online outsourcing industry attributes over half of the demand for online services to the expanding technology industry.⁴⁵ In more recent studies, internet services, online media, and entertainment industries have also been found to play a leading role in increasing demand, specifically in relation to the microwork industry.⁴⁶

The online outsourcing industry as a whole is dominated by medium and large enterprises, as is the microwork industry. It is estimated that 80% of companies utilizing

⁴¹ 1 zettabyte is equal to 1 million terabytes or 1 trillion gigabytes.

⁴² CSC. 2012. Big Data Universe Beginning to Explode. Available online at: http://www.csc.com/insights/flxwd/78931-big_data_universe_beginning_to_explode.

⁴³ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

⁴⁴ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/The-global-opportunity-in-online-outsourcing>.

⁴⁵ Ibid.

⁴⁶ Everest Group and the Rockefeller Foundation. 2014. The Case for Impact Sourcing. Available online at: [file:///C:/Users/Sacha/Downloads/the-case-for-impact-sourcing%20\(2\).pdf](file:///C:/Users/Sacha/Downloads/the-case-for-impact-sourcing%20(2).pdf).

microwork generate more than \$10 million in annual revenue.⁴⁷ Companies like Google, eBay, AOL, and Walmart have all taken an impact sourcing approach to microwork. In contrast, small and medium enterprises with fewer than 10 full-time employees are found to favor online freelancing, which employs highly trained and educated individuals who have the necessary specialized skills to complete complex and larger tasks.

CrowdSource, a leading microwork service provider whose clientele is comprised primarily of large enterprises, noted that demand for its services stems from the client's interest in custom workforce solutions that reduce expenses and enable more efficient and quicker turnaround times.⁴⁸ Some larger multinational companies are even establishing their own in-house microwork marketplaces. These internal marketplaces allow companies to "outsource" microwork tasks, while maintaining oversight and control of the process and keeping commercially sensitive data in-house.⁴⁹

Table 3 above highlights a series of basic and more complex tasks that are currently in high demand within the microwork space. Examples of how microwork is integrated into the core business processes of various clients include the following:

- **Ancestry.com:** From 2012 to 2013 Ancestry.com more than doubled in size, from managing approximately 40,000 record collections to managing 200,000. These collections include birth, death, census, immigration, and military documents, as well as photos and DNA test results, amounting to over 11 billion individual records.⁵⁰ ⁵¹ Ancestry.com engaged Digital Divide Data to provide digitization and content conversion of such records, enabling users on the website to access digitized documents that are easily searchable from a computer, tablet, or mobile phone.
- **Getty Images:** As the world's largest provider of digital media content, Getty Images processes over 40,000 still images a day. In order to ensure that their customers can find the images or files they want, they need to assign high-quality metadata (i.e., descriptor data) to each piece of content. To accomplish this, Getty Images partners with Samasource (and with iMerit through Samasource) to tag images. Sets of images are distributed to center-based workers who are then tasked with identifying whether a certain person was included in the photo or not. Workers categorize the images in the system to make it easy for customers to

Getty Images data processing needs would be too much to process in house. – Mary Forster, Getty Images

⁴⁷ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/The-global-opportunity-in-online-outsourcing>.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ InformationWeek. 2013. How Ancestry.com Manages Generations of Big Data. Available online at: <http://www.informationweek.com/big-data/big-data-analytics/how-ancestrycom-manages-generations-of-big-data/d/d-id/1112975>.

⁵¹ Digital Divide Data. 2013. Who are the Customers of DDD? (Video). Available online at: <https://www.youtube.com/watch?v=7sltlqHI71E>.

search and find the desired image. Getty Images staff do not spend significant time designing tasks, with Samasource taking responsibility for designing tasks and overseeing quality control. According to Mary Forster of Getty Images, Samasource is “high-tech, sophisticated, and easy to communicate with.” She also said that Samasource costs significantly less than a traditional BPO, and this made partnering with Samasource very attractive

- **eBay:** On its various platforms, eBay features millions of items for sale, all of which contain a Global Trade Item Number (GTIN). The company needed to collect the GTIN for every posted item, but the information was often hard to find and therefore required human intelligence to search it out. eBay hired CrowdFlower, whose thousands of workers searched for GTINs for specific products and entered them into a searchable database. eBay currently partners with iMerit in India through CrowdFlower to complete tasks that improve eBay’s algorithm and machine learning to validate data and detect spam or duplicate listings. According to interviews with Anneiliese Eisentraut of eBay and Brian Reavey of CrowdFlower, the work iMerit performs is typically of higher-quality than working with the general crowd and allows for a non-disclosure agreement to be in place to ensure the confidentiality of sensitive data.

KEY CLIENT CONSIDERATIONS

The literature review found that there is very little public information about how the private-sector manages the selection of microwork and impact sourcing service providers and how it oversees the life cycle of the outsourcing process. Assessment researchers conducted interviews with 10 current microwork clients to fill some knowledge gaps.

Almost all clients interviewed identified quality of work performed as the most important factor in selecting an impact-sourcing or crowd-sourcing company to do business with. Timeliness of deliverables was typically highlighted as the second most important factor, with cost coming third. Most clients indicated that they were willing to pay slightly more for better quality and more timely data.

Stakeholder interviews also found that once clients have identified an impact-sourcing organization that performs well for them, they prefer to maintain business relations with that implementer rather than moving business across multiple implementers. This preference was expressed by all but one client interviewed. However, many clients were not aware of impact sourcing firms other than the one they were doing business with. In general, clients expressed willingness to work with implementers to get jobs right, even though this took multiple iterations of tasks, some initial delays, and troubleshooting. Only 2 clients out of 10 seemed to have really shopped around or tested different partners.

COST SAVINGS AND EXPANDED LABOR POOL

Microwork is suitable for workers seeking very low wages and/or with relatively low skill levels.⁵² Impact sourcing, more specifically, provides clients with an opportunity to access a low-cost, untapped labor pool, achieve supplier diversity, and enter into new markets in the developing world. Aegis found that workers hired through an impact sourcing initiative performed, on average, as well as, or better than traditional BPO workers.⁵³ They noted that impact sourcing workers showed a high level of commitment to the work, which could lead to a lower total cost of ownership in the long-term.^{54 55} According to CloudFactory, impact sourcing can lower client costs by up to 40% as a result of lower salaries for workers, lower training costs, and lower attrition rates.⁵⁶

When microwork is performed through independent contractors and crowdsourcing, the human resources costs associated with traditional internal hires are minimized for the client, along with the training necessary to prepare employees for their new roles.⁵⁷ Patrick Booher of Autodesk verified this literature review finding in an interview, saying that both impact sourcing and crowdsourcing are less expensive than buying data externally or paying people in the Bay Area to do the job. In addition, microwork tasks are often time consuming, tedious, and highly repetitive, so it is natural that companies would not want their highly-skilled staff dedicating valuable time and energy to such work.⁵⁸ It is believed that microwork reduces the investment costs required for staff augmentation, given that impact-oriented service providers often take on the responsibility of acting as the employer of the individual workers or that workers are hired as freelancers.⁵⁹ It is important to note that cost savings are often a result of cheaper labor, which can be driven by potential workers competing against each other for limited work opportunities. Under this “race to the bottom” scenario, workers may consistently lower their rates so they secure jobs and underbid their fellow workers, despite their growing skill level, to secure jobs.⁶⁰

⁵² Mtsweni, J., and Burge, L. 2014. "The Potential Benefits of Mobile Microwork Services in Developing Nations: Research Opportunities and Challenges." 2014 IST-Africa Conference Proceedings.

⁵³ Everest Group and the Rockefeller Foundation. 2014. Impact Sourcing: A Challenge with Big Rewards. Available online at: <https://assets.rockefellerfoundation.org/app/uploads/20141005160547/Impact-Sourcing-A-Challenge-with-Big-Rewards.pdf>.

⁵⁴ Ibid.

⁵⁵ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

⁵⁶ CloudFactory. 2014. An Impact Sourcing Primer. Available online at: https://info.cloudfactory.com/impact-sourcing?utm_source=website&utm_medium=impact-cta&utm_campaign=Impact-Sourcing-2016.

⁵⁷ Pulse: The Magazine Driven By and For the Outsourcing Professional. 2014. Corporate Social Responsibility. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Impact-Sourcing-101.pdf>.

⁵⁸ Everest Group and Rockefeller Foundation. 2014. The Case for Impact Sourcing.

⁵⁹ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

⁶⁰ Graham, M. 2016. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

SCALABILITY

Microwork can help clients scale their work with little investment and at a reduced risk.⁶¹ According to research by Howcroft and Richardson, the “large-scale digitization of service production and the unbundling of service value chains have enabled firms to view individuals and locations as calculable, marginal and substitutable in the performance of this work.”⁶² Companies launching a new product have utilized workers to help manage increasing amounts of data and to refine their products before launch. Microsoft utilized workers when testing the algorithms used in its search engine, Bing.⁶³

SOCIAL IMPACT

Microwork carried out through an impact sourcing approach provides clients with an opportunity to practice corporate social responsibility (CSR). Although the CSR impacts are large and of significant benefit to all concerned, “it is the business reasons (and most often cost and quality) that initially make impact sourcing attractive.”⁶⁴ In an evaluation of the potential benefits of impact sourcing for clients, Gib Bulloch and Jessica Long state that, from a client’s perspectives, impact sourcing “...must primarily offer a sound business response to a client’s desire to outsource certain functions, be it due to cost, expansion or other pressures.”

If all things were equal, quality, pricing, convenience, Pinterest [which currently uses crowdsourcing] would use a more impact sourcing approach. But we are not going to spend more money on outsourcing just because we like where the money is going. Pinterest has other avenues it can take to be charitable. – David Rubenstein, Pinterest

Among the clients interviewed in this study, CSR was generally identified as the least important motivating factor in choosing a service provider. Clients generally like the CSR aspect of microwork and impact sourcing, but highlighted that contracts are won, retained, and sometimes lost by ability to deliver results and products and by the cost of services. For example, Todd Jensen, a former employee from Ancestry.com, described how Ancestry.com did pilots with a number of impact-sourcing microwork

The way that we were introduced to companies was through corporate social responsibility, but the way we have been able to maintain these relationships has been through the value that we provide and because people who work in these companies who are doing these projects are responsible for the projects that they give us. At the end of the day, their job is on the line if we don’t deliver. So, corporate social responsibility only goes so far. It’s because we’ve been able to create value. Once we create value, the corporate social responsibility comes back to being important. – Tony MacDonald, Samasource

⁶¹ Avasant and the Rockefeller Foundation. 2012. Incentives and Opportunities for Scaling the Impact Sourcing Sector. Available online: <https://www.rockefellerfoundation.org/report/incentives-opportunities-for-scaling-the-impact-sourcing-sector/>.

⁶² Howcroft, D. and Richardson, H. 2012. The Back Office Goes Global: Exploring Connections and Contradictions in Shared Service Centers. *Work, Employment, and Society*. 26 (1); 111-127.

⁶³ Siou, CK., et al. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/The-global-opportunity-in-online-outsourcing>

⁶⁴ Accenture and the Rockefeller Foundation. 2012. Exploring the Value Proposition for Impact Sourcing: A Buyer’s Perspective. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Exploring-the-Value-Proposition-for-Impact-for-Impact-Sourcing.pdf>.

firms and chose not to do business with many of them due to challenges in quality and process management. This was also supported by a US-based client of Impact Enterprises, who stated that “...the decision for outsourcing a projects depends first on the quality, then cost, and last impact...” In addition, impact-oriented service providers like Samasource and Digital Divide Data also reiterated that demonstrating quality and value was crucial to maintaining contracts and work flows, even if clients first came to them through CSR.

Clients included in interviews also indicated that impact sourcing might not always have the right metrics to be marketed as part of a company’s CSR efforts due to negative perceptions of outsourcing in general. In addition, Mary Forster of Getty Images said that many people she talks to are skeptical about impact sourcing and believe that it is just a ruse to attract clients with no actual emphasis on change.

CASE STUDY: UNIVERSITY OF SAN FRANCISCO

University of San Francisco (USF), a Samasource client, felt strongly about having a mission-driven partner for its special document indexing project. USF’s library houses a large collection of over 1.6 million documents produced during the US Tobacco industry trial and made public by the order of the Department of Justice. USF, which had court funding for the job, was looking for a microwork vendor to assist in indexing this large set of documents. While USF spoke to a wide range of vendors, Rachel Takoda said that it was ultimately Samasource’s mission-driven approach that motivated USF’s selection. Specifically, USF liked the idea of using the resources generated from an exploitative industry to create training and employment opportunities in India.

CHALLENGES AND CONCERNS

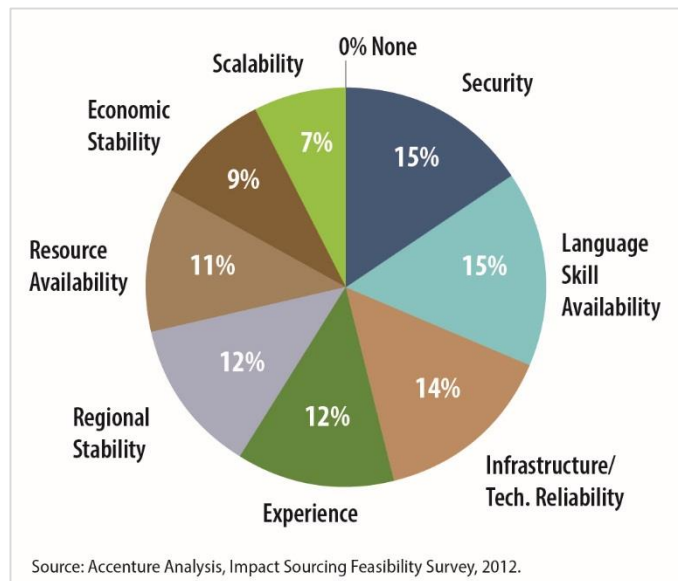
In a 2014 report, Accenture highlighted the results of a large-scale survey it conducted to understand the perception of impact sourcing among business leaders. Accenture interviewed over 320 executives working at leading global companies, along with their global clients, asking key questions around the feasibility and the suitability of impact sourcing to their business operations. **Figure 4** reflects key data from that survey regarding perceived barriers to entry for businesses wishing to engage in impact sourcing.⁶⁵ Over 50% of respondents in the study noted that security, language skills, and infrastructure and technology reliability were among the top barriers limiting a company’s engagement in impact sourcing. Additional concerns faced by potential clients and highlighted in interviews are discussed below.

⁶⁵ Accenture and the Rockefeller Foundation. 2014. Exploring the Value Proposition for Impact Sourcing: A Buyer’s Perspective. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Exploring-the-Value-Proposition-for-Impact-for-Impact-Sourcing.pdf>.

QUALITY

One of the most important barriers to the broader adoption of impact sourcing and microwork is related to challenges in quality control, resulting in the delivery of a low-quality product or service to the end client. The demand for microwork is growing and while the cost savings are initially enticing to clients, there must be reliable quality control mechanisms to ensure client satisfaction and retention. Additional issues arise with regard to quality when microwork is implemented within impact sourcing. Workers with low levels of education and skills require training, as well as reliable management.⁶⁶

Figure 4: Barriers to Entry



A 2015 study focused on examples of malicious behavior on crowdsourcing platforms.⁶⁷ Workers can slow production times, produce faulty data, or impede progress if they supply ill-fitting responses to tasks and take advantage of lack of response validators. These behaviors are exercised with the intention of maximizing profits. However, stakeholder consultations with impact sourcing implementers and clients indicate that malicious behavior and scams are less prevalent when employing vulnerable populations, which could prove to be an opportunity for those implementing an impact sourcing approach.

Well-designed worker training that includes a clear understanding of job roles and responsibilities, coupled with solid management, could significantly contribute to delivering a high-quality final product. Impact sourcing initiatives must be highly efficient, well-structured, and managed effectively to help low-skilled, less-educated workers turn out high-quality products at low cost and at a pace comparable to traditional online outsourcing workers.

⁶⁶ Ibid.

⁶⁷ Gadiraju, U., Kawase, R., and Dietze, S. 2015. Understanding Malicious Behaviour in Crowdsourcing Platforms. Available online at: <https://pdfs.semanticscholar.org/0e37/876d4c7b60c2c2c748f723d304af72a3de03.pdf>.

CULTURE, GEOGRAPHIC COVERAGE, AND LANGUAGE

Several clients included in stakeholder consultations, including Autodesk, Getty Images, and eBay, identified cultural and language limitations as constraints that impact what tasks can be distributed through impact sourcing networks in developing countries. For example, Intuit, a business and financial software company and a CrowdFlower client, does not consider utilizing workers outside of the United States and in developing countries because the company prefers that workers have some basic understanding of the US tax system. eBay, which utilizes both crowdsourcing and impact sourcing, feels that search relevance microwork (pairing items with queries) requires a contextual understanding and might make these types of tasks challenging for workers in developing countries.

According to James Rubenstein from Pinterest, lack of geographic diversity in individual impact sourcing operations is a specific constraint that makes microwork alternatives like crowd sourcing via CrowdFlower or Amazon Mechanical Turk more appealing. Pinterest requires broad geographic coverage for many of its tasks.

CASE STUDY

In 2014, a microwork client hired an impact sourcing-oriented implementer to pilot a task of transcribing a large set of Mexican civil registration records dating back to the 1800s. This was considered a highly difficult task as the Spanish-language documents were old, poorly organized, and in difficult handwriting. The implementer launched a pilot in Nicaragua, with this being the first time it had worked in the country, Spanish language, and region. According to interviewees from the client side and implementation side, the operation lacked the right managers on the ground to support workers, provide quality assurance of work performed, and manage feedback loops with the client and the implementer's headquarters. According to the client-side interviewee, the implementer overestimated the capabilities of its partner organization on the ground to execute the work and did not identify challenges in implementation early enough to allow for adequate troubleshooting and corrective actions. These challenges led to significant issues with quality of the work performed and delivery times. Ultimately, the client chose to withdraw the remaining work. The implementer views this pilot to be a key learning opportunity about being selective when choosing location and partners. The client felt that a dedicated and project-specific training program to teach workers about handwriting and would have been helpful, as well as opportunities for workers to practice tasks offline to get speed and quality of work down before being brought into life production.

SECURITY

When businesses utilize microwork and outsource their tasks to distant communities, they forego the screening of employees and contractors, and therefore, security can become a significant challenge. With this lack of control in the recruitment process, businesses are often apprehensive to engage in microwork for fear of increased risk of cyber-attacks. There are additional concerns when the information being handled by workers is of a sensitive nature. In this case, companies may choose more familiar BPO models that provide the impression of greater reliability and security.⁶⁸ Malik and

⁶⁸ Ibid.

Nicholson noted that information security and data confidentiality concerns can become more pronounced when microwork is performed in rural areas due to low quality IT infrastructure and the lack of workers with highly developed technical skills.⁶⁹

While security was identified as a key constraint in the literature review, none of the client representatives directly interviewed brought up security as a key consideration. Brian Reavey of CrowdFlower noted that microwork carried out through an impact sourcing approach is generally more secure than microwork implemented through crowdsourcing as implementers will have some security systems and measures in place as opposed to a general crowd of independent workers. Consequently, CrowdFlower recommends that clients and potential clients with security concerns utilize CrowdFlower's impact sourcing partners to complete secure tasks.

SYSTEM COMPLEXITY

The microwork models in operation are highly complex and often involve multiple players.⁷⁰ Most client companies and organizations are already struggling to integrate and/or manage onshore and offshore outsourcing, internal and external labor, and production processes, in addition to standard business activities. Bringing on new suppliers, such as an impact sourcing service provider or workers themselves, means adding a new dimension of complexity, and this can be daunting.⁷¹ Further, the project must be broken down into tasks and often reassembled at the end of the processing line in order to deliver promised results. This complex environment generates inconsistencies and confusion across the supply chain, specifically for microwork clients. Similarly, an impact sourcing approach can mean that multiple stakeholders need to align their objectives to successfully target and support marginalized populations. For example, impact sourcing service providers may partner with nongovernmental organizations (NGOs) or local schools to recruit their beneficiaries.

OPPORTUNITIES

ENGAGING THE PUBLIC SECTOR

All of the service providers included in interviews were primarily in business with private-sector businesses. The literature has identified the public sector as a potential target for future growth and expansion.⁷² Increased engagement with the public sector through

⁶⁹ Malik, F., and Nicholson, B. 2013. Towards a Taxonomy and Critique of Impact Sourcing. Available online at: <https://www.escholar.manchester.ac.uk/api/datastream?publicationPid=uk-ac-man-scw:199523&datastreamId=FULL-TEXT.PDF>.

