EDUCATION

BUSINESS MODEL LOCAL AGENT
BOP IMPACT STUDENTS
CONNECTIVITY HIGH SPEED

Enova

Educational Resources and Internet Access in Learning Centers Impacting BOP Students in Mexico

Created in 2007 in Mexico, Enova is a social enterprise that offers technology access and affordable e-learning courses with personalized support in digital centers located in BOP communities. Enova has built an innovative tri-sector partnership between several public agencies that fund and evaluate the project, private companies (e.g., Dell, Microsoft, Google) that provide technical assistance, and the Fundación Proacceso, a non-profit organization with which Enova partnered to create public and private alliances. As of December 2013, Enova had welcomed 478,500 users in its 95 centers across the State of Mexico.[14]

14 The State of Mexico, located in the south-central part of the country, is one of 31 states that, with the Federal District, constitute the nation of Mexico.

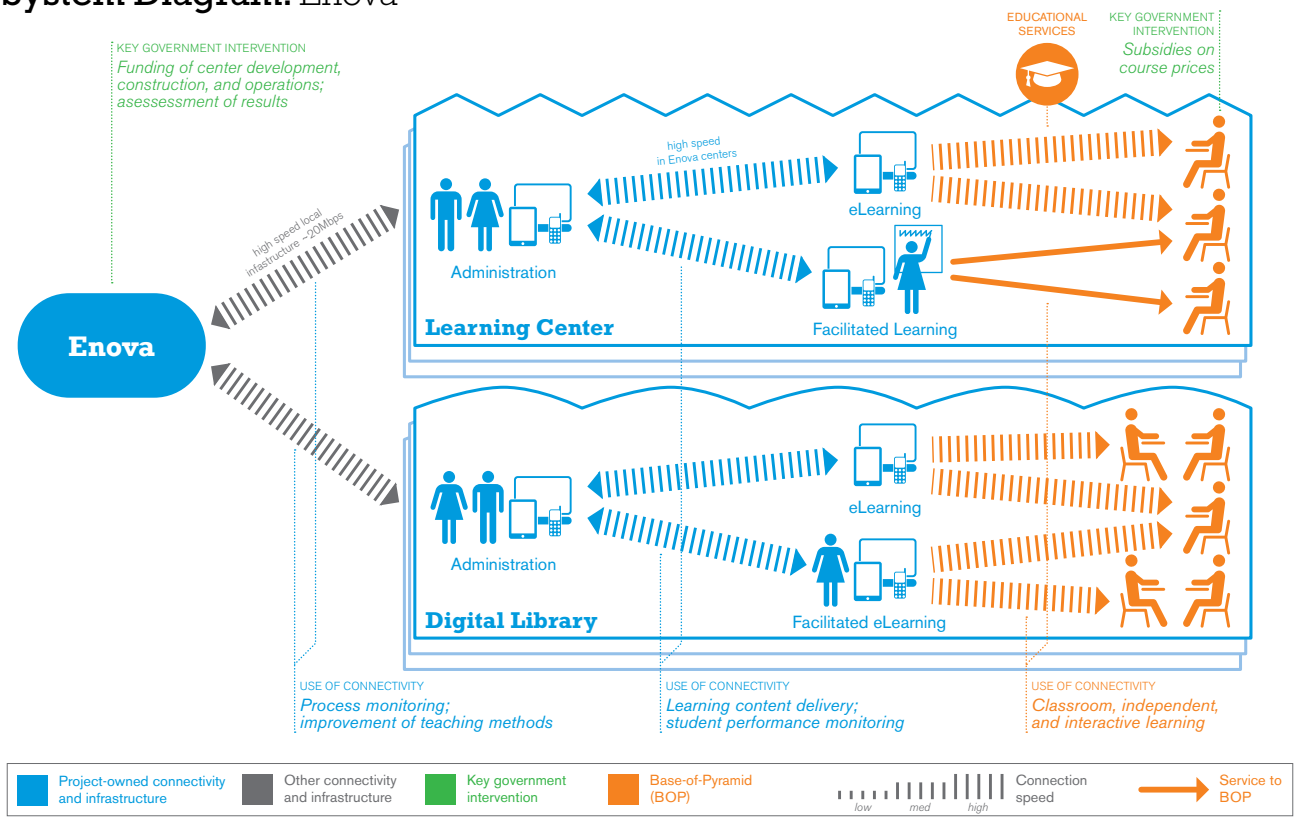
Role of Broadband and Data Connectivity

All Enova centers are equipped with broadband connectivity (up to 20 Mbps), which enables students to get fast access to rich and interactive educational content. It allows Enova to monitor processes and key data on student performance in real time in order to continuously improve its methods. This results in a high-quality learning content available at low cost for the BOP population, whose average household income is US$290 per month, or below US$2 per person per day. This content helps the BOP population improve their level of education, acquire new skills, and get more job opportunities.

Key Success Factors

Enova's success relies on real-time assessment software that ensures that students learn efficiently and that content can be improved based on results. Additionally, Enova managed to build a win-win partnership with the government that reduces costs for end-users by 70 percent compared to alternatives. Meanwhile, the government can offer quality connectivity and content to its poorer citizens at lower costs than through other technology options.

System Diagram: Enova



Implications for Policymakers

Public funding and support was key to enabling Enova to make its services affordable for BOP users. To improve education for the BOP, governments can efficiently complement the public system by partnering with private companies that use high-quality innovative tools.

Website

http://enova.mx

Description of Business Model

History of Organization

Enova is a social enterprise dedicated to improving digital inclusion and education in Mexico. It was created in 2007 by three Mexican entrepreneurs, who initially provided consulting services to the Mexican government on ways to reduce the digital divide in underserved communities, before being hired by the government to create a structure dedicated to this purpose. In 2009, the entrepreneurs launched their first 10 digital centers known today as the Red de Innovación y Aprendizaje (RIA) (Learning and Innovation Network). In their first