CLOUD FACTORY

Lighthouse Case Study

CloudFactory's primary objective and mission is to connect one million people in the developing world to basic computer work and train them as leaders to address poverty in their own communities. In doing so, CloudFactory links its social mission—to foster skills development and economic growth in emerging nations—to a profitable and sustainable business proposition that creates value for its clients, employees and the communities within which it operates.

GLOBAL SOLUTION NETWORKS

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Case in Brief

CloudFactory is a technology outsourcing company based in Kathmandu, Nepal that connects data workers in developing countries with client companies worldwide—companies with an increasing need for cost effective data management. CloudFactory employees benefit from job creation and skills development, and clients benefit from a quick, easy and inexpensive option for data entry, computer tasks and business processes. CloudFactory's primary objective and mission is to connect one million people in the developing world to basic computer work and train them as leaders to address poverty in their own communities. In doing so, CloudFactory links its social mission—to foster skills development and economic growth in emerging nations—to a profitable and sustainable business proposition that creates value for its clients, employees and the communities within which it operates.

CloudFactory's commitment to poverty alleviation and skills development, along with its growing array of partnerships with community-based organizations, suggests an opportunity for scaling the micro-work model in collaboration with a broader Operational and Delivery Network focused on job creation and economic development in low-income countries. The company already provides good jobs, competitive wages, high quality skills training and transformational community engagement opportunities for 120 core staff and 8,000 part-time cloud workers in Nepal and Kenya. Scaling up the micro-work model pioneered by CloudFactory would enable emerging nations to retain a larger proportion of skilled workers and grow this workforce over time.

The Genesis of CloudFactory

Nepal may seem like an unlikely birthplace for a burgeoning technology outsourcing venture. But for CloudFactory founder Mark Sears, the impoverished country was the perfect place in which to build a unique company—one that could provide global technology services, foster skills and provide good jobs, while also transforming the broader communities in which it operates. In fact, CloudFactory's seeds were first planted in 2008 when Mark Sears traveled to Nepal for what was to be a two week vacation. He met three smart, talented and ambitious young software engineers who were having difficulty finding work even though their skill level approximated that of his North American peers. He sent an email to some contacts looking for a Ruby on Rails[2] project and received a paid engagement the next day. Quickly, he found himself operating a successful boutique firm and decided to stay in Nepal and help leverage the untapped talent of the local young people.

According to Sears, "There is a ton of aid that pours into Nepal which results in lots of educated people, but unfortunately not enough appropriate jobs."[3] Indeed, the employment situation in Nepal, one of the poorest countries on Earth,[4] is dire. With resources and opportunities lacking at home, a near majority of young educated Nepalese citizens are forced to move abroad to find work to support themselves and their families. Government statistics reveal that almost 400,000 youths enter the job market each year, and nearly 50% of them seek employment overseas.[5]

When Sears and his wife visited the local market, they would come across smart young people with under-used skills. He believed that a market-based solution would best serve his goal of improving the lives of people in Nepal. And that solution eventually evolved into CloudFactory, a business automation company with a social mission to alleviate poverty in Nepal and other developing countries by building skills, creating jobs and improving the lives of its workers and their communities.

Officially launched in 2011 in San Francisco at TechCrunch Disrupt,[6] Cloudfactory uses a virtual assembly line model to connect companies with trained workers who can tackle basic computer functions and digital tasks in an efficient and effective manner.[7] Specifically, "Tasks that have large amounts of data that need to be entered, collected, processed or categorized via a web browser, are best served by CloudFactory," according to Sears.[8] The top four tasks as of July 2013 are data entry (e.g. digitizing receipts), data processing (e.g. audio transcription), data collection (e.g. collecting e-mails for marketing campaigns) and data categorization (e.g. tagging images and videos). CloudFactory is less expensive than competitors in the developed world and other traditional outsourcing countries, while still paying wages at least twice the prevailing standard rate in the worker's country.

Establishing Market Value for Workers in Developing Nations

CloudFactory is working to connect a million persons in developing nations to basic computer work, while raising them up as leaders to address poverty in their own communities. This is our mission statement. At the heart of what we do is our social mission. We've never hidden it and we love to talk about it.