⁷⁰ Malik, F., Nicholson, B., and Morgan, S. 2013. Assessing the Social Development Potential of Impact Sourcing. Available online: http://www.globdev.org/files/proceedings2013/paper_20.pdf.

⁷¹ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

⁷² Brabham, DC. 2014. Crowdsourcing in the Public Sector. Available online at: <http://www.jstor.org/stable/j.ctt14bs09w>.

public-private partnerships can be used to leverage the opportunities of microwork and to support local economic empowerment and workforce development.

Local public sector actors can generate additional demand for the microwork industry, supporting their own infrastructure and capacity development. Brabham notes that microwork technology can “...help citizens find new intimate connections to the public sector and allow government to tap into the energy, intellect, and creativity of its citizens in ever more interesting and efficient ways.”⁷³ It is recommended that further research explore how the public sector can capitalize on and engage in microwork and what government processes might benefit most from microwork.

SERVICE PROVIDERS

Microwork service providers typically engage in a combination of these three key roles:

- **Management:** The recruitment and employment of workers for the tasks the client has requested, client identification and relations, the provision of continued oversight, quality control, and management of the workers
- **Technology/Systems:** Development and management of technological platforms and systems through which workers can sign up to complete microwork
- **Support Services:** Deliver directly or via intermediaries a variety of services to ensure the quality of the final product and the professional and personal growth of workers themselves

In addition, these microwork service providers and their partners normally offer training and accreditation programs, task identification, and performance reports aimed at improving quality through strengthening soft and hard skills in the microworker. Often, and especially in the case of impact sourcing where there is a mission-based focus, service providers also track and measure impacts on workers and their dependents.

Table 4 highlights relative size of various microwork service providers identified in this study based on their total revenues. Please see **Annex 1** for an overview of key stakeholders.

⁷³ Ibid.

Table 4: Size of Various Microwork Service Providers That Use an Impact Sourcing Model

Microwork Service Provider	Total Revenue
Samasource	\$5.9 million
CrowdFlower	\$11.5 million
Daproim	<\$1 million
iMerit	\$3 million
RuralShores	\$5.1 million
CloudFactory	\$7.7 million
Digital Divide Data	\$8.7 million
Techno Brain	\$60 million

All interviewed service providers present themselves first as technology partners that can solve real business problems for their clients, and then as organizations with a social mission. Service providers have invested in framing their branding and narrative in this manner. As Radha Basu, CEO of iMerit, explained, “We’re looking at enterprise-class, ongoing process-based work and services. We oversee the whole process from end-to-end and provide inputs to the client on how to break up their needs into solvable tasks. We are a provider of on-demand digital services. Some are task-based, some are process based. But they’re all on-demand. Our services first need to work for our clients from a business point of view... From there, we can also scale the social impact...”

However, there seem to be two different types of service providers within the nexus of microwork and impact sourcing. In the first group are implementers like Digital Divide Data and Samasource that are highly mission oriented and have incorporated a focus on social impact into the backbone of their approach. The second group is comprised of mostly for-profit firms, such as Daproim, iMerit, and CloudFactory. Focus on social impact is not always systematically integrated in operations at for-profit service providers. However, iMerit considers being an impact source implementer a side effect of their desire to have the best business available. They also recognize that treating workers well results in better quality services. According to an interview with Radha Basu, iMerit’s CEO, training workers well, giving workers (especially women) safe spaces to work that adapt to their context, and managing work plans are all an essential part of presenting a strong business case for potential clients.

It appears that the more mission-oriented implementers are more rigorous in their data collection and tracking on impact and incorporate added training and other support service for workers. For example, Digital Divide Data has a scholarship program for its employees, and Samasource partners with NGOs to deliver a variety of trainings to promote the health and well-being of workers, whereas iMerit spoke of a balance of providing customer satisfaction with employee incentives and quality working

environments. Many of the for-profit service providers interviewed felt that they were at a significant disadvantage compared to their non-profit competitors, who receive donor funding that could be applied to developing and implementing worker trainings and implementing worker welfare measures.

Most of the implementers included in stakeholder consultations, such as Digital Divide Data, Samasource, iMerit, and CloudFactory, have offices in both the developing countries where they operate and in the United States, where their clients are based. This dual office approach appears to be essential for success as it allows implementers to have adequate teams for business marketing and acquisition in United States, and for managing service delivery in developing countries of choice.

REMOTE VS. CENTER-BASED OPERATIONS

Service providers diverge in terms of having brick and mortar centers in which workers complete microwork onsite or a dispersed network of workers who complete tasks remotely. Samasource, Digital Divide Data, and iMerit have physical centers, whereas CloudFactory and Daproim largely employ remote workers. Interestingly, service providers with physical centers typically offer full-time employment to workers, whereas those that utilize remote approaches tend to be more oriented to part-time work.

In centers, workers process tasks during their shifts, covering usually 24 hours of continuous operation per day, matching the schedules of their clients. In contrast,

We get a lot more coverage, that's the major advantage, there's a lot of energy and effort saved when it comes to facilities management...The costs associated with giving them laptops, managers and everything...The price is very competitive for distributed workers.
– Robina Maharjan, Director of Global Workforce at Cloud Factory

remote workers have the flexibility to log-in and perform work based on their own schedules and around other responsibilities. For example, the majority of CloudFactory workers work part-time to supplement income from other jobs or pay for educational costs, and Daproim specifically targets disadvantaged university students in Kenya. Remote options also address critical mobility and transportation constraints that might restrict

individuals, particularly women, from being able to travel to centers. While adopting an impact sourcing approach meant higher initial costs at the onset, maintaining a distributed workforce has helped Daproim keep operational costs down. Because Daproim works with a university, it is able to get around constraints that other groups of workers might encounter in accessing computers, with workers generally able to access school computer labs.

On the client side, remote work offers the opportunity to rapidly scale projects to high volume, even for time-sensitive tasks, since additional workers can be easily and quickly engaged, as long as those workers have access to a computer – either in their home or through a friend, relative, or internet café – as well as reliable electricity and internet connections. However, this model has limitations in terms of the training opportunities available to workers. For example, while Daproim sends a life skills training developed by Technoserve

to all workers, the training is emailed in PDF format and workers are encouraged to complete it on their own time with no follow-up. The remote model also means that workers are not getting the experience and opportunity for soft-skills development they would from working in a professional working environment. According to Robina Maharjan, CloudFactory has tried to solve this issue by organizing its remote based workers into teams with a project manager. Teammates are encouraged to collaborate, troubleshoot, and learn from each other. CloudFactory also encourages teams to meet in person with their project manager on a weekly or bi-monthly basis to discuss work issues and areas for improvement. However, it appears that CloudFactory has found it difficult to implement in-person team meetings in practice.⁷⁴

Samasource originally envisioned creating a distributed workforce in which software could allow workers with computer and internet connectivity around the world to complete microwork tasks. However, Samasource feels it has been unable to figure out how to implement this concept while simultaneously delivering quality and promoting communication, training, benefits, and measurement for workers.

How does not going to a centralized place for work affect things? As part of my research on the future of work, through interviews with social and economic justice organizations, I learned that, for example, home care workers, don't go to a common workplace and so they feel they cannot organize or have more agency. They may not even identify as a particular kind of worker – so what does that mean for their political organization or demand for their rights? - Laura Forlano, social scientist, Assistant Professor at Illinois Institute of Technology

Implementers with a dedicated center feel that their investment in a physical location is integral in providing dignified work for workers and high-quality outcomes for clients. For example, dedicated centers will have electricity, functional computers, back-up generators, a UPS backup, high-speed internet, and reliable plumbing, all of which will mitigate many potential obstacles to accomplishing microwork projects on time. In

addition, in stakeholder consultations, both CloudFactory and Daproim spoke of the advantages of having a dedicated center, including improved security and the ability to work with client-specific platforms when necessary. Consequently, both CloudFactory and Daproim have small brick and mortar centers. CloudFactory has grown its delivery centers in Nepal and Nairobi in 2016, after its launch of the product WorkStream, that allows clients to spin up cloud team easily. "We're looking into developing nations, where talent exists but opportunities do not. To make a business sense, we have to ensure that basic infrastructure like internet is stable. Since more dispersed time zone provide more coverage, it will be a major criterion for us to expand to a new country," says CloudFactory's Maharjan. Daproim maintains a small office in Nairobi, where

⁷⁴ Robina Maharjan, CloudFactory

workers assist in quality control, data verification, and project management. It also has a pool of workers who can assist with any urgent-work that requires tight turnaround time.

QUALITY CONTROL AND FEEDBACK LOOPS

Impact sourcing-oriented microwork implementers have developed a range of tools, systems, and mechanisms to ensure quality control over completed tasks. Contracts signed between microwork service providers and their clients usually spell out the expected quality level – often around 90%. Implementers with dedicated centers employ quality leads who will sample tasks on a daily basis to scan for quality, assess trends in work performed by workers, and flag issues that warrant troubleshooting. For example, a quality lead can reject a completed task that was not up to quality standards and send it back to the worker with feedback on how to improve. Often, quality leads assess whether the worker simply didn't understand the task or a task was too difficult for a specific worker. Constant sampling of completed work allows quality leads to hone training materials to make tasks clearer and mitigate potential issues. This creates a constant feedback loop in which work is regularly being examined for quality, with continuous tweaks in tasks and instructions and workers receiving regular feedback on how to improve performance. Overall, most microwork projects require a great deal of iterating, troubleshooting, and editing at start-up to refine instructions and improve worker performance, with the pace and quality of the work picking up once these issues are addressed.

According to Caroline Wanjiku, CEO of Daproim, pay at Daproim is based on quality. If work is rejected due to poor quality, workers do not get paid for it. Approximately 5% of work is rejected, with most rejections due to issues that workers then receive follow-up training on.

Troubleshooting and running multiple iterations of tasks are also common of microwork carried out through a crowdsourcing approach. For crowdsourcing, the onus is on the client to ensure that data is high quality and to iterate, troubleshoot, and tweak tasks. This is one key advantage of working with a service provider.

Intuit, a CrowdFlower client that has chosen not to utilize an impact-sourcing approach, typically runs several iterations of tasks in order to get the necessary data to the needed quality. Intuit's data scientist often adjusts instructions between iterations.

PROMISING PRACTICES

PILOTS

A recognized best practice among service providers included in interviews is to first pilot a project for a new task or client to ensure it is feasible and practical. Pilots provide critical “proof points” that show the potential for success, as well as address security- or infrastructure-related misperceptions clients might have.⁷⁵ Pilots are also used to test

⁷⁵ Barb Chang, Samasource

iterations of instructions to ensure workers understand tasks and can carry them out efficiently. They also help validate if the implementer will be a good fit for the client. For example, Ancestry.com has engaged a number of impact-oriented service providers to implement similar pilots, allowing Ancestry.com to test out a number of implementers and approaches and determine the best fit for the specific task and contract. According to Barb Chang from Samasource, pilots also provide critical learning about cultural nuances when expanding to new countries of operation.⁷⁶

RECRUITMENT AND ADDRESSING BARRIERS TO EMPLOYMENT

A number of service providers, including Digital Divide Data, iMerit, and Samasource try to promote long-term hiring of employees. For example, Michael Chertok of Digital Divide Data stated that the company is “risk averse” and doesn’t often hire on demand because it knows that for many employees, a job creates hope and is often the applicant’s first employment. Digital Divide Data is reluctant to make that commitment unless it can commit to the employee long term.

Tony MacDonald from Samasource highlighted how microwork implemented through an impact approach is a unique business model, saying, “You’re lowering the bar on one end but constantly being pushed by customers to raise the bar on quality.”

It is vital for the microwork industry to identify appropriate workers if it aims to support more vulnerable populations through impact sourcing. Incorporating intelligent assessment technology and recruitment procedures that are able to assist in the identification of available and qualified workers for different kinds of tasks can help service providers ensure the quality of the end product.⁷⁷ Many service providers require entrance exams to gauge a prospective worker’s capabilities and skills at the onset and to assign them appropriate

microwork tasks. These assessments help to identify quality workers, but they should not be too difficult or they will only add to current barriers to employment.⁷⁸ According to consultations with service providers, there is a continuous and high demand for work from potential impact workers, with such demand outpacing the actual supply of work.

Service providers, such as Digital Divide Data, Daproim, and iMerit, explicitly orient recruitment and hiring practices around potential for impact, specifically seeking to hire vulnerable individuals rather than more qualified workers with digital proficiency and work experience. For example, while Samasource has English fluency and digital literacy requirements for workers, it also has built in mechanisms, including worker scorecards, to ensure it is explicitly hiring workers who fall within targets in terms of vulnerability as opposed to applicants who are merely not currently working. Scorecards help recruiters look at key indicators, like education level, work history in the last six months, and proxies like neighborhood of residence that help indicate if applicants fall into the impact group. According to interviews with Samasource, 90% of Samasource’s

⁷⁶ Ibid.

⁷⁷ Turian, J. 2012. Sector RoadMap: Crowd Labor Platforms in 2012. Available online at: <http://ow.ly/K54m304r83R>.

⁷⁸ Flecker, J. ed. 2016. Space, Place, and Global Digital Work. Macmillan Publishers, Ltd. London, England

workers were unemployed or underemployed prior to receiving work from Samasource. In addition, Daproim worked to develop techniques to identify disadvantaged workers. Caroline Wanjiku of Daproim said that the company assesses where workers live, the amount of money they receive from their parents, any additional financial needs, difficulties in paying school fees, and the type of energy they use. Among populations of vulnerable students, Daproim prioritizes hiring workers who are fast learners and have a “trainable attitude.”

Some impact-oriented microwork service providers are developing measures to specifically address barriers to employment. Tony MacDonald discussed how Samasource has instituted programs to provide employees with office-appropriate attire so that not being able to afford work-attire is not a constraint to employment. Samasource provides transportation stipends and subsidized meals to workers as lack of food and access to transport are barriers to employment. As CloudFactory operates through a mostly distributed model, it often gives affordable loans to help qualified workers access computers or internet.

TRAINING, SCHOLARSHIPS, AND ACCREDITATION PROGRAMS

According to both interviews and the literature review, clients experience the challenge of ensuring they receive a quality product, while workers require sound support and management systems to produce high quality work. While much of microwork is completed remotely, managing the quality of work performed at distance has proven to be a fundamental challenge. When work is done in designated centers, this problem is reduced but the client must still engage in distance management of the service provider. This task can be even more challenging when working with unskilled, disadvantaged youth and vulnerable populations. However, many service providers address this challenge by providing technical, work-based training and accreditation programs for workers.

Service providers often develop standard training programs or offer online accreditation to enhance digital workers’ profiles and make them more competitive in the online outsourcing field, while providing clients with a higher-caliber workforce. RuralShores, for example, uses an impact sourcing framework to recruit young workers from rural areas of India. In order to meet the needs of their clients and build the skills of potential employees, RuralShores developed the RuralShores Academy which provides rigorous training on

We track people and orient them towards their jobs and positions; we train them to continuously improve themselves. Trainees can even do an assessment of themselves in a particular area, as well as take online courses. – Radha Basu, iMerit

market-aligned skills.⁷⁹ Digital Divide Data offers college scholarships to its workers, enabling them to further their education while working for the company.⁸⁰ There is limited research about the effects, especially the long-term impact, of such programs, but many service providers advertise long lists of satisfied clients and high-quality outcomes for clients and workers. According to Traci Freeman of the Rockefeller Foundation, training impact workers is not necessarily “a light touch approach” and requires an element of “handholding” with the associated resources and investment, as some youth have not been exposed to much computer or digital work.

We presumed that the individuals would require predominantly technical skills training (the hard skills), some phone skills, call center skills, etc. to get them ready and up to speed to fulfil the tasks / jobs they engaged with. But what we actually found is that the technical skills are often less than forty to fifty percent of the training interaction and where more focus was needed is on the soft / ‘ready to work’ skills. It was working on attitude first, then technical components. – Traci Freeman, Rockefeller Foundation

Traci Freeman also said that a great deal of training effort must focus on providing workers with soft skills, including being ready to work, time keeping, engaging, working in peer groups, and diversity management. This was supported by Wendy Davis of Samasource, who highlighted how for many workers, this is their first time in a professional work environment and they have not received any prior training on soft skills. She highlighted how learning to treat work facilities and equipment with respect and care was a key training area for Samasource workers who are in their first formal jobs. Soft skill training is systematic in Digital Divide Data’s offices in Cambodia and Laos and, according to Calvince Odemba of Digital

Divide Data, they are working to do the same for the Nairobi staff in near future. For example, the company hopes to bring its course called “BEST: *Business English Soft Tech*” to Kenya and have the entire staff matriculate through. Mr. Odemba reported that while soft skills are hard to measure, Digital Divide Data instructors do evaluate trainees and give them feedback on different skills such as timeliness and peer interaction. Similarly, Perry Kanana, the human resources manager of Daproim described how Daproim does monthly soft skills training on topics including: personal effectiveness, etiquette, communications, working with others, and job employability.

In addition to soft skills and technical training, Samasource provides workshops on topics such as financial literacy, health, nutrition and wellness, and healthy workplace practices. Twisha Mehta, Samasource’s impact manager also described how Samasource has a leadership and mentorship program that allows workers to learn from ICT team leaders across the world in Samasource’s other global offices and at headquarters. Agents are paired with someone they call and have exchanges with about what their interests and career goals are.

⁷⁹ Everest Group and the Rockefeller Foundation. 2014. Solving Problems Locally and Globally: RuralShores Leverages Impact Sourcing to Enable Unemployed Rural Youth to Find Gainful Employment Providing In-Demand, High Quality Services to Global Organizations Right from Their Own Communities. Available online at: https://research.everestgrp.com/wp-content/uploads/2014/09/RF-RuralShores-Case-Study-on-Impact-Sourcing-Final-approved_vf.pdf.

⁸⁰ Digital Divide Data. Digital Divide Data: About. Available online at: <http://www.digitaldividedata.com/about>

PERFORMANCE REPORTS

In addition to training and accreditation programs, many microwork service providers incorporate evaluation systems for each worker in order to address concerns around quality and to help build the worker's technical capacity. These evaluations provide performance reports as a tool to gauge a worker's ability and performance prior to hire and allow for feedback post-hire to enhance or correct the performance moving forward. According to Ignatius Shiunzi of Digital

According to Ignatius Shiunzi of Digital Divide Data Kenya, because the company invests three months of training for staff, it hesitates to terminate someone, as it is a dual loss. Instead, it relies on that training to eliminate those who will not succeed.

Divide Data Kenya, when someone underperforms at the company, managers try to determine why they are not succeeding. Sometimes it is connected to circumstances in their personal life and, if so, managers try to support them and improve their skills. Similarly, Calvin Odemba of Digital Divide Data observed that many come from "challenging backgrounds" and that the team leaders have to remember "someone's background and try to bring them up," rather than to dismiss their opinions or discipline their mistakes.

Many crowdsourcing service providers, including CrowdFlower, have developed Gold Standard Answers or test questions that are built into their framework as a quality control mechanism. Gold Standard Data (Gold) are pre-labeled units with known answers that are regularly inserted into a microwork project. Gold units are then used to track and test a worker's performance and can be used to ensure that only workers demonstrating competency and an understanding of the work can contribute to the final product. Such frameworks and assessment tools help microwork service providers ensure quality products, but additional research is needed to understand the effects on the worker, the product, and the service provider.

EMPLOYEE RETENTION

Generally, there is a lower level of attrition among impact sourcing workers as

According to Samasource, the average worker stays at the company for approximately 1 year before moving on. Unlike other impact sourcing implementers, Digital Divide Data seeks to provide longer-term opportunities for workers, with workers staying on for an average of 4.5 years.

compared with traditional BPO employees. Evidence shows that organizations using impact workers report 15–40% lower attrition than for traditional employee models.⁸¹ This is attributed to a variety of factors including the existence of training, educational opportunities, and benefits or support services; impact sourcing service models reducing the need for migration or relocation, often due to the existence of local work

centers; ensuring payment is well above poverty levels; and the highly attractive nature of the work when compared with other available employment opportunities for

⁸¹ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

vulnerable populations.⁸² We see this in a case study of a company that applied an impact sourcing model to its recruitment of workers in Pakistan. Opening up a microwork opportunity to local women, as employment that was accepted within the community, safe, and designed to honor traditional cultural values, led to high levels of job satisfaction among the workers and lower levels of attrition for the company.⁸³ Eric Simonson of the Everest Group also concluded that impact sourcing workers tend to be more stable and engaged than traditional BPO workers.⁸⁴ Higher worker retention offsets the cost of training impact sourcing workers in the beginning stages of employment. Service providers, like Samasource and Digital Divide Data, assert that lower attrition rates improve overall quality of work. For example, Samasource routinely makes the business case to clients that improving worker welfare is good not just for workers but also for the work and therefore the client.