year of operations, the centers provided educational content and Internet access to more than 37,000 persons at the BOP. Enova partnered with a non-profit organization called Fundación Proacceso, which owns all RIA's assets. The foundation creates alliances with government, executes agreements with sponsoring agencies, and ensures that the project preserves its social mission. Enova's main partners from the public sector are the National and State Councils of Science and Technology (CONACYT and COMECYT), the Sate of Mexico's Council of Culture and Arts (IMC), and the National Ministry of Education. These public agencies, along with independent agencies, evaluate Enova's results and the due management of resources. Private partners include Dell, Intel, Microsoft and Google, which provide technical collaboration and in-kind donations. In 2010, the OECD named the RIAs among the "Compendium of Exemplary Educational Facilities" in the world, and Enova won a US$130,000 prize from the "Iniciativa Mexico." In 2012, its interactive game "Jaguar" ranked second in the Latin American Game Contest, and in 2013 Enova won the Microsoft Education Award at the Tech Awards. Its general director, Moís Cherem Arana, was selected as an "Endeavor Entrepreneur" in 2011, and was twice awarded (in 2012 and 2013) the "Social Entrepreneur of the Year" award by the Schwab Foundation at the World Economic Forum in Latin America. In 2013, Enova was certified as a B Corporation for meeting rigorous standards of social and environmental performance, accountability, and transparency. Enova is now the largest network of digital education in the State of Mexico, with 95 centers having benefited 478,500 people in 50 municipalities. It plans to build 590 new centers across the country and reach 3.5 million people by 2018.

Value proposition

Enova seeks to offer quality education to marginalized people of every age (60 percent of users are less than 25 years old), and especially to out-of-school children and youth and adults who are language and computer illiterate (68 percent of registering users have never used a computer and 73 percent do not speak English). Enova provides digital learning content through:

• *RIAs*, which are learning centers that provide access to the Internet and to 45 courses with different levels (according to age and grade). All users can access courses in technology (basic computing, use of the Internet, introduction to Open Office or Microsoft Office) and in English. Children ages 8 to 12 can follow a 12-week free program called "Expedición RIA" that covers reading, computing, math, and science, as well as courses during holidays in science, art, and technology. Youth and adults have access to online courses (including high school and university level courses) and learning in social studies, personal finance, online job search, social media, personal and community development and digital photography. Other services include printing, scanning, audiovisual equipment, and the renting of facilities, as well as free movie projections.