CloudFactory workers: Skill development contributes to community leadership.[9]

CloudFactory taps into a talent base that has been largely ignored by global tech companies. According to Tom Puskarich, VP of business development, "Kathmandu's universities put out hundreds of computer engineers every year; and with the lack of work opportunities, these engineers are hungry and motivated, especially for a Silicon Valleystyle start-up right in their backyard." CloudFactory's social mission is also a powerful attractor for top local talent. "[Our employees] are part of not only trying to change their own country but using their skills to change how the world works and create millions of jobs for people in developing countries. We've got a recipe for some seriously motivated talent," he says. Puskarich claims that CloudFactory is not at a loss to find programmers with a passion for creating software for the developing world, in the developing world.[10]

Nurturing the creation of a larger cohort of businesses like CloudFactory could provide an opportunity to break the debilitating brain drain cycle by locating good jobs in developing countries and thus slowing the exodus of skilled workers from their home countries.[11] In a Fiscal Year 2011-12 study, Nepal's Finance Minister identified youth leaving the country for work due to the lack of opportunities at home as one of the country's top policy priorities. According to the International Labour Organization more than two million Nepalese work abroad (excluding those working in India, as the two countries share an open border, and labor migration between them is common).[12] Consequently the country is losing leaders and high potential individuals—a fact which negatively impacts all segments of society. Generally, the people who are migrating from developing countries are between the ages of 15 and 45, and are equipped with higher levels of education and income than their counterparts who remain at home.[13]

When developing countries lose skilled workers, they lose more than just the individuals themselves. They forfeit the tax dollars invested in their education and the potential contribution these skilled individuals could make to tax revenues as salaried professionals. They lose out on the potential for economic growth and job creation associated with a highly trained, professional workforce. And they lose their knowledge and the opportunity to transfer that knowledge to the next generation through mentorship and apprenticeship programs.[14] This brain drain creates a vicious cycle that deprives developing countries of growth opportunities, and the lack of growth opportunities then perpetuates the brain drain.

Of course, CloudFactory is just one company and can only accomplish so much on its own. But as the micro-work model attracts interest and investment from other stakeholders, there is optimism that the employment dynamics could shift considerably in the decades to come. Citizens of Nepal who are faced with the push to provide more for their families and the pull from knowledge-intensive job opportunities in more developed countries will no longer have to emigrate. And the country as a whole will reap the economic and social benefits of retaining a larger proportion of its educated population. Tax revenue invested in education will pay back, as educated individuals take up employment in their home countries. Apprenticeship and skills development systems will flourish with the passing of knowledge and expertise from one generation to the next. And by providing career

opportunities, income and employment, companies like CloudFactory help combat poverty and initiate a virtuous cycle of economic growth and social development.

According to Puskarich, CloudFactory wants to connect the dots between the untapped human potential in developing countries and businesses around the world that need an on-demand workforce. “We believe in a market-based approach to poverty alleviation and have already seen our first success story in the building of CloudFactory itself, he says. “From day one,” he continues, “CloudFactory’s innovation and creation has come entirely from the developing country of Nepal where a group of smart young software engineers were given the opportunity to work on a world class project and ran with it.”[15]

CloudFactory’s Process Methodology

CloudFactory is a virtual assembly line—a team of workers tackles a project by breaking it into individual tasks with leaders checking work to ensure accuracy. Since an automated workflow algorithm breaks the task down into sub-projects, CloudFactory can provide greater accuracy and faster turnaround than traditional methods. For example, an hour-long audio file would be divided into smaller pieces each transcribed by a different team member (and verified by two editors) in less than an hour. According to workforce Vice-President Evan Kubicek this “virtual assembly line” approach builds a sense of camaraderie, facilitates employee training and increases speed and accuracy the work and the security of client’s data (since no individual worker has access to the entire document).[16]

CLOUD FACTORY’S REMOTE DRUG TESTING SOLUTION

Mark Sears provides a good case of how CloudFactory made a huge impact with one of its clients, an oil and gas company in Alberta, Canada. The client required drug testing of all of its employees and used to complete it in-house, a process which was expensive and unreliable. According to Sears, “even though these employees were being paid $17-21 per hour, there was high turnover and the [drug test] results often changed based on the attentiveness and mood of the testers—leading to many false positives.”[20] Under CloudFactory’s stewardship, accuracy increased (each result was audited twice), the turnaround time was reduced (the task was divided into multiple steps which were completed by the virtual assembly line), and costs to the client fell by 75%.