Many implementers view themselves as a bridge in which they provide workers with an introduction to the formal economy, a professional work environment, and the technology space. Consequently, they do not intend for workers to stay in their jobs for several years, but rather hope those workers move on to higher education or another higher paying and more advanced job within the technology sector or another field.

CONSTRAINTS

ACQUISITION AND RETENTION OF CLIENTS

All interviewed implementers identified demand, and specifically, the identification and retention of clients, as a key constraint and ongoing challenge in the industry. In order for impact-oriented microwork to be cost-effective for implementers and have an impact on workers, there needs to be a close to continual flow of work to fuel the system. Microwork service providers indicated that many potential clients have misconceptions about doing this type of work in developing countries, often expressing concerns about security, reliability, and quality. In some cases, a great deal of effort is needed to get potential clients comfortable with sending work to non-traditional outsourcing destinations, such as sub-Saharan Africa. Microwork service providers also indicated that there is still a widespread lack of awareness about impact-sourcing and that many clients who have microwork tasks done through BPOs or crowdsourcing are unaware of impact-sourcing as an alternative.

⁸² Ibid.

⁸³ Malik, F., Nicholson, B., and Morgan, S. 2015. Evaluating Impact Sourcing: A Capabilities Perspective from a Case Study in Pakistan. Available online at: <http://srou.portals.mbs.ac.uk/Publicationsandoutput.aspx>.

⁸⁴ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

All implementers dedicate considerable time and personnel resources to client cultivation, with dedicated sales and marketing staff. Any organization looking to get into this field would need to be willing to commit time and financial resources to having a sales team. Daproim does not have a US-based office and identified this as a key constraint to attracting new clients and fueling overall operations.

According to Caroline Wanjiku, the CEO of Daproim, the company hopes to open a US-based office in the future.

In the future we would want to set up an office in the US and create a marketing team. We have realized some of our competitors have offices in the US...and they are able to do marketing more effectively.
– Caroline Wanjiku, Daproim

Cost

Start-up costs are the most significant entry barrier for service providers. Establishing a microwork service platform that is easy-to-use, accessible, and attractive to workers and employers takes financial resources coupled with time and talent. Other costs include marketing, payroll and administrative costs, training of employees, sometimes stipends or scholarships for potential employees, and the technology infrastructure and systems to begin operations.⁸⁵ Raising sufficient capital to launch can prove onerous given the necessary investment, which increases further when the work is to take place in physical centers.

There can be a “tension between social outcomes and business models and profits” which can result in gaps that human resources must manage carefully. – Twisha Mehta, Samasource

Existing implementers continually struggle to keep costs low enough so that they are cost-competitive and attractive to clients while ensuring that some worker welfare is in place. This was identified as a key constraint by both Michael Chertok of Digital Divide Data and Twisha Mehta of Samasource during interviews. Cost considerations put limitations on the ability of implementers to promote worker

welfare, institute trainings for workers, and provide benefits. For example, when providing worker trainings, service providers seek to ensure these activities do not drive up operating costs or take workers off the floor for too long so as to drive down productivity or lead to delays in meeting deadlines. The lower cost of business in developing countries is one advantage that implementers can utilize to increase cost-competitiveness; however, because the workforce is not as developed in these countries, more investment is needed in getting workers trained and prepared to carry out tasks.

⁸⁵ Everest Group and the Rockefeller Foundation. 2014. Impact Sourcing: A Challenge with Great Rewards. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Impact-Sourcing-A-Challenge-with-Big-Rewards.pdf>. Rockefeller Foundation. 2013. Preparing the Poor and Vulnerable for Digital Jobs: Lessons from Eight Promising Demand-Led Training Models. Available online at: <https://assets.rockefellerfoundation.org/app/uploads/20131031194749/Preparing-the-Poor-and-Vulnerable-for-Digital-Jobs.pdf>.

IDENTIFICATION OF INVESTORS

Many impact sourcing-focused microwork service providers, including Samasource, iMerit, and Digital Divide Data, started operations with initial funding from donors or one large client that understood and appreciated their commitment to achieving positive social impact. With time, some providers are able to rely heavily on earned income, while others continue to look for investments from private enterprises and donors.^{86 87} An increasing number of impact investors, or investors who provide capital with the intention of generating a measurable social or environmental impact along with a financial return, are focused on issues that create sustainable income.^{88 89} While some companies, funds, and individuals have invested in service providers performing microwork using an impact sourcing framework, identifying donors and maintaining donor support can be daunting and prohibitive to those who lack an understanding of or connections to private funding mechanisms.

WORKERS

Workers, the supply side actors in the microwork ecosystem, are responsible for completing assigned tasks. Profiles of workers employed via impact sourcing are very different from those of workers who are engaged in traditional BPO or crowdsourcing activities. Workers employed within an impact sourcing framework come from vulnerable and marginalized populations (e.g., people living with disabilities and those from impoverished areas) or people with challenges in accessing economic opportunities and/or formal employment (e.g., young people and women). Workers employed through an impact sourcing model typically have a secondary level of education or lower, little knowledge of ICT, few professional skills, and no formal workforce experience.⁹⁰ Only 33% of digital job workers in the microwork space hold a university degree, and many impact sourcing initiatives specifically seek out those who have more than a high school education.⁹¹ For example, Digital Divide Data specifically partners with secondary schools to identify motivated high school graduates who lack significant job opportunities.⁹²

⁸⁶ Samasource. 2014. Samasource Annual Report 2014. Available online at: http://media.wix.com/ugd/e4cc5f_989309ea9f894ad58b7f626cb1b9500d.pdf.

⁸⁷ Dalberg and The Rockefeller Foundation. Digital Jobs in Africa: Catalyzing Inclusive Opportunities for Youth. Available online: <https://www.rockefellerfoundation.org/report/digital-jobs-in-africa-catalyzing-inclusive-opportunities-for-youth/>.

⁸⁸ Monitor Inclusive Markets and the Rockefeller Foundation. 2011. Job Creation through Building the Field of Impact Sourcing. 2011. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>

⁸⁹ Ibid.

⁹⁰ Avasant and The Rockefeller Foundation. 2012. Incentives and Opportunities for Scaling the Impact Sourcing Sector. Available online: <https://www.rockefellerfoundation.org/report/incentives-opportunities-for-scaling-the-impact-sourcing-sector/>.

⁹¹ Ibid.

⁹² Digital Divide Data. 2015. Annual Report 2015. Available online at: <http://www.digitaldividedata.com/sites/default/files/DDD%20FY15%20Annual%20Report.pdf>.

Little research has been conducted on workers themselves, especially research at a large scale. Stakeholder consultations with service providers and reviews of annual reports, interviews, and service provider websites offer some information regarding workers' geographical location, age and gender, educational background, and socioeconomic status.

GEOGRAPHICAL LOCATION

In 2012 studies estimated up to a half a million impact sourcing workers operating across key markets in Egypt, Ghana, Haiti, India, Kenya, Morocco, Nepal, Nigeria, the Philippines, and South Africa.^{93 94} These countries are key targets for the microwork industry because they have a growing technological infrastructure that supports digital work and large pools of unemployed workers in need of low-skill jobs. While it cannot be assumed that all impact workers engage in microwork, we can extrapolate reliable data based on impact sourcing demographic studies. According to the Everest Group, 12% of impact sourcing workers reside in the Philippines, 39% reside in Africa, and 49% operate in India.⁹⁵ Such distribution reflects current trends in the BPO and online outsourcing industries as reported by Dalberg and the Rockefeller Foundation, and demonstrates great potential for emerging markets in Africa, where an estimated 60% of the unemployed population and youth reside.⁹⁶ In a 2012 report, Avasant approximated the geographic dispersal of workers who also fit the classification of impact sourcing workers. Their classification defined impact sourcing workers as:

- Individuals with a high-school or below education in low-employment regions of high-income or upper-middle income countries (e.g., United States or South Africa)
- Individuals with a high-school or below education in urban regions of low-income economies or lower-middle income economies with a mature BPO industry (e.g., India)
- Individuals who have not completed high school in rural regions of low-income or lower-middle income economies (e.g., Kenya)

The United States has large numbers of workers, specifically those who utilize crowdsourcing as a part-time, flexible option to supplement income. For example, the US is the most represented country amongst CrowdFlower workers. There have been some efforts to utilize an impact sourcing approach in the US for veterans, military spouses, or prison inmates.

⁹³ Everest Group. Everest Group. Impact Sourcing: Market Insights. Available online: <http://www1.everestgrp.com/impact-sourcing.html#case>.

⁹⁴ Avasant and the Rockefeller Foundation. 2012. Incentives and Opportunities for Scaling the Impact Sourcing Sector. Available online: <https://www.rockefellerfoundation.org/report/incentives-opportunities-for-scaling-the-impact-sourcing-sector/>.

⁹⁵ Everest Group. Impact Sourcing: Market Insights. Available online: <http://www1.everestgrp.com/impact-sourcing.html#case>.

⁹⁶ Dalberg and the Rockefeller Foundation. Digital Jobs in Africa: Catalyzing Inclusive Opportunities for Youth. Available online: <https://www.rockefellerfoundation.org/report/digital-jobs-in-africa-catalyzing-inclusive-opportunities-for-youth/>.

- Individuals with a high school or university level education in rural regions of countries with an established BPO industry (e.g., rural India)
- Individuals who occupy vulnerable sections of society in low-income and lower-middle income countries (e.g., Ghana)⁹⁷

IMPACT WORKER TESTIMONIAL: GEOFFREY OCHIENG

Geoffrey Ochieng is an impact worker who was interviewed for this study. His previous knowledge of computers and digital technology before joining the program was very limited; he had taken a 6 month training course in information technology and studied law. He had no previous experience with ICT work and limited exposure to computers.

Geoffrey was recruited by a friend who had just started at Daproim and referred him. It was a streamlined process where he sent his CV, called for the interview and had a 1–2 weeks training in Nairobi. After the training, he worked full time at Daproim in Nairobi while he earned enough money to return to school and finish his degree. He appreciated all that he gained from Daproim, which included training in soft skills, and he was able to earn enough money to return to school. It was an overall valuable experience for him to improve his livelihood, provide for his family, and expand his professional experience. The greatest highlight Geoffrey noted from this experience was his enhanced ability to provide for his family and move them into a better house. The experience also increased his self-confidence and leadership skills, which he'll be able to apply in various ways.

GENDER CONSIDERATIONS

The World Bank has identified ways that digital work, including microwork, is highly compatible with women's work needs because it can often be completed in the home and, often, at flexible

We've recognized that there is a great need for sexual harassment/workplace training because this is the first time that people are in a formal work environment and its mixed men and women. We are very conscious about prioritizing that as part of the normal onboard training. — Tony MacDonald, Samasource

hours.⁹⁸ The prospect of earning income for themselves or the household has a significant appeal for women, who often experience added constraints in accessing formal income and employment opportunities. Many women workers find that they can earn a higher wage conducting microwork than participating in more traditional employment.⁹⁹

A variety of factors contribute to gaps in women's employment, especially in developing countries. Cultural norms, beliefs, and practices can bar women from the labor market. Low access to education can restrict employment opportunities, and women often lack the time, due to family or household duties, to seek formal employment.

Typically, microwork service providers that do not utilize an impact sourcing approach do not go out of their way to target women workers or consider gender-specific barriers that might prevent women from accessing opportunities. However, a more even gender distribution is evident when

⁹⁷ Avasant and the Rockefeller Foundation. 2012. Incentives and Opportunities for Scaling the "Impact Sourcing" Sector. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Incentives-Opportunities-for-Scaling-the-Impact-Sourcing-Sector.pdf>

⁹⁸ World Bank. 2016. World Development Report: Digital Dividends. Available online at: <http://www.worldbank.org/en/publication/wdr2016>.

⁹⁹ Graham, M. 2016. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

impact sourcing-oriented service providers employ workers. Many impact-oriented service providers specifically recruit women through targeted efforts that include community engagement, gender-friendly work arrangements, and gender quotas. Samasource and iMerit's workforces are over 50% women and Digital Divide Data has a 50% gender balance for workers.^{100 101 102} Digital Divide Data explicitly encourages women to apply for worker positions. However, the company has found it has taken more effort to ensure a gender balance in Kenya than in Southeast Asia. Daproim seeks to hire 60–70% women and attributes its emphasis on hiring women workers to research about women investing higher proportions of their income into households and communities. According to Perry Kanana, Daproim's human resources manager, Daproim receives more applications from women than from men. Both Digital Divide Data and Samasource collect gender disaggregated data for employees trained and placed to ensure they have an adequate proportion of women at all centers. Digital Divide Data also consistently employs women in management level positions throughout their country centers. Based on interviews with impact-oriented service providers, it seems that most women who engage in impact-sourcing oriented microwork are in their 20s, unmarried, and do not have children.

While none of the microwork service providers surveyed in research and stakeholder consultations are adopting a comprehensive approach to women's economic empowerment and gender integration, some have established promising approaches in this area. For example, some impact-oriented service providers with brick and mortar centers are making efforts to ensure an accommodating workplace for women employees. Samasource structures shifts around women's care-giving responsibilities and is increasingly prioritizing training on sexual harassment in the workplace as part of its onboarding process. India-based iMerit seeks to address sociocultural and religious barriers to women's employment; one of iMerit's centers was located in a conservative Muslim cultural and religious context in which most women would not get permission to work in mixed offices. Consequently, iMerit created a women-only work environment in that particular office so that women could safely be employed without any backlash. Radha Basu, the CEO of iMerit, said that iMerit has also addressed women's time and mobility constraints by setting up centers in peri-urban areas.

In one place where we work, the women cannot leave the community, so we bring wealth into the community, economic value to the communities where the women live. It works particularly well with young women. – Radha Basu, CEO of iMerit

In addition, an impact sourcing microwork service provider in Pakistan took multiple steps to remove possible barriers to women's employment, including: a) running a

¹⁰⁰ Samasource. 2014. Annual Report 2014. 2014. Available online: http://media.wix.com/ugd/e4cc5f_989309ea9f894ad58b7f626cb1b9500d.pdf.

¹⁰¹ iMerit. iMerit Impact. Available online at: <http://imerit.net/impact/>.

¹⁰² Digital Divide Data. 2015. Annual Report 2015. 2015. Available online at: <http://www.digitaldividedata.com/sites/default/files/DDD%20FY15%20Annual%20Report.pdf>.

dedicated morning shift for women employees, b) establishing a pick-up and drop-off service to support safety while traveling, c) hiring a well-known woman as human resources manager, and d) working with the community to build trust and highlight the advantages of women's employment.¹⁰³ Finally, according to Michael Chertok of Digital Divide Data, former women employees serve as informal mentors to current women employees.

Very little research has been done to assess if there are any gender-differentiated effects on how workers contribute to or benefit from microwork, and more research is needed in this area. Malik, Nicholson, and Morgan evaluated an impact sourcing initiative in Pakistan and found that women employees felt a sense of social empowerment, were appreciated by their families for their professional achievements, and improved their learning and economic capabilities.¹⁰⁴

Michael Chertok said that there have been some gender-differentiated results after employment with Digital Divide Data. For example, in Southeast Asia, more women who were previously employed experienced a wage gap and moved on to different jobs than men, often in accounting or finance. Digital Divide Data has also found that some Southeast Asian women employees have had a more difficult time getting married as employment, especially in a managerial or professional role, often means going against traditional gender norms. In India, Samasource has found that women are more likely not to return to work once they get married or have children.

Samasource attempted to set up a childcare facility at its Nairobi center but found that this service was not needed for two reasons: 1) most women workers were not married and did not have children, 2) women with children were not accustomed to a formal childcare system and ultimately did not feel comfortable leaving their children with strangers or preferred to have family members watch their children during work hours.

While a dedication to hiring women workers, as evidenced in the practices of multiple impact sourcing companies, is laudable, there are considerations and safeguards that need to be addressed to ensure that women may work safely. Such considerations include safe transportation, policies prohibiting sexual harassment that are easy to understand and enforced, community involvement and education so as to reduce backlash against women entering the workforce, and clean, safe and separate restrooms. In youth workforce development efforts overall, a separate effort and separate space is often needed along with focused and adapted encouragement for girls or they may not stay in jobs.¹⁰⁵ One interviewee working with youth in Kenya noted, "We did see that overall there were issues having to do with sexual coercion or exploitation in the job search itself. Girls looking for jobs via traditional means were asked for sex to get jobs. It took them a while to trust that online work was legitimate and they would not be expected to provide sexual favors." Girls perceived that online

¹⁰³ Ibid.

¹⁰⁴ Malik, F., Nicholson, B., and Morgan, S. 2015. Evaluating Impact Sourcing: A Capabilities Perspective from a Case Study in Pakistan. Available online at: <http://srou.portals.mbs.ac.uk/Publicationsandoutput.aspx>.

¹⁰⁵ Taggart, N. 2012. Gender in Youth Livelihoods and Workforce Development Programs. Educational Development Center EQUIP3. <http://theyouthalliance.org/sites/default/files/EDC-Gender%20in%20Youth%20Livelihoods.pdf>.

work didn't carry that sort of expectation with it, yet this expectation meant it could be a challenge to gain their trust.

PEOPLE WITH DISABILITIES

There is a paucity of research focused on the specific accessibility of microwork for people living with disabilities. Zyskowski et al. examined the potential that digital work may have on employment opportunities for people with disabilities, finding that it is often well-aligned with their intellectual capacity and skill level.¹⁰⁶ They also found that crowdsourcing may offer "...a unique proposition for people with disabilities, due to features such as the ability to work from home, avoid the frustrations of navigating inaccessible transportation, vary the pace of individual or multiple tasks, set a flexible work schedule, determine whether or not to reveal one's disability status, and use their personal adaptive technologies."¹⁰⁷ If the microwork service providers design their platforms and operational systems with an awareness of people with disabilities, microwork "could offer people with disabilities an equal opportunity in the era of digital employment."¹⁰⁸ Additional research is needed into how to effectively adapt microwork employment systems to meet the needs of people living with disabilities and how to protect their rights as workers.

Daproim works with client Benetech to provide books for the blind or visually impaired. Daproim edits books and puts them into a format so that they can be easily converted into braille. According to Perry Kanana, Daproim human resources manager, while Daproim promotes hiring persons with disabilities, it is often challenging for disabled applicants to meet employment qualifications.

Digital Divide Data was the only microwork service provider included in stakeholder consultations to specifically recruit people living with disabilities. Digital Divide partners with local organizations that work with youth with disabilities to offer employment to disabled populations and seeks to make office facilities accessible. In Asia, the company is working with youth with physical disabilities. In Kenya, it works with youth who are deaf or hearing impaired, rather than those with physical disabilities, as elevators to the company's Kenya office are not always functional.

Overall, Digital Divide Data has found that disabled employees are able to integrate well into its general worker pool. The company has addressed initial challenges in determining how to support disabled workers in achieving a quality education. According to Michael Chertok, the company's executive vice president for impact, Digital Divide's biggest challenge in working with disabled populations is out-placement, as it is generally much more difficult for disabled employees to find jobs outside of the company. Digital Divide is trying to address this issue by finding internships for disabled

¹⁰⁶ Zyskowski, K., Ringel Morris, M., Bigham, J., Gray, M., and Kane, S. 2015. Accessible Crowdwork? Understanding the Value in and Challenge of Microtask Employment for People with Disabilities. Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15, 2015.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

employees, encouraging them to start their job searches earlier than other employees, and relying heavily on company networks to assist in finding placements.