• *Digital libraries*, which are technology centers equipped with computers, tablets, and e-readers that provide access to RIA services along with online portals, educational applications, encyclopedias, electronic and audio books, banks of articles and interactive resources, etc.

• *A free online platform* called Chíspale that offers 21 innovative educational videogames designed to help children from grades 3 to 6 apply primary knowledge in civics, mathematics, history, sciences, and Spanish acquired through playing the games.

A program lasts on average 105 hours divided into 21 weeks, depending on the subject and level (216 to 360 hours for English, about 30 hours for computing, 100 hours for Expedición RIA).

On average, a user follows five hours of courses per week (lessons last one to two hours). Most programs include one part that is supervised learning and another part that is autonomous practice. Every user gets a grant that subsidizes on average 70 percent of the course cost. Users must pay the remaining cost at prices ranging from US$0.1 to US$1.2 per class hour or US$0.3 to US$3.8 per week for weekly courses (e.g., US$0.3 to US$1.5 for English, US$2.3 to US$3.5 for computing), and up to US$7.7 per week for intensive holiday programs. Fees for children are typically lower than fees for youth and adults. Hourly renting prices are US$7.7 for an auditorium, US$3.8 for a projector, and US$2.3 for audiovisual equipment. There is no local competitor providing similar services at such low cost in poor urban areas (prices are 70 percent lower than other alternatives on the market, mostly paper-based or traditional classes). Centers are highly attractive for users thanks to the low prices, the high quality of the courses and services, and the close follow-up by teachers in small classes.

Technology Aspects

To reach its aim of improving education, Enova leverages the potential of technology through state-of-the-art IT infrastructure. All centers are equipped with PCs connected to the Internet, along with tablets and e-books in digital libraries. Internet speed depends on local infrastructure and is typically 20 Mbps for download and 5 Mbps for upload. This enables students to get fast access to interactive learning content on innovative support platforms, without losing time. To evaluate its impact and ensure the quality of educational content, Enova's in-house technology team developed a software platform called Mako that assesses and records students' performance on each course according to various indicators (time spent, difficulty of subject, number of mistakes, skills acquired, etc.). This allows students to follow their progression, and the IT team to continuously improve the teaching tools. Mako also helps Enova monitor administrative processes, teacher rotation, scheduling of courses, sales, scholarships, etc. To ensure data security, central platforms control all servers and a technical team monitors the hardware, operating systems, and telecommunications services. Users register safely via a unique authentication (personal user name and password) that is encrypted and stored in Lightweight Directory Access Protocol. Facilitators are trained in using Mako as a support for classes.

Overall, via technology and broadband, Enova enables the BOP population to get fast access to new services and rich educational content, which helps them acquire new skills and hence access more economic opportunities. Technology also allows Enova to constantly monitor processes and improve its services in real time.

Business Design

Operations and distribution: Enova designs, builds, and operates the centers, investing in infrastructure, connectivity, content, and training. It locates its centers strategically in the most densely populated BOP areas following an in-depth urban study that considers population density, income and education levels, public schools, commercial buildings, public transport systems, green areas, road access, etc. Whenever possible, centers are built in existing buildings, such as public schools. An RIA is typically composed of three classrooms, a multi-purpose room, a projection room, a supply store, and a waiting area. On average, it is equipped with 38 computers (36 for users and two for staff) and can serve up to 5,000 users annually within a radius of 2 km. A digital library typically features 50 computers and five tablets or e-readers, and benefits on average 1,700 students in a radius of 3 km. In each center, an attendant welcomes users and registers new members (name, age, and a self-evaluation of English and computing skills), who receive an ID member card. The facilitators (three in RIAs, two in digital libraries) typically teach two to three classes per day with 8-10 students per class, provide learning support, and collect students' feedback. At the regional level, a team of promoters invites the communities to join the centers and creates local partnerships, technical staff provides tech assistance, and supervisors control the educational and operational quality. The centers are opened every day with peak hours between 2 and 7 p.m. Each center adapts its course schedule to local demand. Users graduate from their course if they attend 80 percent of the program and take the final exam, though it is not an official diploma.