> *"We use several worker pools, some of which are in Nepal and others through partnerships such as Amazon's Mechanical Turk. The idea behind all of these systems is a massively distributed workforce [who] get the huge benefit of not only working from wherever they would like, but also whenever they would like.[19]"*
>
> —Tom Puskarich, Vice President of Business Development, CloudFactory

Generally, the teams are hired at the same time (CloudFactory encourages workers to apply as a team) and stay together from project to project, developing team cohesiveness. Kubicek says, "Our workforce grows by multiplying new teams organically via the social graph of existing cloud workers. In addition to being able to scale quickly, our results have shown that teams with existing relationships amongst the members perform best."[17] Team leaders nominate people that they already know from their personal life; each candidate takes a thirty minute online qualifying test (usually via Facebook)[18] followed by an interview via Skype. If candidates pass these hurdles they then need to complete a more difficult online test before being allowed to work on their first engagement. Once candidates come on board, they continue to receive training and have the opportunity to qualify for additional tasks once they can demonstrate qualifying skill and accuracy.

Unlike competitors such as staff.com[21] which monitor the progress of workers by taking and examining screenshots of their computers to "ensure that they are working," CloudFactory operates by a "carrot not the stick" philosophy that encourages team members to motivate each other in order to share group rewards. Workers in the teams are assigned projects based on prior performance, and are paid per task completed, which Sears calls "a perfect meritocracy." Employees can earn 4,000 Nepali rupees, or around $60, per week—and "that's not a negligible sum in a country where the gross domestic product per capita is just $1,250, according to World Bank data."[22]

CloudFactory's Social Mission

CloudFactory's role in providing jobs and skills training in developing countries like Nepal, although commendable, does not on its own qualify it as a global solution network. Yes, it delivers jobs and training and thereby boosts the economic development of poor countries, but plenty of businesses do that. To qualify as a true solution network, it needs to leverage the skills and assets of other stakeholders in society to further its mission. The company has made some impressive strides on this front, where its commitment to community work and leadership development sets it apart from other cloudwork companies. The partnerships CloudFactory has built with community-based organizations in the countries where it operates ensure that its positive social footprint goes well beyond the full-time jobs it creates. But an even more powerful global solution network for job creation and economic development could be created through more deliberate partnerships with major foundations and development agencies looking to scale up the microwork model that CloudFactory has pioneered.

SAMASOURCE BRINGS THE DIGITAL ECONOMY TO POOR WOMEN & YOUTH

CloudFactory is not the only company seeking to match skilled talent in developing countries to work opportunities around the world. Inspired by the work of Muhammad Yunus, the founder of Grameen Bank, Leila Janah set her sights on creating an online marketplace that connects poor women and youth with training and employment in the digital economy. In September of 2008, Janah created Samasource, a non-profit group that provides enterprise data and content management services with a unique microwork model that distributes tasks to team of "digital service experts" in developing countries.

Samasource's guiding concept is to apply fair-trade principles to corporate outsourcing and redirect a portion of the work generated by the global outsourcing industry to women and youth in developing countries. Janah was convinced that, "if we could move even one percent of this large amount of wealth to poor and marginalized people through a smart model that integrated with the global economy, we'd make a tremendous difference in the health, education, and well-being of people who are so often left out." Janah calls it "a win-win for people, for businesses, and for governments, who could either spend less on foreign aid, or direct the aid to more useful programs."[23]

Samasource has grown quickly since 2008. In 2009, the non-profit was selected as a recipient of the Facebook Fund, and received a small grant from the Rockefeller Foundation in the same year to help run a program in the world's largest refugee camp in Dadaab, Kenya. The project never took off—but Samasource did. Since 2009, Samasource has generated over $5 million in contracts from leading institutions and improved the lives of over ten thousand individuals from depressed economic communities. Samasource claims to have paid out over $2.5 million to over three thousand workers in nine countries.