WORKER BENEFITS

INCREASED ACCESS TO JOBS

As noted by a leading microwork service provider, microwork provides an opportunity to learn transferable skills that enhance future job opportunities.¹⁰⁹ In addition, impact-oriented microwork offers a point of entry to the technology sector, which is growing and can provide sustainable employment. Impact sourcing service providers who practice microwork have noted that the majority of their employees go on to higher levels of employment, both within and outside the technology sector. Employees note finding non-digital work in the healthcare, education, and hospitality sectors, and more complex tech-based work.¹¹⁰ A survey conducted during the development of the World Development Report 2016 supports the proposition that microwork offers flexible and home-based employment, thereby increasing access for individuals who cannot work in a traditional office environment. This could include people living with disabilities, young women who are pressured to remain at home, and those with family members who require consistent care.¹¹¹ In addition, impact-oriented service providers often offer learning opportunities and skill building that can help workers obtain higher-level employment.

INCREASED ACCESS TO SKILLS DEVELOPMENT AND WORK EXPERIENCE

The experience and skills developed over time when a worker engages in a series of diverse tasks increases their employability. Competencies developed through completing tasks are not only basic IT and internet skills, but also soft skills, which are vital to sustaining traditional employment.¹¹² The potential contribution that microwork provides in developing soft skills, as identified in the literature, include the development of basic interpersonal and business skills, development of positive work habits, an increase in self-efficacy, an increase in confidence, and an increase in social and communication skills.¹¹³ These skills can be improved or built as a result of a basic increase in work experience, and therefore familiarity with the operations of a workplace, as well as performance evaluations and internal or external training

¹⁰⁹ CloudFactory. 2014. An Impact Sourcing Primer. Available online: <https://www.cloudfactory.com/impact-sourcing>.

¹¹⁰ Samasource. 2014. Annual Report 2014. Available online at: http://media.wix.com/ugd/e4cc5f_989309ea9f894ad58b7f626cb1b9500d.pdf.

¹¹¹ World Bank. 2016. World Development Report 2016: Digital Dividends. Available online: <http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf>.

¹¹² Ibid.

¹¹³ Lacity, Mary C., Joseph W. Rottman, and Erran Carmel. "Impact Sourcing: Employing Prison Inmates to Perform Digitally-enabled Business Services." *Communications of the Association for Information Systems* 34, no. 51

programs that intentionally add to the employee's skill set. Such soft skills are in high demand in today's marketplace and can often be the deal-breaker or deal-maker during a hiring process.¹¹⁴

Evidence of impact workers developing new skills as a result of microwork comes from Samasource. Their findings show that 42% of workers gained soft skills, 38% gained technical skills, and 19% reported an increase in their familiarity with work environments and a stronger resume. According to their 2015 Social Impact Report, CloudFactory surveyed 2,543 of its workers engaged in microtasking at any given time in 2015. The company reported that CloudFactory workers believed that they are provided with "the opportunity to learn new skills, enhancing their future job prospects and long-term earning potential."¹¹⁵ The survey estimated that 25% of workers experience an increase in technical understanding and 40% saw an increase in management skills, both of which are directly attributed to the completion of microtasks on the CloudFactory platform.

INCREASED LIVELIHOODS

Based on the literature reviewed in this study, the economic impact for workers varies across service provider platforms, locations, the complexity of tasks, and the level of support that workers receive in the employee-employer relationship. Furthermore, there is a variation in how microwork is approached by the employee. Some workers engage in full-time microwork, while others use it to supplement an existing income. Data presented in a recent impact study conducted by CloudFactory note that workers' income increases between 40 and 200% as a result of microwork.¹¹⁶ These increases in income allow workers to better support themselves financially and can translate into improved health and education outcomes that affect not only the microworker, but also their households and the communities in which they reside.¹¹⁷

Mark Graham of the Oxford Online Institute conducted qualitative interviews with women workers and found, generally, that they earned a higher wage through microwork than in their previous jobs and were able to improve their employability and technological skills.¹¹⁸ For disadvantaged youth and vulnerable populations, the economic opportunities and financial compensation can provide a path to independence and cause a positive butterfly effect in the lives of their families or caregivers.¹¹⁹

¹¹⁴ Business News Daily. 2015. Soft Skills Matter: Can They Be Taught. Available online at: <http://www.businessnewsdaily.com/7907-improve-employee-soft-skills.html>

¹¹⁵ CloudFactory. 2015. Social Impact Report. Available online at: <https://www.cloudfactory.com/hubfs/02-Contents/3-Reports/Social-Impact-Report-2015.pdf?t=1473156789175>.

¹¹⁶ Ibid.

¹¹⁷ Rockefeller Foundation. 2013. Digital Jobs: Building Skills for the Future. Available online at: <http://etjackson.com/wp-content/uploads/Digital-Jobs-Building-Skills-for-the-Future.pdf>.

¹¹⁸ Graham, M. 2016. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

¹¹⁹ Ibid, p. 36.

CONSTRAINTS

DIGITAL LITERACY

While microwork generally involves simple and highly repetitive tasks, some degree of digital literacy and familiarity with computers is needed in order to become a worker. While requirements for digital literacy are often quite basic – including how to turn a computer on/off, how to use a mouse, and understanding of what the internet is and how to use a browser, this serves as a limiting factor and barrier to entry for a large number of unemployed individuals as digital literacy is generally not widespread in most developing countries. According to interviews with representatives from Samasource and Digital Divide Data, this is one contributing factor that explains why so many impact sourcing programs are in urban areas and in countries like Kenya where digital literacy is more common.

One interviewee who worked directly with youth microwork programming in Africa noted that many of the youth felt disenfranchised from traditional jobs where they felt taken advantage of and paid low wages, and they saw online work as an alternative that gave them flexibility. However, the youth lacked both hard and soft skills and digital literacy. They had multiple challenges when they were left on their own to access platforms like Upwork or CloudFactory without additional support and guidance. According to the interviewee, “They couldn’t type fast enough, or thought that for ‘academic writing’ they could get away with cutting and pasting from Wikipedia, and that didn’t get them very far.” Youth also experienced challenges in trusting online platforms, with many believing that platforms or postings on platforms were scams.

Samasource is addressing digital literacy constraints in Nairobi through its Samasource Training program which provides instruction in digital literacy to youth who otherwise wouldn’t qualify for microwork jobs at Samasource. Samasource Training students do not need to have any digital literacy to participate.

UNRELIABLE WORK OPPORTUNITIES

Workers often find that the work available to them is short-term and temporary.^{120 121} Such work is not always reliable, which is problematic for those using microwork as their only source of income, or even those who depend on microwork to supplement other income sources. While virtual microwork offers an opportunity to earn supplemental income and work flexible hours, the World Bank found that many workers encounter expired postings or tasks that require skills they do not have.¹²²

One interviewee who worked directly with youth microwork programming in Africa indicated that remote workers often experience social pressure from family and friends who don’t see remote microwork as “serious work” because it does not involve a 9–5 office job. Consequently, many youth faced pressure to quite online work for traditional office jobs.

¹²⁰ Flecker, J. ed. 2016. Space, Place, and Global Digital Work. Macmillan Publishers, Ltd. London, England.

¹²¹ World Bank. 2016. World Development Report 2016. Available online at: <http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf>.

¹²² Ibid.

While impact-oriented microwork service providers, such as Samasource and Digital Divide Data, provide reliable work streams, not all workers are employed by such a business and therefore are subject to inconsistent work flows. This threatens workers' livelihood and reduces their financial security, meaning that workers may still be unsure of their ability to invest in better homes or education as their income is inconsistent week to week and month to month. The World Bank found that the temporary nature of microwork was a major disadvantage to approximately 20% of survey respondents, reflecting a significant constraint.

LACK OF SOFT SKILLS

One of the well-documented challenges related to youth unemployment is young people's lack of soft skills.¹²³ Such competencies include, but are not limited to, communication skills, self-motivation, reliability, time management, the ability to work in a team, and the ability to solve problems creatively. Many young workers employed through impact sourcing, are in their first professional job and do not possess sufficient levels of soft skills required for employment. A lack of soft skills threatens an individual's ability to succeed at microwork, if they work remotely, and therefore must self-motivate and self-manage, or in a work center, where they must adhere to office rules and interact with co-workers and management.¹²⁴ Fortunately, microwork has the potential to increase an individual's soft skills, particularly if the work is in a physical center. As of now, however, the lack of soft skills among target populations is a constraint that must be addressed through training and educational programs if the workers are to be truly prepared for higher levels of employment in the future.

Soft skills training – it sounds so small and irrelevant, but there is so much to it. Tapping into the heart and soul of the individual. – Traci Freeman, Rockefeller Foundation South Africa

PAYMENT OF SERVICES

Workers from developing countries, particularly young people, can face difficulties receiving payment for their services. While this is not a constraint that all workers face, workers from developing nations generally do not have access to bank accounts and online payment channels that are frequently used by microwork service providers. Some of the most popular forms of payment are financial transactions through online payment platforms such as PayPal, Skrill, and wire transfers, Payoneer debit cards, or

¹²³ USAID, the MasterCard Foundation, and the Education Alliance. 2013. Landscape Review: Mobiles for Youth Workforce Development. Available online at: http://www.youtheconomicopportunities.org/sites/default/files/uploads/resource/mywd_landscape_review_final2013_0.pdf.

¹²⁴ Ibid.

Amazon store credit.¹²⁵ In developing countries, paying workers who are geographically dispersed, some residing in rural areas, presents unique challenges to workers, clients, and researchers. A path for further inquiry could include the creation or evaluation of a micropayment gateway that could accommodate payment globally or within a particular country.¹²⁶ Payment of services was not flagged as a constraint in any service provider interviews; but it is possible payment would have been raised as an issue were researchers able to include workers in interviews.

GEOGRAPHY AND CONTEXT

For some youth workers, particularly those utilizing crowdsourcing mechanisms, geography poses a challenge. One interviewee noted: “One provider might post jobs at a particular time of the day, but by the time the Kenyans woke up, all the tasks were taken by the Nepalese workers and there wasn’t any work left for the Kenyan workers. So Kenyan youth would have to wake up really early to tag those jobs and start working on them early to ensure they got some work.” In other instances, youth are unable to bid on or access specific tasks due to their IP addresses. Some jobs are blocked because of tax laws (only US-based workers can be sourced) or because service providers do not want workers outside of the United States to work on them.

On other occasions, if youth logged onto different accounts from the same IP address, their accounts would be shut down. As our interviewee explained, the mechanism is meant to stop multiple accounts from applying and to stop people taking from scamming the system, but it puts up a barrier to people doing microwork from internet cafés or shared computers. “They’d all be online using the same IP address but their accounts were getting blocked.” The interviewee saw this as a fundamental challenge with the crowdsourcing microworker model and scale-up because youth from difficult backgrounds would normally work with friends, at an internet cafe or on a shared laptop or computer where they would do shift work, but would then get blocked.

IMPACT WORKER TESTIMONIAL: IGNATIUS SHIUNZI

Ignatius Shiunzi is a 28-year-old man who has been with Digital Divide Data for 5 years. He began when Digital Divide Data Kenya had about 17 employees in 2011, and he has watched the office grow to over 250 people working three shifts.

Prior to coming to Digital Divide Data, Ignatius had no skills in IT; everything he has learned about the IT field has been from Digital Divide. The opportunity to have a work-study program and to gain on-the-job experience appealed to him. He appreciates that the company “transforms lives over time,” hopes that it can expand the work (by adding more people) but admits, it can be very routine and boring at times. Ignatius was promoted to a management position and now serves as a quality assurance and IT manager. Ultimately, he hopes to have an IT company of his own and to develop a leadership program that will train young leaders and give back to society.

¹²⁵ Zyskowski, K., Ringel Morris, M., Bigham, J., Gray, M., and Kane, S. 2015. Accessible Crowdwor? Understanding the Value in and Challenge of Microtask Employment for People with Disabilities. Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15, 2015.

¹²⁶ Ibid.

DONORS AND INVESTORS

Although this study did not explicitly focus on exploring opportunities, constraints, and best practices among donors and investors, through interviews and literature, it is clear that they play a very important role in advancing and leveraging microwork and impact sourcing models in international youth development. The Rockefeller Foundation and The MasterCard Foundation are two donors that invested resources in promoting impact sourcing to businesses and governments, augmenting the capacity of impact sourcing service providers, and supporting their youth programming in developing countries.

The Rockefeller Foundation recognized the vast potential of ICT to transform work models and create economic opportunities for disadvantaged groups in developing and emerging markets. In 2013, The Rockefeller Foundation launched its Digital Jobs Africa (DJA) initiative to catalyze new, sustainable employment opportunities and skills training for African youth, with a focus on the ICT sector.¹²⁷ Working closely with private sector, governments, and civil society, DJA conducted extensive research into the value proposition of impact sourcing. The Rockefeller Foundation also provided grants to multiple NGOs and for-profit training programs dedicated to training disadvantaged African youth for ICT enabled careers. An example of their grantee is the Homeboyz Foundation, a Nairobi based NGO. They funded a digital campaign that aimed to alert high potential but disadvantaged youth in Kenya to online work opportunities and provide them the tools they require to successfully access online jobs resulting in improved livelihoods and improved social and economic benefits for the youth and their families. The Rockefeller Foundation committed to investing \$100 million dollars and impacting more than 1 million lives through this initiative.

However, in recent times, they began moving their focus away from online work, as it proved not to be as “catalytic as they hoped,” according to Traci Freeman, The Rockefeller Foundation South Africa representative for impact sourcing and DJA. Simply offering a platform and a work opportunity was not enough to make a significant impact on youth unemployment and income generation. A key recommendation from the insights report is to think beyond online work: “Those committed to truly impacting high potential yet disadvantaged youth may want to look beyond online work and think about impact sourcing more broadly. In order to be able to compete on global online work platforms, youth must have basic IT and other skills, which traditional education systems – particularly in Africa – often do not equip them with. In addition, online work earnings are frequently low, and opportunities in this space are unstable.”¹²⁸

¹²⁷ The Rockefeller Foundation, Digital Jobs Africa. Available online at: <https://www.rockefellerfoundation.org/our-work/initiatives/digital-jobs-africa/>

¹²⁸ The Rockefeller Foundation, Monitoring & Evaluation Office. 2016. “Connecting African Youth to Tech-Enabled Jobs.” Available online at: <https://assets.rockefellerfoundation.org/app/uploads/20160929102609/Emerging-Insights-Brief-Connecting-African-Youth-to-Tech-Enabled-jobs.pdf>

LESSONS FROM THE ROCKEFELLER FOUNDATION'S DIGITAL JOBS AFRICA INITIATIVE

The Digital Jobs Africa (DJA) initiative aims to enable young people around the world to access jobs by “providing them with in-demand technology-related and other employability skills.” Representatives from the Rockefeller Foundation recently shared their lessons learned for a variety of stakeholders, which include youth training organizations and employers, and discussed broader lessons to learn from.

For youth training organizations, DJA proved that it is important to partner with socially oriented corporations and to work with champions of those causes. It would be valuable to partner up with multinational corporations because their brand recognition could be leveraged to create greater engagement and build confidence in the program among both clients and companies alike. Youth training organizations should also seek to work together collaboratively to coordinate efforts and promote targeted messages. Additionally, comprehensive training and support services for young people engaging in these activities are crucial for them to build soft and technical skills.

DJA found that employers should pilot the “business case” in small trials before they scale up in order to ease concerns about the viability of the impact sourcing model. They should also develop realistic costing models that are comprehensive and think about the long-term impact by focusing on the value that disadvantaged youth can bring to a company.

As for the broader lessons covered, there must be a greater development of evidence about impact sourcing. There is a need to invest in monitoring and evaluation activities that can focus on monitoring progress so that it can be shared widely. Another lesson is to focus on other work beyond what can be done online, and not solely focus on providing training—there must be a connection between giving youth the tools to succeed, and translating that into meaningful employment.

Established in 2006, The MasterCard Foundation is committed to reducing poverty in Africa, by increasing access to education, skills training, and financial services for the most vulnerable.¹²⁹ Through its Youth Livelihoods program, The MasterCard Foundation seeks to enable young people to transition to the workforce. The Youth Livelihoods portfolio provides out-of-school, unemployed young people with market-relevant skills, connections to employers, and access to financial services. Since 2012, The MasterCard Foundation has invested in supporting Samasource and other impact sourcing and microwork organizations. Ms. Meredith Lee and Mr. Steve Cumming, deputy director and senior program manager, respectively, for the Youth Livelihoods program, confirmed that The MasterCard Foundation identified microwork as a promising approach to address youth unemployment. However, some concerns have arisen related to the quality of jobs that microwork offers to youth. These concerns are associated with the unpredictability of employment opportunities, which are not always associated with benefits, and a lack of clear career pathways for young unemployed people. A further concern is regarding the possible “race to the bottom” in worker’s pay, with young people paid wages for their work that are not sustainable and with limited opportunities for social protection.

In consultations, representatives from both foundations stressed the importance of soft skills for youth success in the workplace and singled out the benefit of microwork within delivery centers for developing these competencies in young workers.

¹²⁹ The MasterCard Foundation. 2016. Foundation Facts. Available online at: <http://www.mastercardfdn.org/wp-content/uploads/2016/06/Foundation-Fact-Sheet-June-2016.pdf>

KEY FINDINGS AND CONCLUSIONS

TRENDS IN MICROWORK & IMPACT SOURCING

CHANGING WORK MODELS

The increasing importance of data science and algorithm-based IT approaches has been a boon for microwork. In addition, companies have mined large amounts of data and now need to ensure that the data are accurate and useful. A key finding that emerged from microwork service provider and client consultations is how the nature of the work being performed has changed with advances in technology. For example, Digital Divide Data's first work was digitizing back issues of the *Harvard Crimson* newspaper with double key data entry. Now company workers simply scan documents using a software with optical character recognition and then check for consistency and quality. While some microwork tasks, such as transcription and image tagging, remain consistent over time, service providers have retained existing clients and attracted new clients by being able to continually adapt to the demand for new work.

A number of impact-oriented microwork service providers are currently engaged in algorithmic and computer-based learning and training, which was not a widespread task several years ago. For example, several microwork service providers are working with clients to promote learning for self-driving cars. Projects involve going through thousands of pictures and circling cars, signs, humans, and other obstacles a car would need to identify to be able to properly and safely function. Service providers highlighted that being able to adapt to new market-based opportunities is a key part of being competitive.

SUSTAINABILITY

Impact-oriented service providers, particularly those operating as not-for-profits, have traditionally relied on donor funding to finance operations and worker welfare and training. For example, Samasource has received funding from The MasterCard Foundation, The Rockefeller

Foundation, and Google.org, among others. In 2014, only half of Samasource's funding came from fees for its impact sourcing-oriented microwork projects.¹³⁰ However, Samasource recently achieved cash-flow break even months into mid-2016 and believes it will be at full sustainability at the end of the year.¹³¹ According to Wendy

85% of our revenue is earned revenue from our clients, and the amount that we are raising as fundraising has stayed relatively constant for the last few years, while our revenue is growing and we are very driven by that goal from our board to our senior management team—there is no mission without margin. — Michael Chertok, Digital Divide Data

¹³⁰ Samasource, Inc. 2015. Independent Auditor's Report and Consolidated Financial Statements. Available online at: http://media.wix.com/ugd/e4cc5f_ac87fe6674474dac825c44ede5c38170.pdf.

¹³¹ Wendy Davis, interview

Davis, Samasource's managing director, the company's move toward sustainability proves that the model works – that it is possible to run a viable business with a real social benefit. Digital Divide Data has also made strides towards sustainability in recent years. While the company initially required large subsidies for start-up and was heavily reliant on charitable funds at its inception, 85% of its current revenue is earned revenue – up from less than 50% at inception.

SCALABILITY

Service providers spoke positively about the industry's potential to achieve scale in interviews and are promoting the scaling of microwork through an impact sourcing approach using three strategies: 1) expanding to new countries either through direct-implementation or intermediary models; 2) expanding operations and employment opportunities within countries where they already operate; and 3) offering advisory

We're looking in developing nations where employment is a big issue, where work is not accessible, but also needs to make a business sense, like where internet is available...some infrastructure in place, and also thinking about time zones. – Robina Maharjan, CloudFactory

services to new actors looking to create microwork/impact sourcing projects. Samasource views partnerships and its use of intermediaries, including iMerit, as a key approach to achieving scale. Daproim looks to scale further within Africa and has completed feasibility studies for opening offices in Rwanda, Uganda, and Ghana. CloudFactory is also looking to scale and has a list of locations for potential offices, including Ghana, Nigeria, and Jamaica.