Staff recruiting and training: A key to Enova's growth is to have highly competent staff with both technical and educational skills. All the facilitators graduated in education or pedagogy. Selected applicants go through an interview with human resources, a psychometric test, a technical examination (for English teachers), an interview with the Head of Operations and with Academic Coordinators (for English and computers), and a demonstration class. Recruited facilitators then get trained by Enova to strengthen their academic knowledge and skills, and learn to teach with technology and manage the centers. Facilitators must train over 90 hours during the first year (40 hours in person in the RIA and 50 hours online) and are supported by a coach. Enova also plans to open a Virtual Training Center to provide every hired facilitator with 120 hours of training, available from any computer. The training will include 60 hours of compulsory basic training for all facilitators (in center management, teaching with technology, basic digital skills, etc.) plus 60 hours of training in teaching academic content.

Marketing and consumer education: Enova is still strengthening its marketing strategy, which is so far mainly focused on promoting the centers among neighboring schools and on leveraging word-of-mouth between children and parents (the vast majority of users became aware of the centers through word-of-mouth). Interested persons can call a phone number or access the RIA website to get information on the closest center in their neighborhood. The centers are supported by a call center that provides customer assistance and outreach.

Business model: The project is funded by various sponsors from the public and private sectors and civil society. In 2012, 85 percent of total revenues came from government, 5 percent from private companies or NGOs, and 10 percent from users. Among public sponsors, CONACYT pays for the design and construction of the education centers, while state agencies (COMECYT and IMC) fund center operations. NGOs and private sponsors include Dell Mexico, Televisa, Financiera Independencia, Adobe, Microsoft Mexico, and Impulsora de las Culturas y de las Artes, among others. Enova also receives in-kind donations from Librerias Gandhi, Cengage Learning Editores, Dell Mexico, Microsoft Mexico, Google, and E-Source Capital. Regarding user fees, centers operate under a pay-as-you-go model: users pay every week in cash for the courses they attend. There is no strict payment policy, as amounts are small. As centers are located in BOP areas, grants are provided to every user without any selection criteria. This drives the user payment down to 30 percent of the average course price.

Policies and regulations: Political support is a key determinant of Enova's growth, given the large share of government funding in its revenues. Enova has a renewable yearly contract with the government, although the risk of ending public funding is low: digital libraries are part of the state's development plan and the company´s projects have consistently presented positive results. Besides, any public program seeking to implement more IT in schools (such as the "One Laptop Per Child" program that is currently in a pilot phase in Mexico) represents an opportunity for Enova, as it increases demand in computer training for adults.

Other ecosystem aspects: According to the OECD, the telecommunications network in Mexico is very costly for a low quality of services. As there is currently only one technology provider for connectivity, more competition would allow for decreasing connectivity costs (which account for 3.78 percent of total annual costs for Enova) and slightly improve the profit margin.

Evaluation Framework

Is the project solving the problem?

Problem Magnitude

Mexico suffers from very low levels of digital inclusion and elementary education: 69 percent of the population (i.e., 86 million people) do not have access to a computer or the Internet at home (this proportion runs as high as 80 percent in the neighborhoods where Enova operates), according to the OECD. Due to insufficient competition, broadband penetration is very low at 10.6 percent for fixed broadband subscriptions and 4.6 percent for mobile broadband subscriptions (Broadband Commission, 2012), and consumer prices are high at US$1.69 per Mbps versus US$0.51 on average among OECD countries. When it comes to education, 75 percent of Mexican students who start elementary school do not graduate.[15] The level of literacy is critical in the State of Mexico, which is ranked 25 out of 32 states in the country in terms of elementary education.