As it stands, CloudFactory's bold social mission is summed up by Mark Sears as follows:

> "Imagine a group of young men and women of high character growing in their computer and language competency. They have flexible jobs where they earn good money and can work anytime and from anywhere. They go out into their community every month to serve as a team and learn about the needs and people around them. They are the next generation of leaders that will find their way into the arts, government, business, media, education, etc. Now imagine a grassroots movement with one million of these leaders all connected and networked and wanting to change their families, communities, cities and nation. That can change the world."[24]

Founder Mark Sears proudly states, "We have one hundred and twenty full-time people that come to work every day believing they can change the world. All that we have learned the last few years by training people up, giving them an opportunity, loving them and equipping them to contribute their talent to the world is the same DNA we are passing on to the groups of cloud workers we are raising up."[25] Product Manager Kailash Badu elaborates, adding that the company's unique social models not only allow his colleagues to make a living, but to also "receive education and training to become leaders in their own community, excel in life, and enjoy prosperity."[26] Evan Kubicek observes that employees experience noticeable personal growth within a few weeks of joining a team.[27] A 2013 survey of workers showed that an impressive 92% of workers reported a positive change in their personal lives and their communities after joining CloudFactory.

In addition to the client work, each team conducts community service projects. For example, one of the teams spent two weeks cleaning and polishing all of the surfaces in a local temple. Other teams have focused on running literacy programs, visiting local schools, building parks and green spaces and on street clean-up projects in local neighborhoods. Kubicek tells us that often team members are originally "resistant to the idea of doing something for others but afterwards they catch the 'bug' and love it."[28] The community service reinforces the dynamics of individual teams as well as fulfilling CloudFactory's mandate of giving back to the community.

Performance Metrics

There are two ways to evaluate CloudFactory's contribution to global problem solving: its contribution to business efficiency and its contribution to skills training and economic development in emerging nations. From a business efficiency point of view, some of the key metrics relate to the quality of work provided to clients, including cost savings, reduced turnaround times, and improved accuracy. In fact, each team receives daily feedback on these measures (including their rankings compared with peers) and is coached on ways to improve. According to co-founder Tom Puskarich, "Quality results come by finding talented and motivated workers, training and testing them, matching them with the work they are good at and like, giving them clear instructions and doing intelligent quality checks. So when it really comes down to getting quality results we believe you absolutely need great workers. We are building our own workforce with a completely different approach to what has been done to this point. Our model is built on social capital and is similar to the Grameen model[29] found in microfinance. A Grameen style model can offer vast scalability while still incorporating accountability, training, testing and supervision that we've found to be missing in other cloud labor models."[30]

CloudFactory also pays attention to metrics that relate to the social and economic development part of the mandate, including total wages paid,

the delta over the prevailing wage, number of successfully completed action statements, how many employees stay a minimum of six weeks, and community service projects completed. To date, CloudFactory has hired 120 full-time staff and 3,000 part-time cloud workers and there are plans to add another 5,000 part-time workers this year.[31] According to Sears, "It took us eight months to process our first million tasks. Now we are doing one million tasks every week."[32] In March of 2013, CloudFactory added to its capabilities by acquiring SpeakerText (a transcription service) and Humanoid (a micro-task service).[33]

The Future

Currently, CloudFactory specializes in relatively simple tasks that can be completed by the virtual assembly line via a web browser. The executive team believes that this is the best course of action because they can focus on activities at which they can truly excel. In the future, however, they plan to move to more sophisticated (and profitable) projects. According to Mark Sears, "Most members of CloudFactory's first cohort were university students who were learning advanced skills in engineering and business. It only makes sense that we sell engagements that will leverage these talents."[34]