CloudFactory sees expansion as a strategy to operate on multiple time zones and create a global cadre of workers available round the clock. While implementers with physical centers typically run shifts-round the clock, CloudFactory wants to be able to offer round the clock services for clients while promoting flexible working hours for workers.

According to interviews with Digital Divide Data and Samasource, both organizations have learned through trial and error that they prefer to scale operations within the countries they currently operate in, working to expand and hire additional workers within existing operations rather than expand to new regions or countries. Samasource indicated that it has experienced challenges when expanding to too many new countries, and both microwork service providers said they have found they can do both high-quality work and have a greater impact on workers if they focus on implementation in the countries in which they already have a presence. For example, Digital Divide Data feels that scaling to additional countries would increase operating costs and take potential jobs from its current workforce. Consequently, according to Michael Chertok, Digital Divide Data seeks to only expand to new countries if it sees a new demand from clients and new skills from potential workers (i.e., language, technology) it can offer to clients.

In addition, both Samasource and Digital Divide Data hope to promote scaling of the industry by offering advisory services to parties interesting in getting involved in the

industry. According to interviews with Barb Chang from Samasource and Michael Chertok at Digital Divide Data, the two organizations act as consultants and provide front-loaded technical support and expertise on start-up, feasibility, piloting, operations, identifying clients, and technology to help other parties establish their own independently-run microwork-impact sourcing projects. Both implementers would then play a less involved and more on-demand advisory role once the project was underway. Samasource has already begun to test out its Advisory Services arm, providing guidance to NGOs and multilateral organizations on how to set up microwork projects in new regions and with new target populations. Samasource indicated that there is already demand from a number of NGOs and bilateral organizations for advisory services, including collaboration opportunities. Samasource will be strategic in selecting partners to work with and only seeks to work with partners that already have necessary funding. In addition, Samasource is hoping to promote scale through licensing deals for their Samaschool online curriculum on digital literacy. Under this model, institutions could adapt and customize Samasource training curricula for their workers.

CASE STUDY: SAMASOURCE PILOTS ADVISORY SERVICES

In 2016, Samasource worked with the International Trade Center to do a microwork feasibility assessment for refugees in the Dadaab refugee camp in Kenya. Approximately 20 refugees with a certain baseline of digital literacy and English proficiency were selected to participate. First, participants underwent a 2-week condensed Samaschool training on digital literacy, soft skills, machine learning, and web research. Following training, Samasource instituted a project simulation, with participants completing tasks from an actual project. Samasource measured quality and turnaround time, and found that performance was just below standard results. This study indicated that the refugees included in the pilot could have carried out basic microwork, especially with further support to get them to the baseline level. The project did not end up going past the development stage as the Kenyan government announced that it is going to close the refugee camp next year.

Samasource is currently working with the World Food Program to explore opportunities to create a microwork program for Syrian refugees in Jordan or Lebanon. Samasource is putting together a pilot in Lebanon as part of a feasibility assessment. While most of the current work is done in English, some projects could be done by refugees in Arabic. This is both a challenge to start up but also an opportunity, as it could fill a market gap to provide Arabic-speaking workers. Consequently, part of the feasibility assessment involved speaking to local companies to determine whether there is sufficient demand and developing a new client base. At the moment, Samasource is exploring refugee skill levels and applying a readiness scale that examines infrastructure, power reliability, training facilities, BPO maturity and market, and government support, among other factors.

Finally, in recent years, crowdsourcing platform CrowdFlower has cultivated partnerships with a number of local impact-oriented microwork service providers around the world, including iMerit in India, IndiVillage in India, and Daproim in Kenya. According to Brian Reavey, manager at CrowdFlower, while CrowdFlower appreciates being able to promote the impact of these organizations to clients and potential clients, it also sees a business case in fostering these partnerships.

While CrowdFlower was previously more involved in designing tasks and overseeing data, they are now purely a crowd platform vendor, and this platform can be utilized by clients and microwork service providers who partner with CrowdFlower.

Working with dedicated centers means that non-disclosure agreements can be put in place and that centers can institute data security and confidentiality protection measures, thereby providing a unique channel to accomplish tasks with sensitive data. Currently, there is no way for workers operating from the general crowd to sign individual non-disclosure agreements due to the anonymity of most crowdfunding tasks.

Partnering with impact-sourcing microwork providers offers CrowdFlower clients an alternative with improved quality control to complete assigned tasks. CrowdFlower hopes to scale impact-sourcing operations by identifying and forming partnerships with additional impact sourcing organizations. New parties looking to get involved in the space could tap into CrowdFlower's technology platform to complete tasks. Under this model, CrowdFlower would direct existing or new clients looking for a more controlled crowd, in need of a non-disclosure agreement or tighter security measures, or hoping to make more of an impact in their work to specific impact sourcing-oriented channels. According to Mr. Reavey, CrowdFlower would like to expand partnerships to South America due to the growing need for Spanish-language microwork.

IMPACT SOURCING COALITION

In September 2016, the Rockefeller Foundation launched the Global Impact Sourcing Coalition to bring together service providers, clients, and donors to create an industry body and establish impact sourcing standards and a larger commitment to impact sourcing industry growth. Rockefeller Foundation is supporting BSR, a non-profit, to manage the coalition. According to Michael Chertok from Digital Divide Data, the Coalition will be an important step for scaling microwork and impact sourcing, as it will promote broader understanding of the industry and, it is hoped, attract new clients, while setting much-needed industry standards.

BENEFITS OF MICROWORK WHEN IMPLEMENTED THROUGH IMPACT SOURCING AND OPPORTUNITIES LOOKING AHEAD

FOR WORKERS

Along with reduced cost and high-quality, a tenet of the impact sourcing model is to support disadvantaged populations, including young people, women, those living in rural

areas, and people living with disabilities. This largely untapped labor pool is well-suited for microwork, and in theory, microwork provides a stepping stone to better employment opportunities. Anecdotal evidence from various impact oriented service providers supports this theory, with employers such as CloudFactory and Samasource claiming that the jobs they offer allow employees to earn a living wage, gain valuable work experience, and “...build a pathway out of poverty.”¹³², ¹³³ They cite significant increases in overall and lifetime earnings and emphasize the high percentage of workers who go on to higher level positions.

Monitoring and evaluation data collected by Samasource show that after leaving Samasource, 85% move on to further employment or education. Of those that continue

We have always looked at long-term development opportunity for the people, who we employ, and so young people who come to work for Digital Divide Data typically stay with us for about four and a half years, and while they are working for us, they obtain a college degree [...] and then we track what they do afterwards, and we see that they go on to better jobs, making higher incomes. Our latest survey shows on average \$449 per month” – Michael Chertok, Digital Divide Data

working, 98% of individuals work in the formal sector – with 40–50% gaining formal employment in the ICT sector.¹³⁴ According their website, iMerit employees earn between 300 and 1000% more than their previous income and many go on to fulfilling careers in the digital economy.¹³⁵ Upon completing Digital Divide Data’s work-study program, graduates have been found to earn more than four times the regional wage, enabling their families to emerge from poverty.¹³⁶ In Cambodia and Laos, for example, former employees earn on average US\$449 per month, which is many times more than the typical per capita income of about US\$54 per

month. Dimitri Zakharov, founder and CEO of Impact Enterprises, which has delivery centers in Zambia, shared that Impact Enterprises’ workers support on average 3.5 family members, and that 10–30% of their income goes to savings, in many cases for continuing education. There is an average 74% increase in income of workers compared to earnings prior to joining the company. To support these results, Impact Enterprises provides holistic training and support in financial planning, health and nutrition, entrepreneurship, and access to guest speakers. To date it has hired 180 employees.

¹³² Samasource website. Available online: <http://www.samasource.org/impact>.

¹³³ CloudFactory. 2014. An Impact Sourcing Primer. Available online at: https://info.cloudfactory.com/impact-sourcing?utm_source=website&utm_medium=impact-cta&utm_campaign=Impact-Sourcing-2016.

¹³⁴ Samasource. 2015. Annual Report. 2015. Available online at: http://media.wix.com/ugd/e4cc5f_0198092661bf449ea0429a24f0b838f0.pdf

¹³⁵ iMerit. About the Company. Available online at: <http://imerit.net/about/>.

¹³⁶ Rockefeller Foundation. 2013. Digital Jobs: Building Skills for the Future. Available online at: <http://etjackson.com/wp-content/uploads/Digital-Jobs-Building-Skills-for-the-Future.pdf>.

Internal and external training programs also provide support to disadvantaged populations by preparing them for digital work or assisting with the cost of training. This is in stark contrast to traditional crowdsourcing platforms, which do not offer direct training and expect the worker to

Job security makes you a more confident person, I've seen that a lot in terms of workers here...Being able to see the value of working life and give back to the community. – Robina Maharjan, CloudFactory

be skilled and experienced enough to perform the task at hand. Impact sourcing, therefore, is designed to promote equity within the online outsourcing marketplace by specifically employing and training marginalized populations regardless of their past employment or current skill level.

People who have no work experience can make a leap to working in the formal sector of major ICT companies – it's not a step, it's an exponential jump. – Tony MacDonald, Samasource

Impact sourcing microwork service providers also highlighted how workers experience valuable gains to self-confidence and feelings of inclusion, specifically because microwork jobs allow them to participate in the new world economy, work at the forefront of technology, and for internationally recognized clients like Google and eBay. Calvin Odemba of Digital Divide Data highlighted how confidence-building it can be for individuals living in poverty to gain new skills, support their families, and make improved choices about their lives.

According to interviews with CrowdFlower, crowdsourcing (which is not impact-oriented) is often utilized as a coping mechanism in times of economic stress and hardship. For example, rising inflation and economic crisis in Venezuela has led to a large increase in crowd workers over the last four years, with many turning to crowd sourcing as their primary source of income.

FOR COMMUNITIES

There is evidence of a ripple effect on the families of workers as an increase in disposable income often results in increased spending on health services and education.¹³⁷ The Everest Group states that impact sourcing can lead to a 300% increase in discretionary spending of impact workers, positively affecting the local economy and, potentially, contributing to increased job creation and worker demand.¹³⁸ As individual workers experience increased income, the research suggests that microwork increases household investments in health care, education, and savings. “With increased incomes, families can more predictably make investments in healthcare and education. They also have greater purchasing power and ability to save.”¹³⁹ For example, in their 2016 Annual Report, Samasource states that employees reported a

¹³⁷ Everest Group. 2014. The Case for Impact Sourcing. Available online: <https://iris.thegiin.org/documents/whitepapers/the-case-for-impact-sourcing.pdf>.

¹³⁸ Ibid.

¹³⁹ Ibid.

128% increase in housing spending, a 100% increase on food, and a 71% increase in spending on education for their children.¹⁴⁰ The Annual Report also estimates that the company has affected 50,720 people since 2008, including 7,896 workers, 24,399 income dependents, and 1,517 students.¹⁴¹

There is also evidence that impact sourcing can lead to an increase in spending on community development and, due to such spending, improve the quality and accessibility of health and educational services.¹⁴² Lastly, the literature supports the assumption that increased job opportunities for young, unskilled, and less-educated people contribute to political stability and social cohesion.^{143 144} We do not know, however, what the long-term effects of such practices will be and what effects technological innovations could have on the relevance and implementation of microwork.

FOR CLIENTS

Impact sourcing can help companies meet cost and savings goals, given that companies can achieve quality comparable to traditional BPO processes at lower cost. In addition, the literature shows that, on average, companies can expect between 15 to 40% lower attrition rates, which contributes to savings and product quality.¹⁴⁵ Lower attrition is generally attributed to the fact that employees perceive a higher level of appeal when working for impact-oriented microwork service providers as compared with other low-skilled employment.¹⁴⁶ In addition, some common impact sourcing business practices, such as building work centers in locations that are specifically convenient to the workforce (as in the RuralShores model), reduce the need for individuals to migrate for work.¹⁴⁷ Impact sourcing has also been shown to help companies absorb demand fluctuations, scale up production, support entry into new business markets, improve or achieve CSR and diversity objectives, and free up internal

When you are looking to outsource you can either pay a lot of money for good workers and good work or a little bit of money for questionable results. Impact sourcing offers the middle of the road in terms of cost and results. — Anneliese Eisentraut, eBay

¹⁴⁰ Ibid.

¹⁴¹ Samasource. 2016. Q2 2016 Impact Profile. Available online at: http://media.wix.com/ugd/e4cc5f_70b271c2437544e28718f3ea5779d946.pdf.

¹⁴² CloudFactory. 2014. An Impact Sourcing Primer. Available online: <https://www.cloudfactory.com/impact-sourcing>.

¹⁴³ World Bank. 2016. World Development Report 2016: Digital Dividends. Available online: <http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf>.

¹⁴⁴ S4YE (Goldin, N. & M. Hobson with P. Glick, M. Lundberg, S. Puerto). 2015. "Toward Solutions for Youth Employment: A Baseline for 2015." Solutions for Youth Employment, Washington, DC.

¹⁴⁵ Ibid.

¹⁴⁶ Everest Group. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

¹⁴⁷ Ibid.

bandwidth for higher order work.^{148 149} Consultations with clients found that they overwhelmingly prioritize quality, timeliness, and cost considerations when making decisions about microwork and sourcing. CSR and benefits of providing opportunities to marginalized workers can play a secondary role in decision-making for some clients and justify slightly higher costs when compared to traditional BPO service providers.

INCREASING ACCESS TO INTERNET

The 2016 World Development Report states that the number of internet users has more than tripled in the past decade. One billion people were able to access the internet in 2005, compared to an estimated 3.2 billion at the end of 2015.¹⁵⁰ Such growth signals an incredible opportunity for the online outsourcing industry, particularly for microwork and impact sourcing. Developing countries such as Uganda and Kenya are investing heavily in internet-based infrastructure, which could offer a platform for microwork-type activities. Evidence shows that unemployed or low-income youth in developing countries invest in internet-enabled phones, and new technologies are steadily increasing women's access to the labor market.¹⁵¹ Furthermore, internet accessibility is increasing job opportunities for people living with disabilities, many of whom would be able to engage in microwork as it requires an appropriate level of skill, education, and mobility. Given that impact sourcing operates with the objective of employing these key demographics, growing global internet access provides a major opportunity for expanding the labor pool and tapping into emerging markets in developing countries.

GROWING DEMAND

The proliferation of the internet and increased digitization of modern life contribute to the growing demand for data processing, tagging, entry, and various other tasks that are well suited for microwork. In addition, such data are not always structured in ways that can be accurately processed by an automated or algorithm-driven system.¹⁵² For example, inconsistent or missing information in a dataset can stump an automated program, while humans can easily adapt. It is true that emerging technological capabilities are threatening the need for human intervention in some basic work, and in the future, such work could be performed by advanced automated systems.¹⁵³ The current trend, however, is still towards an increasing amount of data that requires human judgment to process, which creates a demand-driven opportunity for microwork

¹⁴⁸ Everest Group. 2014. The Case for Impact Sourcing. Available online at: <https://iris.thegiin.org/documents/whitepapers/the-case-for-impact-sourcing.pdf>.

¹⁴⁹ Ibid, p. 10.

¹⁵⁰ World Bank. 2016. World Development Report 2016: Digital Dividends. Available online at: <http://www.worldbank.org/en/publication/wdr2016>.

¹⁵¹ Ibid.

¹⁵² Simonson, E. 2016. Can Outsourcing Boost Employment for Low-Skilled Workers? Available online at: https://www.brookings.edu/wp-content/uploads/2016/07/Global_20160720_Blum_Simonson.pdf.

¹⁵³ Ibid.

and impact sourcing service providers to meet a business need while supporting members of marginalized populations.

CONSTRAINTS IN CROWDSOURCING AS OPPORTUNITY FOR IMPACT SOURCING MICROWORK

Although microwork within crowdsourcing has seen a significant rise in recent years, key constraints to this model offer unique opportunities to promote further impact-oriented approaches.

While crowdsourcing clients have some quality control mechanisms in place, including stipulating qualifications and badge levels for crowd workers to be eligible for tasks and Gold questions, they are unable to select specific workers to complete tasks or retain workers over a number of tasks.

While clients can run multiple iterations of tasks to get the data quality they need, they are largely unable to set up feedback loops to communicate with workers on how to improve the quality of execution or ensure that the same workers complete multiple iterations of the same tasks. Gold ensures a level of quality control, but it also means that clients must continually monitor and develop new Gold to prevent against crowdsourcing scams, and this is time consuming. According to Glenn Volk of CrowdFlower, these quality control challenges mean that it is often preferable to channel more complex microtasks through impact sourcing firms with stronger quality control mechanisms.

In crowdsourcing, quality control is typically ensured through Gold, a series of known test questions created by the client that are similar to the main task a worker is being asked to complete. Gold questions typically appear at the beginning of a task and are then interspersed throughout the actual task. Gold thus becomes a way to help prevent scammers and validate and encourage workers to make their best effort in completing tasks. Workers receive badges and can compete for more advanced or higher-pay projects based on percentage of Gold questions answered correctly.

Nathan Zukoff said that most scams include figuring out Gold answers and using bots to answer questions and/or sharing Gold answers on websites or spreadsheets to complete work quickly and generate profits without raising flags on quality. In addition, crowdsourcing has been used to artificially bump trends, downloads, or views or even for money laundering.

According to interviews with Bruce Smith of Intuit and Nathan Zukoff, formerly of CrowdFlower, the risk of scams – either by bots or by enterprising individuals – which can obscure and/or produce faulty data, is particularly challenging to mitigate against with general crowdsourcing. Based on interviews with clients that use crowdsourcing or impact sourcing to complete microwork, it appears that implementing microwork through crowdsourcing

requires more active management and oversight by clients than when implemented through an impact-sourcing implementer.

The above constraints were highlighted by crowdsourcing, as well as impact sourcing, clients, who specifically chose an impact sourcing-approach in light of the above constraints. For example, Anneiliese Eisentraut of eBay discussed how general crowd-based tasks can fail or experience delays if tasks are overly complicated or if they need to be run a few times by the same individuals fails to promote understanding and efficiencies in completing the task. In addition, established impact sourcing

organizations with a strong mission focus, like Samasource and Digital Divide Data, have very low attrition rates. Stakeholders from both organizations asserted that this also leads to higher quality work. Overall, it seems that quality of microwork tasks will be higher when utilizing an impact sourcing approach as opposed to crowdsourcing.

EXPANSION OF MICROWORK TO MOBILE DEVICES

Mobile phones are the main source of connectivity in the developing world. On average, four in five people in the developing world own a mobile phone, which surpasses access to the internet.¹⁵⁴ Given the proliferation of internet-enabled and smart phones, many people are able to access the internet via their mobile phone. Currently, the majority of microwork employment opportunities are made available exclusively in digital formats compatible with traditional computers.¹⁵⁵ Traditional microwork, while providing opportunities for many unemployed youth today, excludes the unemployed youth and vulnerable populations that do not have access to computers or do not have some baseline of computer literacy. Many of these youth do have access to, and a strong understanding of, mobile-technology, which makes mobile-based microtasking a potential opportunity to reach a new pool of workers in the developing world. There is a growing interest in the emergence of mobile microwork platforms and using them to address employment constraints felt by young people, women, and people living with disabilities. Working via a mobile phone also helps traverse barriers such as poorly maintained roads or bridges, lack of transportation, and risks to safety while traveling. There are still many questions to answer surrounding this opportunity.

Jana, formerly known as txteagle, is one microwork service provider utilizing a mobile platform to enable individuals in developing countries to complete microtasks on their basic mobile phones.¹⁵⁶ Jana's platform is accessible to anyone with either an internet or mobile phone connection and provides individuals with "local knowledge sourcing or basic BPO tasks in return for payment in the form of airtime credit or mobile money."¹⁵⁷ By completing simple tasks via text-message on their internet-enabled mobile devices, individuals earn instant airtime.¹⁵⁸ Souktel had success with a digital platform pilot that operated over mobile phones and saw high worker involvement while also reducing costs for its clients, Massachusetts Institute of Technology and Northwestern

¹⁵⁴ World Bank. 2016. World Development Report: Digital Dividends. Available online at: <http://www.worldbank.org/en/publication/wdr2016>.

¹⁵⁵ Rockefeller Foundation. 2013. Preparing the Poor and Vulnerable for Digital Jobs: Lessons from Eight Promising Demand-Led Training Models. Available online at: <https://assets.rockefellerfoundation.org/app/uploads/20131031194749/Preparing-the-Poor-and-Vulnerable-for-Digital-Jobs.pdf>.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

University.¹⁵⁹ GeoPoll is another example of a company that offers work via mobile phone, through digitized surveys.