Solution Provided

Tool quality: Centers are easily accessible in BOP neighborhoods, highly equipped with modern IT infrastructure, and offer personalized support to ensure proper use.

Service quality and comprehensiveness: Wide range of courses from basic education to technology and personal and professional development.

Scale and Reach

Total number of service delivery points: 95 centers (70 RIAs and 25 digital libraries) in 50 municipalities in the State of Mexico, with a total of 259 classrooms, 3,716 computers, and 150 tablets. Twenty-five new digital libraries and six new RIAs are planned for 2014. In addition, 30 new centers are under discussion in other states for 2015 (the national expansion plan aims to build 115 additional centers by 2015).

Total number of users: 478,500 users and over 140,000 graduates since 2009. In 2013, ~12,500 active users per month on average (who come for any service or Internet access) and 8,700 active students per month (who come to attend courses). An average of 8,400 new subscribers per month in 2013.

Rate of penetration in target communities: 4.44 percent

Growth rate over the past three years: Compound annual growth rate of 31 percent in users (2010-2013) and 65 percent in revenues (2009-2012)

Acceptance and Usage

Acceptability: Interactive and rich content, in-depth training, and in-person support facilitate the use of technology,

Usability: Retention rate for all courses during 2013 was 68 percent (higher for computer classes, lower for children, mainly due to parents' inability to take them to the centers regularly).[16] On average, a user comes regularly to the center during seven weeks. The graduation rate is 67 percent.

Socio-economic Impact

Social outcomes: For children: improved education levels (improvement by 7 percent in math and 6 percent in Spanish in national score examinations for 4th grade children after the 12-week Expedición RIA program).[17] For adults: new or better skills in personal and professional development, higher level of self-esteem and motivation, reinforcement of community spirit through digital interactions (e.g., e-mails and videogames), and cheaper access to entertainment (e.g., movie projections).

Economic impact: Increased likelihood of obtaining jobs (RIA helped about 9,000 people find a job and it multiplies employment chances by close to four times over for women) and higher potential revenues due to a higher level of skills: average increase of US$60 in annual lifetime earning potential by attending RIA and of US$300 for children with one parent also involved with the RIA. Overall, every US$1 invested in RIA by the Fundación Proacceso generates US$1.74 in economic growth.[18]

Gains in efficiency due to technology: Wider and easier access to information and communication, time saving in job search, and higher quality of educative content.

Environmental impact: Centers are built with sustainable materials: panels are made with oriented strand board (compressed wood from construction waste) and chairs from recycled plastic. Most centers are renovations of preexisting buildings used to reduce waste and construction time. Architecture is modular, allowing for easy reconfiguration without wasting materials. Centers use energy-saver light bulbs, solar panels and separate recyclable waste.

Other impacts: In 2013 Enova was certified as a B Corporation for meeting rigorous standards of social and environmental performance, accountability, and transparency. The Global Impact Investing Rating System rated Enova in 2013 with an above average performance of 3/5 in terms of impact on governance, community, and workers. Great Place to Work ranked Enova among the 50 best companies to work for in Mexico.

15 According to a study by Mexicanos Primero entitled *Contra la Pared 2009*.

16 The retention rate is computed as the number of people who come to classes for more than one week out of the total number of registered users.

17 According to an external impact evaluation conducted by the IDEO Foundation in 2012.

18 According to an independent study, the Social Return on Investment (SROI) Evaluation conducted by a working group from the University of Pennsylvania between May 2009 and May 2011.

Economically sustainable?

Enova's business and financial model are supported by funding from government and sponsoring agencies. It generated US$16.5 million in revenue in 2013. At the BOP level, services are affordable thanks to public subsidies on course prices. The facilitator job is attractive, with a competitive wage.

At the BOP end-user level:

Initial cost: No subscription fee. Enova allows for a gratuity service of five Internet hours.

Direct cost of services: US$1 to US$15 per month according to the course and level.