Beyond its main business, CloudFactory intends to develop its social mission as well. The company is working on memoranda of understanding that would enable it to serve universities and non-governmental organizations and not just for-profit enterprises. "We are beginning to really explore how our unique model allows us to provide high quality data processing while creating a large volume of jobs at the same time," says Kubicek, who sees open data projects as a particularly good way to advance social innovation while helping tackle the massive unemployment problems confronting the 18-30 year olds in emerging nations. "There is a lot of potential to merge these two and partner with local governments, the NGO/development community, and local universities/training centers," he says.[35]

CloudFactory workers build teams, communities and economic stability.[36]

CloudFactory will also expand geographically, with a pilot project in Kenya and plans for aggressive expansion of its workforce in Africa in 2013.[37] Kenya is a natural candidate for CloudFactory as it has a large English-speaking population including a large cohort of educated people aged 18-30, many of whom are unemployed or underemployed. CloudFactory plans to be active in ten to twelve countries by the end of 2017,[38] expanding its mandate to include disadvantaged groups within developed countries (such as the Canadian indigenous people).

Given their interest in poverty alleviation, could foundations, bilateral aid agencies and large development institutions such as the World Bank help spread the CloudFactory model? A few opportunities suggest themselves: providing resources and language support so that micro-work models like CloudFactory can be introduced to non-English speaking nations; helping market-based initiatives by encouraging contacts/patrons within the private sector to become clients; and facilitating the necessary conditions for CloudFactory by investing in education and Internet access in developing countries.

Implications for Network Leaders

CloudFactory is still an evolving business but has shown tremendous progress so far with respect to both its business objectives and social mandate. The key implications for network leaders are:

Job creation is the world's most effective weapon against poverty. Digital micro-work models pioneered by companies like CloudFactory and

Samasource have captured the imaginations of international development donors (Rockefeller Foundation announced a $100 million grant in 2013)[39] and businesses alike (including LinkedIn and Google) for the simple fact that high quality jobs that pay a living wage are the ultimate path out of poverty. The main beneficiaries to date have been educated people in low-income communities around the world, whose incomes have been raised by 40-200% according to the Rockefeller Foundation.[40]

A profitable business proposition married to a social mission provides the foundation for an effective and resilient solution. Many poverty alleviation efforts rely on the continued generosity of foundations and donors, making them vulnerable to financial shortfalls or changes of strategic direction among funders. CloudFactory's contribution to employment and skills development in emerging nations will continue for as long as the company can sustain a profitable services business. Of course many public goods cannot be provided as a spin-off of profitable businesses, but the sustainability and resiliency of any initiative can be enhanced where profitable businesses and social missions harmoniously coincide.

A broader network of NGOs, foundations and development agencies could help scale the micro-work model. CloudFactory has generated impressive results and its model of micro-work would be applicable to any developing country with a skilled population and reasonable Internet access. Since CloudFactory's current expansion plans are limited by a small senior management group and an English-language focus, it could provide a blueprint for an agency with greater infrastructure and language skills to execute in other developing nations. Rockefeller's African Digital Jobs Initiative already has a goal of networking one million African youths in six countries to provide digital jobs with a living wage. But there is plenty of room for additional investment in a broader Operational and Delivery Network focused on economic development and led by organizations with a mission to alleviate poverty.

Develop and stay true to a clear social mandate. Although CloudFactory's leadership team pays close attention to the value provided to their business clients, all decisions regarding strategic direction are vetted against the social mandate which is to improve the human capital and communities of the countries in which they operate. This social mandate is reinforced via the community outreach programs whose progress is closely monitored.

Expand the organization in line with the talent of the workforce. The first engagements dealt with simple tasks which could be easily divided amongst a group and performed through a web browser. As the workforce gains skills and experience (including those acquired through formal education programs that many employees pursue simultaneously), CloudFactory could tackle more sophisticated assignments. An organic evolution in this direction would further enhance the skills of CloudFactory employees, boost earning potential and drive faster economic development in the countries where it operates.

Champion the team dynamic. Working teams are very important at CloudFactory, even at the hiring stage. By keeping teams intact across multiple engagements as well as community projects, synergies improve and employees are able to develop leadership skills. In order for CloudFactory to achieve its goal of one million employees, its management model needs to be flat with teams able to work without strict direct supervision. These same leadership and team work qualities pay additional dividends when CloudFactory employees go out to the community to tackle development challenges on a monthly basis.