CASE STUDY: SOUKTEL PILOT PROGRAM

Founded in 2006, Souktel designs and delivers custom mobile platforms that link young people with work and training quickly, cost-effectively, and at scale. In 2013 Souktel launched a partnership with the Massachusetts Institute of Technology (MIT) and Northwestern University in which they provided remote digital services in support of the school's research activities. Northwestern and MIT sought native Arabic speakers who could test software applications and take part in simulations, and neither was successful in sourcing such candidates within the United States. Souktel created a pilot digital work platform that allowed MIT and Northwestern Researchers to recruit, screen, and assign digital tasks to youth based in the Middle East. The participants performed microtasks – performing user testing simulations – and gained job experience and income in the process.

The pilot program employed over 5,000 young people who received wages directly through the Souktel platform. Initial platform development costs were covered by external funders, but wages were paid by the universities. A concept note written by Souktel highlighted that a majority of the young people involved stated that they were better able to support themselves financially and were better prepared for the job market after participating in the program. The same concept note underscored the enormous time and financial savings experienced by the universities due to the program. For the universities, the one-touch recruitment solution made hiring large numbers of workers a quick, efficient process, resulting in a 50%+ reduction in recruitment timelines, and a 75%+ labor cost savings per work assignment. Overall, the microwork pilot program advanced Souktel's goal of providing easily-accessible job opportunities to marginalized populations, while providing a high-quality product and experience to its client.

While some of the literature from before 2013 is optimistic about the transition of microwork from computer to mobile phone, the current uptake of this model has been low for reasons such as the need to redesign microwork platforms for mobile readiness, which can be costly and time consuming, and certain tasks, such as data processing and improving machine-learning algorithms, being ill-suited to a mobile phone's capabilities. For example, a number of service providers interviewed highlighted that tasks would be slower to perform on a phone, as compared to a computer, and thus less cost-effective. Mobile-technology driven microwork would also limit the opportunities and benefits, including training and soft-skills development, that workers access through brick and mortar centers. Though mobile phones offer a real opportunity for expanding the impact sourcing and microwork sectors, tasks would be limited and it remains to be seen if they will prove to be advantageous and popular in practice. Additional research is needed about the feasibility for the industry and the individual worker.

Machine-learning algorithms and data sets, that is how the machine learns...We can't do that work through a mobile phone. There are pieces you could do via mobile...but you can't do this higher level work via a mobile. – Rhadu Bhasu, iMerit

LABOR POOLS IN UNITED STATES AND IN EMERGING MARKETS

Though much of microwork and impact sourcing currently takes place in developing countries, some companies are capitalizing on populations based in the United States that are able to perform, and in need of, low-skilled virtual work. For example, Liberty

¹⁵⁹ SoukTel. 2015. Promoting IT-Based Employment for Palestinian Youth Through Accessible Digital Work Platforms. Concept Note.

Source targets veterans and military spouses as their employee demographic and there is some positive evidence about the utilization of the American prison population as workers. A 2014 study found that prison sourcing for digital work, though not specifically microwork, positively affected inmates' employability and self-efficacy.¹⁶⁰

Providing more consistent job opportunities to individuals that move often or have fluctuating work hours benefits the employees, while providing the employer with native English speaking, motivated employees. Additional emerging markets have been noted in rural areas of some African countries, including South Africa, and in developing countries that are actively working to improve their infrastructure and incentivize outsourcing to their area. The ever-expanding labor pool of young people, individuals in the United States, and those in emerging markets, offers a great potential for growth; however, it does come coupled with concerns about exploitation and the need for soft skill development that must be addressed head on. Sara Enright from the Global Impact Sourcing Coalition highlighted that a key strategy of the coalition is to expand broader impact-sourcing opportunities (not just including microwork) within the United States and to encourage traditional BPOs in emerging markets to increasingly invest in hiring impact-workers.

The growing number of unemployed youth presents a key opportunity, but supporting the uptake of microwork by young people may require rethinking about how it is presented, as evidenced by the difficulties cited earlier in this paper by the Rockefeller Foundation and The MasterCard Foundation. 'Gamifying' microwork is one suggestion that employers could use to make it more appealing to youth populations.

CHALLENGES AND POSSIBLE SOLUTIONS

LACK OF STANDARDS IN IMPACT SOURCING INDUSTRY

Based on stakeholder feedback, some for-profit implementers are incorrectly labeling themselves as "Impact Sourcers" when they are really BPOs operating in emerging markets. Some companies appear to be using the "Impact Sourcing" term for marketing purposes and may adopt some "token" impact initiatives, without any comprehensive emphasis or investment in worker impact. A key challenge with the industry today is that there are numerous definitions of impact sourcing and what qualifies as impact sourcing. For example, while South Africa is becoming a major online outsourcing destination, much of the work being done there does not have an explicit impact- or mission-oriented lens. This would be especially important for for-profit implementers. For example, one client interviewed felt very positive about collaborating with an impact sourcing organization in the Philippines, yet further research revealed

Michael Chertok from Digital Divide Data compared this occurrence to "greenwashing" in which companies have harmful environmental practices but highlight small environmental initiatives to better position themselves to the public as environmentally conscious.

¹⁶⁰ Lacity, M., Rottman, J.W., and Carmel, E. 2014. Impact Sourcing: Employing Prison Inmates to Perform Digitally-Enabled Business Services. Communications of the Association for Information Systems. 2014. 34(51).

that the microwork implementer had no dedicated focus on impact or employing marginalized or vulnerable populations. There is a need for a standard definition of impact sourcing, with guidelines and a framework that would identify, validate, and certify who is doing true impact sourcing. Stakeholders from the Global Impact Investment Network, implementers, and NGOs have collaborated in coming up with a first draft of a document that defines impact sourcing and includes metrics. The recently formed Global Impact Sourcing Coalition is also focusing on these much-needed standards.

RISKS OF WORKER EXPLOITATION

One common critique of the wider microwork industry, similar to critiques of the general outsourcing industry, is that it is creating a “race to the bottom” and is often implemented with exploitative practices in which workers receive very low pay and little to no benefits. Employers are motivated by opportunities that present cost savings, even if they come at the expense of ethical labor practices. Some workers have reported that they earn less than the equivalent of US\$2 per day.¹⁶¹ Researcher Mark Gram found evidence that a “race to the bottom” pricing system was evident in microwork generally, that workers were subject to inconsistent work streams and salaries, and workers lacked bargaining power and rights.¹⁶² According to Kittur, “We may see echoes of past labor abuses in globally distributed crowd work: extremely low pay for labor, with marketplaces such as Amazon’s Mechanical Turk reported to effectively pay an average of \$2 per hour with no benefits or worker protections.”¹⁶³ Many companies utilizing the process of microwork conduct what Vili Lehdonvirta called “legal engineering,” in which they classify workers as independent contractors, and therefore avoid “...triggering statutory definitions of employment.”¹⁶⁴ In addition, some microwork platforms make it harder for workers to organize or bargain collectively for adequate levels of compensation.¹⁶⁵ In addition, the competitive nature of some microwork, in cases when workers must bid against each other to secure a job, creates the race to the bottom scenario. Various reports found that this causes workers to charge less and less for their services, despite the fact that their skills and experience may be increasing.¹⁶⁶ Concerns about a race to the bottom seem to be especially valid in microwork conducted through crowdsourcing. Under crowdsourcing models, workers with limited

Nathan Zukoff, a former employee of CrowdFlower, felt that the marketplace can motivate clients not to set prices too low as tasks will take longer to complete and tasks will be completed by less reliable workers. However, he also acknowledged that pay was still quite low.

¹⁶¹ Kittur, A. et al. The Future of Crowd Work. Available online at: <https://www.lri.fr/~mbl/ENS/CSCW/2012/papers/Kittur-CSCW13.pdf>. P.2.

¹⁶² Ibid.

¹⁶³ Ibid.

¹⁶⁴ Flecker, J. ed. 2016. Space, Place, and Global Digital Work. Macmillan Publishers, Ltd. London, England. p68.

¹⁶⁵ Ibid.

¹⁶⁶ Graham, 2016. M. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

skills or who are desperate for income will take work that barely covers their marginal costs.

While leading impact-oriented microwork service providers demonstrate that impact sourcing and microwork can have a positive effect on the worker and their families, the lack of regulation and oversight can also create a situation in which workers are

Ancestry is exceedingly vigilant in conducting on-site visits and engaging social audit companies to perform reviews. If a company shows anything close to a social concern, its instincts are to end the relationship and move on to another company.

exploited or given false hope about the earning opportunities available to them. A great deal of the current data on impact is presented by service providers, lessening the perceived objectivity. Todd Jensen oversaw Ancestry.com's outsourced BPO service work for a number of years. Ancestry, during his time there, was exceedingly vigilant in conducting on-

site visits (many of which he made personally) and engaging social audit companies to perform reviews. If a company showed anything close to a social concern, Jensen's instincts were to end the relationship and move on to another company. One example was Jensen's team hearing reports of an individual in Uganda not getting paid, who then pressed the owners for an answer; they were unsatisfied with a vague response and ceased all business with this group. Additionally, one international microwork service provider working in Africa blamed inefficiencies on the race of employees when the client perceived inefficiencies to be caused by racism, lack of innovation, and lack of infrastructure. He also said that it was not uncommon to see poor management systems and mishandling of funds. According to Tony MacDonald, Samasource has discontinued some partnerships based on worker complaints about poor pay and treatment and sexual harassment.

It is not enough to just create jobs and provide income, ensuring meaningful work and overall worker welfare are also important. The goal of impact sourcing should not just be to pay people at the poverty line but rather to increase wages and incomes so workers get out of poverty cycles. For example, Digital Divide Data and

...It can be a corporate race to the bottom if you don't have guidelines in place to ensure that you're actually paying a decent wage and that it is meaningful work. – Wendy Gonzalez, Samasource.

Samasource are non-profit organizations and are often able to pay workers more than traditional BPOs or reinvest earnings into worker welfare and benefits. Impact sourcing initiatives that utilize microwork must be well-structured and well-managed in order to help low-skilled, less-educated workers turn out high-quality products at low cost. In addition, implementers need to take into account cultural and social norms, transportation barriers, cost pressures, and other infrastructure issues that may hinder an individual's access to microwork or lead to exploitative circumstances. There is a real need to develop solutions to protect workers from exploitative practices and create a legal framework to support this growing industry. However, there are also concerns within the industry that over-regulation would negate the cost-efficacy inherent in

microwork. A key area of exploration would be the balance point between cost-efficiency, regulation, and worker benefits.

In the area of worker protection and benefits, the industry could benefit from some best and promising practices and innovative solutions developed in the United States, where there are more than 36 million independent workers today. A recent study¹⁶⁷ by the Rockefeller Foundation and the Bridgespan Group examined new ways to deliver benefits and organize workers.

LAWS AND REGULATIONS

Microwork as a subset of online outsourcing exists with little legal infrastructure to support and protect the various stakeholders engaged in the industry. This can lead to the exploitation of workers, client concerns about unreliable products, and an unregulated exchange of fee for service. Various governments, including those of the United States, Canada, and Kenya, have begun to develop regulations for online cross-border employment to address these concerns.¹⁶⁸ However, governments must establish or adapt appropriate governing bodies to monitor pay, conditions, and competition and to uphold the objectives of impact sourcing and microwork.¹⁶⁹ This is a commonality among most employees working in a “gig economy” and it is recommended that microwork and impact sourcing be evaluated and regulated similar to traditional freelancing. It must be noted that some service providers and workers are against regulation of the online outsourcing industry as they fear it will reduce the number of available jobs. This is also true of microwork service providers and workers, who have stated that regulations decrease the labor pool and restrict payment to workers in certain countries.¹⁷⁰ Such restrictions could hinder the progress of the industry, and the literature reflects both positive and negative aspects of regulation.

Barb Chang of Samasource highlighted a number of bureaucratic hurdles that have led to delays in piloting a microwork project with refugees in Lebanon, including obtaining work permits for refugees and figuring out payment processes.

LACK OF RELEVANT LANGUAGE SKILLS

Most microwork platforms, including both impact sourcing and crowdsourcing models, operate in English and require English language fluency to “navigate the system,

¹⁶⁷ Carlton, A., Korberg, R., Pike, D., and Seldon, W. 2016. “The Freedom, Insecurity, and Future of Independent Work”. Stanford Social Innovation Review. Available online at:

https://ssir.org/articles/entry/the_freedom_insecurity_and_future_of_independent_work

¹⁶⁸ Policy Horizons Canada. 2016. Canada and the Changing Nature of Work. Available online at: <http://www.horizons.gc.ca/eng/content/canada-and-changing-nature-work>.

¹⁶⁹ Rockefeller Foundation. 2012. Exploring the Value Proposition for Impact Sourcing. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Exploring-the-Value-Proposition-for-Impact-for-Impact-Sourcing.pdf>.

¹⁷⁰ World Bank Group. 2015. The Global Opportunity in Online Outsourcing. Available online at: <http://pubdocs.worldbank.org/en/212201433273511482/Global-OO-Study.pdf>.

communicate with clients, and perform the work.”¹⁷¹ This creates a significant barrier to those around the world without English language skills. As a result, entire regions are restricted from the potential benefits of accessing the microwork and impact sourcing markets. Language limitations also reduce the opportunities for many implementers to scale.

Clients with microwork projects requiring other than English speaking implementation have difficulties finding outsourcing vendors. Typically, impact-oriented implementers only offer services in English and possibly in a local language, i.e., Indian dialects for India-based organizations like iMerit and RuralShores. Language capacity was also identified as a constraint for the broader crowdsourcing industry, although to a lesser degree as a generalized crowd with workers from all over the world enables clients to have work completed in numerous languages. However, it can be difficult to find workers with a substantial working knowledge of certain languages and therefore costs associated with the project can be higher than projects in English or take longer to complete due to the limited number of available workers who meet the language requirements. This constraint could be translated into an opportunity for those looking to get into the impact-sourcing space if they could provide high-quality services in non-English languages.

Language limitations serve as a constraint on both the supply and demand sides of the industry.

INADEQUATE INFRASTRUCTURE

Key resources to implement microwork projects include quality equipment, high-speed internet, and regular access to power supply. Many developing countries, specifically impoverished areas within those countries, have inconsistent access to power and the internet, which can present a significant challenge to establishing microwork operations and means that not all developing country contexts and locations will be a good fit for microwork-impact sourcing projects. Despite a client’s potential desire to positively

Samasource used solar-power to address electricity constraints at its Gulu office.

impact these targeted populations, they also want assurance that the quality of the product will not suffer. However, Michael Chertok of Digital Divide Data asserts that it is often client *perceptions* about limited infrastructure in developing

countries that serves as a constraint, rather than actual infrastructure constraints. Successful Samasource operations in Gulu, Uganda, and a successful pilot in Dadaab, Kenya, provide further evidence that microwork is possible in harder to work areas with infrastructure constraints.

In situations where microwork tasks are completed in centers rather remotely, there are additional infrastructure challenges that one may face. Unsafe or undeveloped roads, bridges, or public transportation systems can hinder an individual’s access to the center.

¹⁷¹ Malik, F., Nicholson, B., and Morgan, S. 2013. Assessing the Social Development Potential for Impact Sourcing. Available online at: http://www.globdev.org/files/proceedings2013/paper_20.pdf.

In addition, people living with disabilities may find it too onerous to travel to a physical location to perform work, and women may find the journey too dangerous to fully take advantage of the potential opportunities that microwork can present.¹⁷² Remote workers also face a variety of challenges due to weak infrastructure, including unreliable power supply and internet access, in addition to potential computer malfunction and availability. They also lack face-to-face contact with managers or other workers, which can hinder their completion of a task if they are not sufficiently trained. In order for impact sourcing microwork initiatives to be sustainable and scaleable, governments and service providers must invest in infrastructure that will support growth in the industry.

COMPLEXITY OF OPERATIONAL MODELS

As evinced in the literature, there are often significant challenges in managing operations that are widely dispersed over the globe. This can lead to difficulties managing intermediaries and workers, reduce the potential for on-time and high-quality work, increase costs, and prevent meaningful, or any, contact between employer and employee. Mark Graham of the Oxford Online Institute notes how this lack of meaningful contact with an employer can reduce the employee's ability to increase their employability skills and degrade the value of microwork.¹⁷³ To build on Graham's findings, one can also surmise that a lack of meaningful contact with an employer or manager, if work is performed remotely, can lead to a lower level of engagement in the work and therefore lower quality products. While multiple impact sourcing service providers, such as RuralShores, operate out of microwork centers, those who employ remotely based workers face increased difficulty in effecting sufficient employee oversight and quality control.

COMPLEXITY AND SCALE OF TASKS

Most impact-oriented microwork implementers are relatively small compared to traditional BPOs, which can lead to challenges in executing for large projects. Implementers, particularly those with full-time employees and dedicated centers, may encounter difficulties hiring hundreds of new workers for large tasks or expanding brick and mortar centers to be able to accommodate a large number of

Image tagging is core to Getty Images' business model, and Samasource can count on its contract with Getty to provide ongoing and consistent work and jobs. In contrast, Samasource's tobacco indexing work with University of San Francisco (USF) is less predictable, as documents from tobacco companies differ in quantity every month. The unpredictable nature of this work has led to challenges of improving work processes and measuring impact as a rotating pool of workers engage in USF tasks and are unable to work on these tasks consistently so as to improve quality and speed. In addition, USF suspended operations for about a year due to funding issues on its end. Once the project resumed, USF was assigned a new team, which led to delays as it took new workers and managers time to get the specific indexing process down.

¹⁷² Ibid.

¹⁷³ Graham, M. 2016. Digital Labour and Development: New Knowledge Economies or Digital Sweatshops. Available online: <https://www.oii.ox.ac.uk/video/digital-labour-and-development-new-knowledge-economies-or-digital-sweatshops/>.

workers. Rapid scaling for discrete tasks also carries some risk as it could mean that many workers lose their jobs once the task is finished. To mitigate against this, Samasource has become more selective over the years in the type of work it takes – choosing longer-term, more sustained projects that are core to clients’ businesses rather than one-off large tasks.

Remote-based implementers, such as CloudFactory, experience fewer challenges in scaling. CloudFactory does not have to specifically hire and fire workers as tasks grow and shrink. However, CloudFactory workers have less security when it comes to guaranteed employment and income. In contrast, most implementers with brick and mortar centers hire their workers as employees and pay per day as opposed to number of tasks completed. This model provides much more job stability for workers.

MONITORING AND EVALUATION

Stakeholder consultations found that in general monitoring and evaluation (M&E) on impact could be improved across the industry, with the exception of a few service providers who rigorously collect, track, and measure data. It is hard for smaller companies to implement rigorous M&E practices and track impact data. While many of the for-profit service providers issue periodic surveys to current employees to assess impact, they typically do not collect data or follow up with employees once they leave the company. Digital Divide Data tracks many aspects of its graduate’s social and

According to Twisha Mehta of Samasource, it can be challenging to contact former employees. Consequently, developing deeper relationships with their workers while at Samasource, so that people want to stay in touch after they leave, is an area of growth.

economic wellbeing after employment, including what graduates are doing for work, their income, how and if they are giving back, if they training others, and their attitude, behaviors and goals. Samasource workers take an impact survey every 6 months and are not allowed to perform work on the SamaHub system unless the survey is completed. Samasource also asks workers who leave Samasource to complete annual surveys for 3 years after employment.

However, strong measurement is vital for both service providers to be able to test different approaches to achieving impact and share positive results, and for clients who might want to highlight the CSR aspect of their work. According to Barb Chang, Samasource also hopes to use its Advisory Services practice to help other implementers with M&E and auditing of impact sourcing.

Most impact-sourcing clients who were included in stakeholder consultations do not ask implementers to provide data on social impact, and many interviewees are content with this arrangement due to trust for the implementer or because impact is less of a priority for them. However, some clients, such as University of San Francisco and eBay indicated that they would be happy to learn more about direct impact of client-specific microwork tasks and that more information on workers would be appreciated. Alternatively, some clients chose to be

Clients recognize that they have purchasing power to push implementers to track and measure impact data.

more explicitly involved in implementation of impact sourcing contracts. Todd Jensen formerly of Ancestry.com and Patrick Booher from Autodesk described how they routinely travel to visit centers as part of their roles. Additionally, Microsoft routinely pushes its impact sourcing partners to measure and report on impact and builds reporting requirements on measuring empowerment and impact into its contracts with impact sourcing firms.