Additional indirect cost: English classes for youth and adults may require buying books (US$17 compulsory for 1st level, US$26 facultative for levels 2-5), though they may be borrowed within the RIA.

Average household income for target beneficiaries: US$290 per month.

Cost of best alternatives: Typically three times more expensive than Enova services.

Ability to reach the poorest: 100 percent of users are from the BOP and receive grants to afford the service.

At the facilitator level:

Monthly revenues: Between US$415 and US$646, plus bonuses based on punctuality (3 percent of monthly salary), attendance (3 percent), and productivity (equivalent to 1-4 monthly wages, according to performance), along with vouchers (US$63 per month) and saving funds (5 percent of monthly wage).

Why it is attractive for them: Salary is competitive (average increase in annual salary for employees in comparison to previous jobs is US$685)[19] and centers are typically close to the facilitator's home.

Loyalty/churn: Attrition rate is 35 percent annually. Human resources are considering additional benefits to reduce it.

19 According to the SROI evaluation (see previous footnote).

Scale and BOP Reach

Enova has 478,500 users in 95 centers across the state of Mexico. All are from the BOP and most are computer illiterate.

Sustainability

Enova has covered most of its costs since inception thanks to funding from government and sponsoring agencies. It generated $16.5 million in revenues in 2013. At the BOP level, services are affordable thanks to public subsidies on course prices. The facilitator job is attractive, with a competitive wage.

Replicability

Replication requires strong support and funding capacity from the government over the long term, as well as the availability of affordable broadband or the ability to cover high connectivity costs.

At the government level:

Initial cost: About US$385,000 invested per new RIA, and US$770,000 per new digital library (typically bigger than RIAs).

Direct cost of services: Operational costs per center are on average US$7,700 per month (including local rent, electricity, security, salaries, supplies).

Avoided costs from this service: Program chosen for its cost efficiency compared to other programs of digital inclusion.

At the central organization level:

Total number of people employed: 601 employees: 166 by Enova and 435 by the Fundación Proacceso in operations (including 71 center attendants, 70 academic advisors, and 219 facilitators).

Revenues: US$16.5 million in revenue in 2013, US$21.9 million in revenue expected in 2014.

Cost recovery level: Break-even level reached one year after construction is completed. Renewable yearly government contract that covers most of the project costs.

Total investment required: Creating 70 RIAs and 25 digital libraries has required an investment of US$33 million since 2009, while operating each center costs an average of US$11,153 per month.

Scalable?

What have been the key challenges and success factors to date for the project?

Introducing a new offering and conveying the value proposition: As Enova services and the subsidized model were new in BOP areas, the company had to overcome trust issues. It communicated carefully to explain how IT skills could help its potential users improve their future prospects, and why its services were so cheap. Enova tailored its offerings to various audiences to satisfy the needs of a large share of the population (including housewives and children), and early adopters helped spread the word and build trust in the community.

Gathering a young and talented team to be connected to the users: The Enova team's average age is 28, which allows them to connect well with young users and brings a fresh perspective to their needs.

Attracting housewives and children to the centers: Women were especially difficult to reach as they are the furthest from technology, they feel intimidated, and bringing their children to the centers requires a considerable time commitment (transportation, waiting for the children during their courses, etc.). Enova succeeded in convincing many housewives to sign up and bring their children (56 percent of RIA users are women).

What are key challenges today to scale further?

Standardizing for scale while customizing the value proposition to be attractive to enough users: Cultural differences are large in Mexico, especially between the North (close to the United States, with higher expectations about technology) and the South (more rural). As Enova is standardizing its model for national expansion, it has to remain sensitive to local preferences to offer the best value proposition to each profile (e.g., teaching more complex technological skills in urban areas where demand in IT jobs is higher).

Getting high-quality technology with limited resources: In order to lower its costs while leveraging modern IT infrastructure, Enova uses open-source technology to develop its own software. However it will require more resources to develop further and provide high-quality services on a large scale.

Replicable at scale?

What are external prerequisites for the project to be replicated in a new country?