Feature the social mission as part of company outreach. CloudFactory's marketing material and corporate communications highlight the cost savings and accuracy improvements it achieves when compared to other outsourcing options. But they also reinforce that customers will support "the next generation of leaders that will find their way into the arts, government, business, media, and education."[41] The social mission makes CloudFactory attractive to all of its potential clients and will arguably make it an outsourcing partner of choice for governments, foundations and non-profits.

by Mike Dover for Global Solution Networks

Endnotes

1 http://cloudfactory.com/pages/about.html.

2 Ruby on Rails is an open source web application framework which runs on the Ruby programming language.

3 Interview with Mark Sears, conducted by Mike Dover and Rebecca Nugent, 22 July 2013.

4 Sara Sidner, "Nepalese Dying to Work," The CNN Freedom Project Ending Modern Slavery, 13 May 2012.

5 "About Half Million People Leave Nepal for Overseas Jobs," *The Financial Express*, 25 June 2012.

6 http://cloudfactory.com/pages/about.html.

7 http://cloudfactory.com/pages/faq.html.

8 Interview with Mark Sears, ibid.

9 http://blog.cloudfactory.com.

10 Steven Millard, "CloudFactory, From the Heights of Nepal, Can Put 1 Million Cloud Workers Into Business," *TechInAsia*, 22 March 2012.

11 Saravia, ibid.

12 Kyle Knight, "Can You Use Facebook? You've Got A Job In Kathmandu, Nepal, On The New Cloud Factory Started By A Digital Entrepreneur," *International Business Times*, 15 February 2013.

13 Ibid.

14 Jessica Karpilo, "Brain Drain," About.com Geography, 26 February 2010.

15 Eric Blattberg, "How CloudFactory Creates Digital Assembly Line," Crowdsourcing.org, 16 December 2011.

16 Interview with Evan Kubicek, conducted by Mike Dove, 25 July 25 2013.

17 "CloudFactory Raises Growth Capital To Create Jobs for 1 Million People," *PRNewswire*, 26 September 2012.

18 Knight, ibid.

19 Millard, ibid.

20 Interview with Mark Sears, ibid.

21 On the other hand, see Samasource, an organization based in San Francisco and Nairobi for another organization with a similar social mission based on positive reinforcement.

22 Millard, ibid.

23 Leila Janah, "Leila Janah, Our Founder & CEO—Samasource," Samasource Founders Story Comments, 12 August 2013.

24 Interview with Mark Sears, conducted by Mike Dover and Rebecca Nugent, 22 July, 2013. Paul Sawers, "CloudFactory plans to put one million people in developing countries to work online," Apps: Part of the Next Web Family, 17 April 2012.

25 Sawers, ibid.

26 Interview with Evan Kubicek, conducted by Mike Dover,25 July 2013.

27 Ibid.

28 The Grameen Bank is a Nobel Peace Prize-winning microfinance organization and community development bank founded in Bangladesh. It makes small loans to the impoverished without requiring collateral. The etymology of Grameen comes from the word gram which means "rural" or "village" in the Bengali language.

29 Eric Blattberg, "How CloudFactory Creates Digital Assembly Line," Crowdsourcing.org, 16 December 2011.

30 Catherine Shu, "CloudFactory Launches CloudFactory 2.0 Platform After Acquiring SpeakerText & Humanoid," *Techcrunch*, 3 March 2013.

31 "CloudFactory Acquires Key Crowdsourcing Competitor and Launches Next Generation Platform," *PRNewswire*, 27 February 2013.

32 Shu, ibid.

33 Interview with Mark Sears, ibid.

34 Interview with Evan Kubicek, ibid.

35 https://www.facebook.com/CloudFactoryHQ.

36 Shu, ibid.

37 Shu, ibid.

38 Judith Rodin, President of Rockefeller Foundation, as quoted in "Rockefeller Foundation To Pump $97 Million Into African Digital Job," *Forbes*, 13 May 2013. Web. 18 May 2013.

39 Rodin, ibid.

40 http://cloudfactory.com/pages/faq.html.

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