RECOMMENDATIONS

This study sought to explore the nexus of microwork and impact sourcing in an effort to inform our understanding of its potential to reduce youth unemployment and support income generation for disadvantaged job seekers. We found that the literature is often conflicted about the overall impact of microwork and impact sourcing. However, if implemented ethically and with sufficient infrastructure, regulation, and oversight, there is potential for utilizing microwork and impact sourcing strategies to support income generation for marginalized and vulnerable youth populations.

There are still many unanswered questions. There is no large-scale evidence regarding long-term earning and employment potential of workers. Furthermore, we do not yet know enough about what effects microwork and impact sourcing have on the community as a whole. Additional primary research is needed to achieve a clear understanding of microwork and impact sourcing employment generation capacity and the quality of such employment in regards to payment, workplace environment, and workers' rights. Such research should specifically seek out the experiences of women in regards to microwork and attempt to ascertain the effects on women's livelihoods, career prospects, and household lives. It is important to give all stakeholders a voice and collect reliable, actionable data. While much gray literature has been published by impact sourcing service providers, little is known about impact sourcing clients. We still have many pending questions about their motivations, decision-making processes, and true interest in impact sourcing. The demand side, therefore, would benefit from increased attention before, during, and after utilizing an impact sourcing service provider to perform microwork. Lastly, multiple authors noted "race to the bottom" cost pressures that force workers to under-bid each other in order to secure work. Various impact sourcing service providers are trying to circumvent these pressures by instituting a minimum wage, but it remains a crucial point of study if microwork and impact sourcing are to be scaled up to meet the employment needs of young people today.

Reflecting upon the current pool of 48 million individuals engaged in online outsourcing through either online freelancing or microwork, it is quite noticeable that disadvantaged youth, vulnerable populations, individuals with disabilities, and young women and girls are severely underrepresented. This could be a result of low education levels; low levels of targeted support for these populations, which would help them gain the skills needed to perform microwork and learn how to navigate the microwork industry; and lack of targeted recruitment efforts or modified platforms that meet these populations' specific needs. Traditional microwork companies like Amazon Mechanical Turk report that fewer than 5% of its labor pool stem from communities living in poverty, those living with disabilities, and disadvantaged youth.¹⁷⁴ However, companies employing an impact

¹⁷⁴ PBS Newshour. 2015. The Internet's Hidden Science Factory. Available online at: <http://www.pbs.org/newshour/updates/inside-amazons-hidden-science-factory/>.

sourcing model, like Samasource, iMerit, and RuralShores, specifically target these underrepresented demographics as a means to lower costs, increase global impact, and reduce poverty. In addition, there are rumblings of greater movement towards rural areas, meaning that workers with few employment options might be able to benefit from the presence of new microwork centers.

Based on careful review of all information gathered for this study, and taking into consideration input from interviewed stakeholders, the research team synthesized a set of recommendations for various groups.

Recommendations for existing and potential service providers:

- Maintain a mission-oriented focus and conduct rigorous data collection and tracking of effects on workers to improve impact measurement and learning for the wider sector.
- Explore the economic viability of providing different types of support to microwork workers. This includes additional job training, accreditation programs, and health and well-being training to motivate workers and improve the quality of work output. Service providers also need to explore the importance of providing soft skills training to workers to address their lack of basic numeracy and/or employment skills. Train managers to understand that workers are coming from difficult backgrounds and although they want to work, they may need to learn the soft skills to do so.
- Design recruitment processes and scorecards to ensure that hired workers explicitly fall within targets of vulnerability, for example, in terms of their education level, family support (both from family members and for family members), work history, neighborhood (slums, rural settings), and financial needs.
- Conduct targeted community outreach to engage with women workers and ensure that working conditions take women's specific needs and constraints into consideration, such as workplace safety, work time flexibility (including care constraints), clean and separate toilet facilities, mobility constraints and/or reduction of travel.
- Promote recruitment and hiring of disabled workers and accessible working conditions, centers, and tasks.
- Conduct ongoing sampling, feedback and quality improvements to both enhance worker skills and performance and to produce higher quality work for the client.
- Use intelligent assessment technology and recruitment procedures to assist in the identification of available and qualified workers for different types of tasks.
- Develop and implement training for workers on understanding cultural contexts and provide pilots, case studies (i.e., Getty Images), and other proof points to

clients and potential clients that workers in developing countries are able to perform work that requires cultural understanding and nuance.

- Promote efforts to scale impact sourcing by enhancing and expanding partnerships between crowdsourcing organizations (i.e., CrowdFlower) and local impact-oriented service providers. Promote these partnerships to existing and potential crowdsourcing clients as an opportunity to receive higher-quality products, utilize non-disclosure agreements, ensure greater security over systems or data, and promote employment and income-generation for vulnerable or disadvantaged populations at slightly higher cost than using general crowd workers.
- Engage Digital Divide data and Samasource advisory services to promote scaling of microwork, specifically to assist in piloting and developing new impact-oriented microwork initiatives for new service providers or new populations (i.e., refugees and internally displaced populations). Existing service providers can also utilize Samasource's advisory services to improve M&E systems and reporting to better measure impact for current and past workers.

Recommendations for existing and potential investors (donors, grant making agencies, clients, philanthropic organizations and individuals, and other socially responsible investors):

- Invest in the development of an assessment and guidance tool to help businesses successfully launch new impact sourcing efforts and ensure learning from previous efforts. This will include profit models that delineate the financial viability of microwork and the length of time to reach break-even.
- Contribute to the establishment of client-focused best practices for microwork and impact sourcing, based on client priorities, needs, and experiences and in collaboration with impact sourcing service providers and workers.
- Engage the public sector as a potential partner for future growth and expansion. Explore how the public sector can capitalize on and engage in microwork and what government processes might benefit most from microwork.
- Support field research and compilation of sector-wide input that could contribute to the development of a standard definition of impact sourcing, with guidelines and a framework that identifies, validates, and certifies who is doing true impact sourcing.
- Facilitate The Global Impact Sourcing Coalition's development of industry bodies and standards for impact sourcing and microwork to reduce potential worker exploitation and to ensure that the social impact remains a core aspect of impact sourcing.
- Work with Global Impact Sourcing Coalition to establish a badged or tiered impact sourcing accreditation system for impact-oriented microwork service

providers to promote effective impact-oriented service providers to clients and encourage other service providers, including BPOs, to adopt impact-oriented approaches, similar to LEED Certification processes for resource-efficient buildings.

- Enable research on specific platforms and their ability to engage vulnerable youth demographics and how the target population perceives them.
- Ensure that microwork programs have a focus on soft-skills and orient programs specifically to the context of youth workers who may need to develop additional skills in order to successfully do microtasks and to move on to higher level jobs.
- Develop and design programming that can suit the economic patterns of different types of workers – not all workers are looking for a full-time option; some may be interested in fill-in work for times when other income is lagging.
- Support exploration and further development of workers' rights frameworks within microwork and impact sourcing.
- Conduct comparative research and longer-term evaluation and comparison of microwork versus other forms of employment/income generation aimed at vulnerable youth, on microwork in different countries, microwork set-ups in rural versus urban versus peri-urban settings, and on the different microwork models as identified in this paper.
- Initiate exploration of racial, gender, and class bias in microwork and recommendations on how to address it.
- Launch research on the impact of testing, training, feedback, and accreditation programs on workers, their performance and work quality, their retention, and their subsequent work opportunities and satisfaction.
- Ensure a more thorough exploration of the potential intended and unintended effects of microwork on the wider community and quantification of its impact on economic stability and infrastructure development.
- Invest in the creation of in-depth case studies on specific youth-focused microwork and impact sourcing programs, platforms, worker organization efforts, and quality control platforms, e.g., Souktel's pilot program, Microwork.io, Gold.
- Design research on which types of jobs and microwork efforts can be developed and successfully done via smart phones; develop mobile platforms that mimic in-person good practices in order to extend some of these benefits and enhancements to remote workers.
- Invest in exploration of funding mechanisms and major donor interests in impact sourcing and microwork to enable emerging microwork service providers to expand their potential.

- Pursue ongoing research and tracking of digital jobs trends to identify new areas and potential improvements in microwork and impact sourcing.
- Support microwork intermediaries to employ new technologies (e.g., document scanning has replaced double key data entry) and explore ways to keep up to date and adapt to the demand for new work and to identify emerging areas where microwork could play a role.

The study team recommends new research in which workers are interviewed in order to better understand their needs and experiences. It is important to know how individuals engage in microwork, how they find the training programs or service providers, and what makes them start or stop the process. For sure, not all workers rely solely on microwork for their income. Many supplement more consistent or non-virtual employment with microwork, but further research is needed on how microwork plays into their larger strategy for income generation and the effect it has on long-term earnings.

Online work seems particularly promising for populations that have high levels of digital skills and good internet infrastructure, on one hand, and those who may face physical obstacles to work, on the other. The latter includes disabled youth; youth in refugee camps or in conflict zones, if the internet is made available by humanitarian response teams; and young women facing social or religious norms that make it difficult for them to travel freely.¹⁷⁵ The potential scope of microwork applied using an impact sourcing framework in low- and middle-income environments, and whether it can serve as a stepping-stone for professional development, is not yet sufficiently evaluated.¹⁷⁶ Only a handful of stakeholders have examined the processes at the nexus of microwork and impact sourcing from the perspective of the worker population, particularly the perspectives of young people, people with disabilities, people in rural areas, women, and adolescent girls. Additional research should focus on highlighting these perspectives and giving a voice to the already marginalized worker communities.

Microwork, when implemented on behalf of socially responsible companies, represents a viable entry point into the digital economy for less educated, unemployed youth. To leverage its opportunity, governments, private sector, investors, implementers, and researchers must collaborate to resolve existing concerns, while maximizing its potential in catapulting disadvantaged groups into the digital economy.

¹⁷⁵ World Bank. 2016. World Development Report 2016. Available online at: <http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf>.

¹⁷⁶ S4YE. 2015. Towards Solutions for Youth Employment: A 2015 Baseline Report. Available online at: https://www.s4ye.org/sites/default/files/Toward_Solutions_for_Youth_Employment_Full.pdf.

ANNEX 1: STAKEHOLDER PROFILES

SERVICE PROVIDERS AT THE NEXUS OF MICROWORK AND IMPACT SOURCING

CLOUDFACTORY

Based in Nepal, CloudFactory was founded in 2010 with the social mission of connecting one million people in the developing world to digital age work, while raising them up as leaders to address poverty in their own communities.¹⁷⁷ CloudFactory is a for-profit firm that relies on a combination of funding from donors, such as the Rockefeller Foundation, and individual investors, such as David Clause (the founder of VRBO.com, the Vacation Rentals by Owner), complemented by the earned income from their microwork projects.¹⁷⁸ ¹⁷⁹ CloudFactory used the crowdfunding site GoFundMe to raise over \$100,000 to provide relief to their employees following a major earthquake in 2015, an interesting mirroring of their crowdwork model.

The CloudFactory platform facilitates the completion of generic microtasks associated with text and audio transcription, image labeling, and web search through cloud-based technology.

In contrast to other service providers, CloudFactory hires workers under a contract, allowing only internal workers to complete and publish tasks for their various clients. According to CloudFactory's website, they use a combination of training, testing, and random checking to ensure a client will receive a high-quality product. Special algorithms are used to assess the accuracy of each microworker's output and results are stored for evaluation of each employee's performance.¹⁸⁰ CloudFactory expanded in 2015 and launched an office in Kenya.

DAPROIM

Founded in 2006, and based in Kenya, Daproim's mission is to provide high-quality IT enabled solutions geared towards delivering positive social impact to African youth.¹⁸¹ They offer a range of services including data entry, digitization services, audio and video transcription, and invoice processing, as well as more skilled tasks such as

¹⁷⁷ CloudFactory. Social Impact Report. 2015. Available online at: <https://www.cloudfactory.com/hubfs/02-Contents/3-Reports/Social-Impact-Report-2015.pdf?t=1473156789175>

¹⁷⁸ CloudFactory Blog. CloudFactory Raises \$3Million to Build Human-Powered Services into Software Platforms. 2014. Available online at: <https://blog.cloudfactory.com/cloudfactory-raises-3-million-to-build-human-powered-services-into-software-platforms>.

¹⁷⁹ CloudFactory Blog. CloudFactory Receives \$2Million Investment from the Rockefeller Foundation to Tap Skilled Kenyan Workforce. 2015. Available online at: <http://blog.speakertext.com/cloudfactory-receives-2-million-investment-from-the-rockefeller-foundation>.

¹⁸⁰ CloudFactory. Products. Available online at: <https://www.cloudfactory.com/products>.

¹⁸¹ Daproim Africa. The Daproim Story. Available online at: <http://www.daproim.com/index.php/about-us>.

customer support and online research. They usually operate as a subcontractor to other outsourcing firms, however they are planning to form direct customer relationships in the near future.¹⁸²

Daproim partners with the Digital Campus Connect (DCC) program, which was founded in 2011 with funding from the Rockefeller Foundation.¹⁸³ In addition to its 100 full time staff, Daproim employs approximately 400 students from the DCC program to perform microtasks for the company. One of their objectives is to offer decent employment to disadvantaged university students while they pursue a degree, therefore Daproim is committed to hiring young people from low income backgrounds. Full-time staff members manage the student workers, ensure the quality of the product, and accelerate the project completion time.¹⁸⁴ According to Impact Hub, students moved on to better paying jobs as a direct result of the work experience they gained at Daproim, in addition to obtaining their college degree.¹⁸⁵ Daproim has provided its data management services to governments, multinational companies, research firms, and media corporations.

DIGITAL DIVIDE DATA

Digital Divide Data (DDD's) mission is to create better futures for disadvantaged and marginalized youth in developing countries through employment in a financially sustainable business.¹⁸⁶ DDD was founded in 2001 and operates in the U.S. as a non-profit organization and as a for-profit business in Cambodia, Laos, and Kenya. Their business model alone sets DDD apart from similar organizations, but they are also unique in their incorporation of a comprehensive employment program with funding for higher education, thereby supporting high school graduates who lack the means to pursue a college degree on their own. DDD encourages their workers to pursue higher education, paying for tuition using a combination of DDD scholarships, salary from work at DDD, and loans.¹⁸⁷ Their targeted worker population includes young people from low-income families in developing countries in addition to military spouses and veterans in the United States.¹⁸⁸

Since their launch in 2001, DDD has grown to employ more than 750 people in their offices in Cambodia, Laos, and Kenya. DDD workers are predominately disadvantaged

¹⁸² Impact Hub. Daproim Profile. Available online at: <http://impacthub.org/players/issp/daproim/>.

¹⁸³ Daproim Africa. Daproim is Featured on the Next Billion Website. Available online at: <http://www.daproim.com/index.php/about-us/news/96-daproim-news-articles/152-daproim-is-featured-on-the-next-billion-website>.

¹⁸⁴ Daproim Africa. Daproim Services. Available online at: <http://www.daproim.com/index.php/services>,

¹⁸⁵ Ibid.

¹⁸⁶ Digital Divide Data. Digital Divide Data 2014 Impact Report. 2014. Available online at: http://www.digitaldividedata.com/sites/default/files/case_study/DDD%202014%20Impact%20Report.pdf

¹⁸⁷ Center for Education Innovations. Digital Divide Data. 2015. Available online at: <http://www.educationinnovations.org/program/digital-divide-data>.

¹⁸⁸ Digital Divide Data. Digital Divide Data: About. Available online at: <http://www.digitaldividedata.com/about>

and vulnerable youth. DDD strives to maintain a gender and disability balance among their workers.¹⁸⁹ DDD provides clients with a range of services including digitization content development, data services, research services, image processing, and back office services. Typically, their clients are either for-profit businesses or non-government organizations, such as the World Bank, Harvard University, Reader's Digest, Fossil Foundation, and Global Sources.¹⁹⁰

In an effort to interrupt the cyclical nature of poverty and empower youth, DDD provides support for higher education to its employees, and thus differentiates itself from other outsourcing service providers.¹⁹¹ Before workers or Digital Management Officers (DMO), as DDD refers to them, are able to start completing tasks, they go through training in the English language, technology, and soft skills. During training, individuals receive a stipend of \$500 and are eligible for a scholarship to attend local university. Providing a combination of scholarships along with a clear career path helps DDD keep their staff attrition levels to a minimum, given that employees see real opportunity for growth and success.¹⁹²

iMERIT

iMerit is a for-profit service provider located in Eastern India and supported by investment firms including the Omidyar Network, Michael and Susan Dell Foundation, and Khosla impact. iMerit trains rural youth and women in information and technology skills, and employ them to process a variety of microtasks with a high level of accuracy.

¹⁹³ iMerit was established by the founders of the Anudip Foundation after it became clear that there was a significant lack of IT job opportunities available in the region. Services offered include image segmentation, dataset creation, sentiment analysis, social media monitoring, and content moderation & enrichment. Some of iMerit's clients include TripAdvisor, Getty Images, and eBay.¹⁹⁴

iMerit offers its workers a comprehensive training program which, when combined with a strong internal leadership structure, helps them produce high-level results quickly. They partner with the Anudip Foundation, a non-profit organization that trains educated, but marginalized, youth in both technology and workplace readiness skills. Anudip's standard curriculum is complemented by a specialized training module that focuses on digital data tasks that iMerit workers perform. According to iMerit, this partnership with a locally-based NGO gives them access to a large pool of capable, motivated individuals and ensures high rates of employee retention and engagement.¹⁹⁵ They posit that this is

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

¹⁹¹ Rockefeller Foundation. Digital Jobs: Building Skills for the Future. 2013. Available online at: <http://etjackson.com/wp-content/uploads/Digital-Jobs-Building-Skills-for-the-Future.pdf>.

¹⁹² Digital Divide Data. Digital Divide Data: About. Available online at: <http://www.digitaldividedata.com/about>.

¹⁹³ ImpactHub. iMerit Profile. Available online at: <http://impacthub.org/players/issp/imerit/>.

¹⁹⁴ iMerit. iMerit Clients. Available at: <http://imerit.net/our-clients/>.

¹⁹⁵ iMerit. About the Company. Available online at: <http://imerit.net/about/>.

a major factor in being able to produce high quality outcomes for their clients.¹⁹⁶ More than 90 percent of iMerit's 600 employees live at or below the poverty line and over half of their employees are women.¹⁹⁷

Once employed, skilled trainees are matched to projects. iMerit then analyzes project requirements and provides further project-aligned training. Throughout their projects, iMerit monitors quality and adds targeted coaching by senior delivery and in-house training teams to ensure optimal performance and active learning.

In late 2015 iMerit announced a partnership with CrowdFlower motivated by a desire to increase confidentiality and security for clients.¹⁹⁸ The partnership aimed to serve clients who had large sets of confidential data, but feared that the use of an external crowdsourcing agency might lead to a lapse in security. As a result of the collaboration, sensitive data is only handled by iMerit data specialists who have signed non-disclosure agreements and work in secure locations on the CrowdFlower platform. This is an innovative, and collaborative, solution to a common challenge.

IMPACT ENTERPRISES

Impact Enterprises is a New York City based for-profit firm, with a mission to create valuable jobs for African Youth.¹⁹⁹ Since 2013, Impact Enterprises is operating a delivery center in Zambia, where they train, employ and manage young Zambian college graduates, a group that experiences a 59% unemployment rate. For most of their employees, this opportunity represents the first formal employment. Young workers, called Data Scientists, complete relatively simple tasks under the supervision of locally hired project managers, who are responsible for quality control. Impact Enterprises provide continuous training and professional development to their workforce. To its clients, based in United States, Impact Enterprises offers a menu of data services, such as data entry, web research, software testing, lead generation, content moderation, and order management. Not all of these services lend themselves to microwork.

Impact Enterprises is an organization focused on employing at least 50% of young women as Data Scientists, and provides them with a support group within the workplace. In analyzing its current employee records, Impact Enterprises stated that workers stay on an average 12 months with the company. They are full time employees, paid based on quantity and quality of work produced, and receiving additional bonuses for accuracy. Two-thirds of them are between the ages of 18 and 23, and their income supports on average 3.5 family members.

¹⁹⁶ Ibid.

¹⁹⁷ iMerit. iMerit Impact. Available online at: <http://imerit.net/impact/>.