Support and funding from the government: Enova would not have been able to build its model at affordable prices without support from the Mexican government. Its model requires a government receptive to collaboration with the private sector and with the willingness and the financial capacity to invest in the project in the long run.

Availability of affordable broadband or ability to cover high connectivity costs: Enova works in a difficult broadband context with low speed and high costs (it often has to pay the provider for last-mile infrastructure or use expensive satellite technology), and requires strong funding support to be able to pay for it.

Additional Information

Exchange rate used for this case study:

1 USD = 13 MXN

Sources:

Enova website: http://enova.mx.

Interviews with Moís Cherem (General Director) and Dana Marquardt, (Business Development Manager), on 19/01/2014 and 29/01/2014.

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Moís Cherem Arana

Partner and CEO

Moís Cherem Arana is Founding Partner and CEO of Enova and has received several prestigious awards for his work. He was selected as an Endeavor Entrepreneur and as one of the top 10 entrepreneurs in Mexico by the Mexican magazine Expansion, and he joined the World Economic Forum's community of Global Shapers. He was also awarded the title of Social Entrepreneur of the Year by the Schwab Foundation at the World Economic Forum on Latin America in 2012 and 2013. Moís studied law at the Instituto Tecnologico Autonomo de Mexico and earned a Master's in Public Policy from the Harvard Kennedy School.

What are your next steps and future plans?

We plan to expand first within the State of Mexico, by implementing 25 new digital libraries and six new RIAs in 2014. The next step will be to expand nationally: we are already discussing the building of 32 new centers. In total, we plan to open 85 centers within the country by 2015. In the long term, we aim to build 590 new centers and impact 3.5 million people by 2018.

What recommendations would you give to an entrepreneur willing to replicate your model in Latin America?

First, you need to build a model that answers local needs. Our model could work in most Latin American countries in communities that are aware of needing better education and new skills. Once you focus on local needs, then it is all a matter of implementation. You need to build trust among your customers and partners by implementing your model well. In our case, building trust in our relationship with the government was key and we did it by always achieving what we promised and many times over-delivering. You also need to recruit the best potential talent to manage the initiative. Many of our workers are women with a college education. We look for people who do not necessarily have IT skills (which are easy to teach) but rather a strong social vocation and great human skills.

What recommendations would you give to a Latin American policymaker who wants to encourage replication of your model?

For governments, partnering with private sector and civil society players is crucial, because they cannot do everything alone. Most IT education initiatives led by governments alone have failed. Policymakers have to set clear goals, responsibility, and accountability mechanisms with their private sector partners, but also give them breathing space on processes and flexibility to innovate. For instance, Enova has total control on school location, curriculum content and how it organizes teachers' training.

Policymakers also need to be aware that although the broadband markets will increase their penetration quickly, the population in the bottom half of the income distribution will find it difficult to pay for Internet services. Therefore, alternative mechanisms such as the RIA can make digital inclusion feasible for those who would otherwise be left out of the information society. Secondly, satellite connections are often the only ones available in rural areas. They are very expensive (over $700 monthly) and the quality is very poor (less than 1 Mb per school). Therefore, carriers need to be pushed to comply with their legal obligations to foster social connectivity through other technologies. Finally, as the technology companies are increasing the use of video and are relying more on cloud services, decent broadband connections are becoming even more essential for the learning process.

What support would you request from a public or private donor?

It is necessary that high-net-worth individuals realize that they need to get more involved in filling the economic gap and solving social conflicts in Latin American countries. Then, depending on their position in society they can play different roles. Private companies could help and have helped our model by giving free licenses: it is a win-win partnership as they make new users experience their products with no marginal costs. Involving high-ranking employees from large corporations to support our projects would also be very useful: we and our users have a lot to learn from their experience, while these employees usually like to feel involved in solving social issues through their skills. In our case, working with Endeavor fellows helped us a lot to redefine our strategies and goals. I encourage everyone to be very ambitious, as we need to take bold initiatives to address the digital divide and live in a Latin America that is more connected and equal.