¹⁹⁸ PR Newswire. CrowdFlower and iMerit Partner to Offer a New Standard of Trust and Confidentiality for Data-Driven Organizations. 2015. Available online at: <http://www.prnewswire.com/news-releases/crowdfower-and-imerit-partner-to-offer-a-new-standard-of-trust-and-confidentiality-for-data-driven-organizations-300150563.html>.

¹⁹⁹ Impact Enterprises. Our Mission. <http://impactenterprises.org/mission/>.

Impact Enterprises is rapidly growing and planning to open its second office in Zambia. To grow their business base, they are also considering a sales team presence in London and San Francisco.

JANA (FORMERLY TXTEAGLE)

Jana's mission is to make the internet free for the next billion of users.²⁰⁰ Working in Kenya, Professor Nathan Eagle and his students designed a mobile phone based system to allow nurses to communicate with blood banks when their supplies were low. At first, the nurses were eager to use the system, but then abandoned it due to the high costs of text messaging. When the system was modified to automatically issue reimbursements, the nurses once again became devoted users. Jana was born out of this insight that mobile phones can be used not only for global communication, but also for global compensation.²⁰¹ In 2009, Nathan Eagle launched txteagle as a crowdsourcing platform, and in 2011 merged it into Jana.

Jana's product is mCent, an Android app that enables users to download and try apps for free, without incurring the cost of mobile data. mCent has more than 30 million users in Asia, Latin America and Africa. Through its partnerships with 311 mobile operators, Jana provides free internet with every app downloaded through mCent. In exchange for free internet usage, individuals try the apps. Companies get traffic on their apps, and secure additional users.

Although Jana is not an Impact Sourcing provider, its users complete microtasks in exchange for mobile data credits. This innovative way to leverage microwork concept does not create stable employment for disadvantaged groups, but does connect them to internet, where they can access information, online courses, job postings, etc.

RURALSHORES

Based in India, RuralShores is a business processing outsourcing company focused on expanding employment opportunities in rural areas. They were founded with the goal of decreasing migration to urban centers, as this was leading to overpopulation and decreased standard of living. RuralShores specifically targets individuals living in rural areas with at least a twelfth grade standard education, but focuses on employing young people, and women. In order to meet the needs of their clients, and deliver high quality of service, RuralShores established the RuralShores Academy and provides rigorous training to its workforce.²⁰²

²⁰⁰ www.jana.com/about

²⁰¹ Ibid.

²⁰² Everest Group and the Rockefeller Foundation. Solving Problems Locally and Globally: RuralShores Leverages Impact Sourcing to Enable Unemployed Rural Youth to Find Gainful Employment Providing In-Demand, High Quality Services to Global Organizations Right from Their Own Communities. 2014. Available online at: https://research.everestgrp.com/wp-content/uploads/2014/09/RF-RuralShores-Case-Study-on-Impact-Sourcing-Final-approved_vf.pdf.

RuralShores' model involves establishing a national network of small centers in rural areas that are then owned and managed by local entrepreneurs.²⁰³ The corporate office in New Delhi provides the technological, operational, and management support, as well as marketing services, to help the entrepreneurs run their business. Their approach increases job opportunities in rural areas, minimizing the need for migration, while capitalizing on the growing BPO market by providing a high-quality, low-cost, and largely underutilized talent pool to leading companies and organizations.²⁰⁴ The growing costs of hiring and retaining workers in cities allows RuralShores to offer a competitive, and cost-effective, alternative by utilizing rural employees and passing the savings along to clients.²⁰⁵ Their clients are predominantly large BPO, information and technology companies, domestic government clients, and private-sector companies.²⁰⁶

RuralShores has a monitoring system that measures its performance and impact on the surrounding communities using the Local Multiplier 3 (LM3) metric developed by the New Economics Foundation (NEF). RuralShores also tracks indicators on economic stability, standard of living quotient, social responsiveness, and employee satisfaction levels.²⁰⁷ Unfortunately, information on exact levels of RuralShores' impact is not publicly available.

SAMASOURCE

Founded in 2008, Samasource is a non-profit microwork and Impact Sourcing implementer with digital work centers in Kenya, Uganda, Haiti, South Africa, India (both rural and urban areas) and the United States.²⁰⁸ Samasource has undergone a number of changes in its systems, model, and approach from its inception and in particular over the last two years, so much of the literature on Samasource is outdated. Based in San Francisco, Samasource uses their proprietary process management software platform, SamaHub, to deliver services from their network of digital work centers.²⁰⁹ Their current client list includes many leading digital companies, including Google, TripAdvisor, Getty Images, and Zillow, most of them operating within Silicon Valley or Northern California.

Large-scale data projects are typically performed using an intermediary model in which local partners hire workers, follow Samasource's social impact guidelines, and provide

²⁰³ Ibid.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Monitor Inclusive Markets and the Rockefeller Foundation. Job Creation Through Building the Field of Impact Sourcing. 2011. Available online at: <https://www.rockefellerfoundation.org/app/uploads/Job-Creation-Through-Building-the-Field-of-Impact-Sourcing.pdf>.

²⁰⁷ Everest Group and the Rockefeller Foundation. Solving Problems Locally and Globally: RuralShores Leverages Impact Sourcing to Enable Unemployed Rural Youth to Find Gainful Employment Providing In-Demand, High Quality Services to Global Organizations Right from Their Own Communities. 2014. Available online at: https://research.everestgrp.com/wp-content/uploads/2014/09/RF-RuralShores-Case-Study-on-Impact-Sourcing-Final-approved_vf.pdf.

²⁰⁸ Ibid.

²⁰⁹ Impact Hub. Samasource Profile. Available online at: <http://impacthub.org/players/issp/samasource/>.

in-country infrastructure and computers. Under this model, United States-based project-managers oversee relationships with clients and deconstruct large projects into microtasks, which are then completed by in-country partners and workers.

In addition, Samasource built its own direct-implementation center in Nairobi in 2015. Samasource believes that this will improve quality control and process management, while promoting further worker welfare and impact.²¹⁰ According to Wendy Davis, Samasource's Managing Director, Samasource sees having full control and management over this center as an opportunity to implement key lessons learned, and test new programs to promote worker welfare. However, Samasource still sees partners and use of the intermediary model as a key scaling strategy and has no plans to discontinue utilizing its partner-model.

Samasource employs women and youth who are living in poverty, but possess basic English literacy and numeracy skills and have some understanding of how to operate a computer. Workers in the United States are highly-skilled and have a higher level of responsibility, as compared to workers in developing countries. In 2015, Samasource established Samasource Training in Kenya, a 10-week training program, available to youth with limited education and computer literacy. The program trains on digital literacy, digital careers, and work preparedness and life skills, with modules on Microsoft Word/Excel and Google Docs/Sheets, web research, machine learning, soft skills, and sexual harassment. Many Samasource Training attendees go on to full-time jobs at the Samasource Nairobi Center.²¹¹ Samasource is currently partnering with local nonprofit and community-based organizations in Nairobi, Kenya to pilot workshops on health and safety, consensual relationships, and drug awareness. According to Samasource, these diverse trainings topics are harder to implement when utilizing an intermediary approach. It appears that workers in Uganda, India, and Haiti are not offered the same extent of training.

TECHNO BRAIN

Operating in 19 African countries, Techno Brain is a software provider, offering IT solutions, IT training and BPO-, and IT-enabled services to its clients, such as the Reserve Bank of Malawi, UN agencies, the Commercial Bank of Africa, and Pepsi.²¹² They offer range of microwork services, including data processing and management, digitization of documents, and image tagging/verification, along with a plethora of other, more highly-skilled services. Their software products include tools for monitoring and evaluation, establishing and monitoring a helpline case management system, managing a company's fleet of vehicles, implementing ehealth programs, and assisting aid workers during humanitarian crises.²¹³ With over 1400 employees and clients

²¹⁰ Wendy Davis, Samasource Managing Director.

²¹¹ Samasource. Training. Available online at: <http://www.samasource.org/training>.

²¹² Global Pulse. Illustrating Impact Sourcing. 2014. Available online at: https://technobraingroup.com/wp-content/uploads/2015/10/Jun_2014_Global_PULSE_Impact-Sourcing.pdf.

²¹³ Techno Brain. Techno Brain: Products. Available online at: <https://technobraingroup.com/products/>.

throughout the private, NGO, and public sector, Techno Brain is one of the leading African IT firms.

Founded in 1997, Techno Brain recruits secondary school graduates and sources its employees from local populations. One of their main goals is to create employment opportunities for African youth, while providing high-quality services to their clients and scaling up to compete with leading BPO players.²¹⁴ For certain contracts, Techno Brain partners with Impact Sourcing intermediary, Samasource, and also will recruit from NGO training centers that focus on providing ICT skills to poor and vulnerable population.²¹⁵ While the specific clients Techno Brain has served through Samasource are not publicly available, they also teamed up to provide ICT education to young people living in slums near Nairobi.²¹⁶

OTHER MICROWORK SERVICE PROVIDERS

AMAZON MECHANICAL TURK

Amazon Mechanical Turk (AMT), commonly referred to as “mturk”, is the most widely used crowdsourcing platform offering its clients access to an on-demand, scalable, and diverse workforce.²¹⁷ Amazon describes AMT as a “marketplace for work that requires human intelligence”. AMT provides workers with a list of relatively simple tasks that can be completed anywhere, at any time. AMT continues to grow in popularity specifically for social science research projects.²¹⁸ AMT, along with CrowdFlower (discussed below), comprise 80 percent of the work undertaken by the microwork industry.

AMT was built using an open management system. Clients such as the U.S. Army Research Library and Channel Intelligence set up microtasks on the AMT platform using AMT’s built-in tools for audio or visual transcription, categorization, image tagging, etc. Once clients have provided a description, the qualifications required of the workers, the timeline, and levels of compensation, workers are able to browse the available microtasks and select the tasks for which they are qualified and would like to complete. Clients are then able to either accept or reject the completed tasks. Tasks which are rejected are not compensated for, while tasks which are completed with excellence are eligible to receive extra compensation in the form of a bonus. AMT assigns identification

²¹⁴ Techno Brain. Techno Brain Featured in a Report on Impact Sourcing Initiatives by Rockefeller Foundation. 2012. Available online at: <https://technobraingroup.com/techno-brain-featured-report-impact-sourcing-initiatives-rockefeller-foundation/>.

²¹⁵ Global Pulse. Illustrating Impact Sourcing. 2014. Available online at: https://technobraingroup.com/wp-content/uploads/2015/10/Jun_2014_Global_PULSE_Impact-Sourcing.pdf.

²¹⁶ African Business Environment. Techno Brain Partners with Samasource to Empower Underprivileged Youth. 2012. Available online at: <http://africabusiness.com/2012/07/30/techno-brain-partners-with-samasource-to-empower-underprivileged-youth/>.

²¹⁷ Amazon Mechanical Turk. MTurk Help Page: Overview. Available online at: <https://www.mturk.com/mturk/help?helpPage=overview>

²¹⁸ Shank, D.B. Using Crowdsourcing Websites for Sociological Research: The Case of Amazon Mechanical Turk. *The American Sociologist*. 2016. 47 (1). P. 47-55.

names and numbers to all service providers and workers which enables one to establish a working history. Clients can utilize workers that completed their tasks with excellence over and over again, while workers can work exclusively with those clients who treated them fairly in the past. This system allows for both clients and workers to contribute to one another's reputation both formally and informally.²¹⁹

AMT boasts a diverse, on-demand workforce from over 100 countries with basic set of skills that are refined through experimental on-site learning.²²⁰ Due to current AMT compensation policies, however, the majority of workers tend to reside in either the United States or India.²²¹ Studies on these two populations of AMT workers suggests that the US-based population consists of predominately "younger, female, more liberal, and more educated" individuals.²²² While the income generated by AMT workers' does ebb and flow along with the general income trends in the U.S. and is determined by the market, the income levels are lower across the board as compared to the broader US marketplace.²²³ AMT compensates workers either in the form of Amazon store credit, in U.S. dollars, or Indian rupees.²²⁴ As of 2010, the majority of AMT workers were found to conduct 10 – 20 hours of work per week, earning approximately 80 USD per month. For the small percentage of workers who did seek full time employment through microwork on the AMT platform, monthly earnings could go to about 1,000 USD.

CROWDFLOWER

CrowdFlower, founded in 2007, is a leading US-based microwork service provider. Through its crowdsourcing platform, CrowdFlower offers a range of data solutions for its clients, such as search relevance, image moderation, and sentiment analysis, all executed by collecting, cleaning, and labeling data.²²⁵ Initially, acting as an intermediary on behalf of clients who lacked an understanding of the AMT platform, CrowdFlower deconstructed larger tasks into smaller tasks on their platform which interacted with the AMT system.²²⁶ After growing in popularity, CrowdFlower expanded to function as a standalone platform and no longer linked exclusively with AMT.

CrowdFlower provides clients with three service features to facilitate the merger of human computation with business processes. These three features include: workflows, taxonomy, and quality control. As an open management platform, CrowdFlower

²¹⁹ Mason, W. and Suri, S. Conducting Behavioral Research on Amazon's Mechanical Turk. *Behavior Research Methods*. 2012. 44 (1): 1-23.

²²⁰ World Bank. The Global Opportunity in Online Outsourcing. 2015. Available online at: <http://documents.worldbank.org/curated/en/138371468000900555/The-global-opportunity-in-online-outsourcing>.

²²¹ Paolacci et al. Running Experiments on Amazon Mechanical Turk. 2010. Available online at: <http://journal.sjdm.org/10/10630a/jdm10630a.pdf>.

²²² Mason, W. and Suri, S. Conducting Behavioral Research on Amazon's Mechanical Turk. *Behavior Research Methods*. 2012. 44 (1): 1-23.

²²³ Ibid.

²²⁴ Ibid.

²²⁵ CrowdFlower. Company. Available online at: <https://www.crowdfLOWER.com/company/>.

²²⁶ Ibid.

provides clients with pre-designed job templates based on the most common and widely sought after microtasks, including image categorization, audio, and text transcription, and sentiment analysis. In addition to the job templates, the system will route and process data between multiple CrowdFlower jobs and/or external services.²²⁷

Furthermore, for microwork clients, CrowdFlower offers the ability to tag and index jobs with their taxonomy system. This allows both clients and workers to easily and efficiently shift through available jobs.

With regards to quality control, workers must complete an assessment to gauge one's understanding and ability to complete the microtask. Workers who do not answer the set of test questions satisfactorily cannot proceed forward with that particular task. CrowdFlower also supports peer review and provides statistical results of worker testing in order to assist the client in evaluating and profiling workers. Clients include LinkedIn, Groupon, Eventbrite, Facebook, and Twitter. CrowdFlower operates globally, serving as a pathway to further employment for individuals from diverse backgrounds.

In 2012 CrowdFlower faced a lawsuit which alleged that the organization was in violation of the Fair Labor Standards Act (FLSA), because its workers felt that they were employees of CrowdFlower and not independent contractors. This lawsuit was settled outside of court in July 2015. According to authors Cherry and Poster, CrowdFlower demonstrates a complexity present in microworker-client relationships and the challenges in assessing the effects of a particular client on workers' livelihoods and well-being.²²⁸

In recent years, CrowdFlower has gravitated to Impact Sourcing as a channel to accomplish tasks for specific clients. CrowdFlower has cultivated partnerships with a number of local Impact Sourcing organizations around the world, including iMerit in India, IndiVillage in India, and Daproim in Kenya. While CrowdFlower appreciates being able to promote the impact of these organizations to clients and potential clients, it also sees a business case in fostering these partnerships. For example, working with dedicated centers means that non-disclosure agreements can be put in place and that centers can institute data security and confidentiality protection measures, thereby providing a unique channel to accomplish tasks with sensitive data. Currently, there is no way for workers operating from the general crowd to sign individual NDAs due to the anonymity of most crowdfunding tasks. In addition, partnering with impact-sourcing microwork providers offers CrowdFlower clients an alternative with improved quality control and time to complete assigned tasks.

²²⁷ CrowdFlower. Company. Available online at: <https://www.crowdfunder.com/company/>.

²²⁸ Cherry, M.A. and Poster, W.R. Crowdfunder, Corporate Social Responsibility, and Fair Labor Practices. 2016. Available online at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2777201.

MICROWORK.IO

Microwork.io is an emerging company that is built around the objective of empowering the microworker. It is still in its start-up phase gathering funding from various donors, but has been already described as a more open version of Amazon Mechanical Turk.²²⁹ The founder states that hearing and reacting to the worker's experiences is a top priority, as they are building the platform with insight from workers on best practices and processes.²³⁰ Uniquely, the platform will enforce a minimum wage for all contracts. Workers will be able to use the platform to select a microtask, complete it, and then receive a direct deposit in local currency or bitcoin.

Perhaps the most interesting, and innovative, aspect of Microwork.io is the ability to finalize contracts without the input of a third party. Most of the tasks on the platform will be able to be confirmed through smart contracts, which virtually verify the status of the task automatically. These smart contracts eliminate the need for human checking and are designed to help workers avoid online jobs in which the employer decides not to pay even though the work has been completed. Online verification will also be used for quality control, though the exact mechanism is not available to the public as of yet. Jobs that cannot be verified through smart contracts will be subject to an arbitration section so that workers can lodge complaints or enter evidence should an employer refuse to pay.²³¹ A unique approach to the microwork process, it will be interesting to see whether Microwork.io truly offers workers increased safety.

²²⁹ Bitcoin Magazine. Microwork.io Uses Smart Contracts to Coordinate Small Tasks Worldwide. 2015. Available online at: <https://bitcoinmagazine.com/articles/microwork-io-uses-smart-contracts-coordinate-small-tasks-worldwide-1431026361>.

²³⁰ Ibid.

²³¹ Ibid.

ANNEX 2: LIST OF INTERVIEWEES

Stakeholder	Representative	Position
Ancestry.com	Todd Jensen	Former BPO Lead
Autodesk	Patrick Booher	Director, Global Enterprise Business Systems
Avansant Foundation	Chitra Rajeshwari	Executive Director
Caribou Digital	Savita Bailur	Research Director
CloudFactory	Robina Maharjan	Director of Global Workforce
CrowdFlower	Brian Reavey	Manager
CrowdFlower	Glenn Volk	Senior Customer Success Manager
CrowdFlower	Nathan Zukoff	Former Product Manager
Daproim Africa	Caroline Wanjiku	CEO
Daproim Africa	Geoffrey Ochieng	Data Center Worker
Daproim Africa	Perry Kanana	HR Manager
Digital Divide Data	Calvince Odemba	Social Mission Coordinator
Digital Divide Data	Ignatius Shiunzi	IT and Quality Assurance Manager
Digital Divide Data	Michael Chertok	Executive Vice President, Impact
eBay	Anneiliese Eisentraut	Senior Manager Product Management, Search Metrics
eBay / Pinterest	James Rubinstein	Data Scientist
Enshored	Jeff Bauer	Founder and CEO
Felix	Steven Barth	Marketing Operations, CRM Specialist
Getty Images	Mary Forster	Senior Director, Search Strategy
iMerit	Radha Basu	CEO
Impact Enterprises	Dimitri Zakharov	Founder and CEO
Intuit	Bruce Smith	Senior Data Scientist for Semantic Technology & Search
The MasterCard Foundation	Mark Wensley	Senior Program Manager, Financial Inclusion
The MasterCard Foundation	Koffi Assouan	Program Manager, Youth Livelihoods
The MasterCard Foundation	Steve Cumming	Program Manager, Youth Learning
The MasterCard Foundation	Meredith Lee	Program Manager, Youth Learning
Microsoft	Tim Hopper	Responsible Sourcing Manager
Nairobis	Rukia Sebit	Program Manager
New York University	Panos Ipirotis	Research Professor
Illinois Institute of Technology	Laura Forlano	Assistant Professor
Rockefeller	Karim Harji	Co-Founder and Director at Purpose Capital
Rockefeller	Traci Freeman	Foundation Representative

Stakeholder	Representative	Position
Samasource	Audrey Boguchwal	Product Manager
Samasource	Barb Chang	VP, Product & Partnerships
Samasource	Tony MacDonald	CFO
Samasource	Twisha Mehta	Impact Manager
Samasource	Wendy Gonzalez	Managing Director
Souktel Digital Solutions	Jacob Korenblum	CEO
UCSF	Rachel Taketa	Library Specialist

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