CROSS-CUTTING INCLUSIVE INNOVATIONS

Scaling and Replicating Inclusive Business Model Innovations

How inclusive businesses are scaling and replicating, and how they can be supported in these efforts

HIGHLIGHTS

- Enterprises that deliver services to low-income consumers find it challenging to scale and replicate their business models.
- Standardization, ICT, government support and hybrid financing partners are key levers for growth.
- Adopters, or second-generation businesses, provide another means of expanding impact to new areas, and often reproduce an existing model without the active involvement of the originator.

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Introduction

This paper explores why scaling and replication is important for enterprises delivering goods and services in low-income markets and how selected enterprises scale and replicate. Its main objective is to provide insight on how scaling and replication can be supported.

This paper is based on the experience of over 300 enterprises delivering goods and services in low-income markets. To synthesize findings, these enterprises were classified into 27 stylized inclusive business model innovations (BMI) across five sectors -- Education, Energy, Finance, Healthcare, and Water and Sanitation (WASH), and are presented in separate papers. Each BMI represents several enterprises addressing a development challenge in a similar way, e.g. decentralized water treatment, low cost schooling, specialized clinics, etc. Individual BMIs were analyzed to identify patterns in the way these enterprises scale and replicate. A set of enterprises from each of the business model innovations were also interviewed to gain a deeper understanding of their operations in low-income markets[1].

The note is divided into three sections. The first section explains the why it is important to drive scaling and replicating of BMIs. The second section provides an analysis of the status of scaling and replication in the five focus sectors of this research effort. The last section of the paper provides recommendations on how to support scaling and replication of BMIs.

Why scaling and replicating BMIs is important

BMIs represent models that have already reached a certain scale or have replicated in different geographical contexts. Following a review of over 3,500 enterprises, 27 clusters of BMIs (see annex for the full list of BMIs) were identified. Each business model is based on about 10 examples of different enterprises that deliver goods and services to the poor and/or create income opportunities in similar

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ways. The fact that so many similar models exist within a BMI shows that there is a group of early movers testing and tweaking the model, and, in some cases, provides evidence of replication activity.

The BMIs show that enterprises have found market-based solutions to tackle social, economic and environmental challenges sustainably. They provide new goods and services that would otherwise not be accessible or affordable to low-income groups. For example, Aravind Eye Care Hospitals is preventing needless blindness. It conducts 378,000 eye cataract surgeries per year with over 50 percent of patients in the low-income bracket. Furthermore, Enterprises support job creation or enhance the chances of employment. For example, 97 per cent of education enterprise Digital Divide Data alumni are in full-time employment and earning 3-4 times the regional average. Yet more models help increase productivity and the efficient use of resources. For example, Claro has brought over 3,160 acres of land under irrigation through the installation of over 1,200 pumps that reach 17,000 people across 12 states in India, and reduced almost 511 tons of carbon dioxide every year. While many models have achieved impressive results, the scale of their impact has been limited given the size of the challenges they are tackling. Enabling more Enterprises to take on successful BMIs can be an effective strategy to tackling development challenges. Replication can become a key tool for policymakers to sustainably multiply positive social, economic and environmental impact.

Replication may stir competition, further improving the offer for the end-consumer as well as improve the reach of solutions. The emergence of several variations of a business model, for example, may trigger learning between competitors or increase choice for low-income consumers and help spread pro-poor solutions widely.

Understanding the impact of models and building a stronger evidence base is crucial to successful replication. While many BMIs appear to be creating positive results for underserved populations, much of the evidence remains anecdotal or self-reported. The first step to using models as a tool for change must be to understand which models are effective and where their limitations lie.[2]

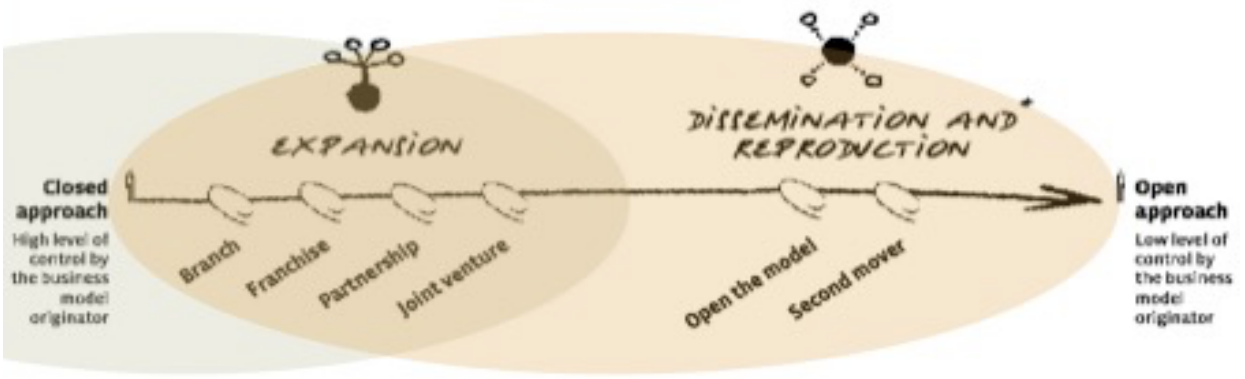
How does scaling and replicating of BMIs work?

Scaling up a business means increasing the size (e.g. in terms of revenue or sales volume). Replication refers to the action of reproducing or copying a business model or parts of it in another location. Therefore these are overlapping but distinct terms. A business that creates various new branch offices, for example, is increasing in size, and is thus scaling up, but is also reproducing its model in different locations, and is thus replicating (see Figure 1 below). Generally actors in the social sector tend to use "replication" and "scale" interchangeably while business actors often simply speak of "growth".

For this paper, the full definitions of scale and replication used:

- **Scaling up** refers to an increase in size of an inclusive business model, in terms of people served, revenues generated, or the expansion of key targets related to the model's social and environmental impact.
- **Replication** refers to the action of copying or reproducing all or portions of an inclusive business model. Replication does not mean creating an exact copy of the business. Rather, the aim is to replicate the business model or key components of it while adapting to the new target market and environment. Replication can be driven by the original organization, alone or with partners, or can be managed by a completely separate entity.

Figure 1. Methods of Scaling-Up



Source: Endeva

We identified six approaches that enterprises can use to replicate and scale. These can be placed on a continuum that moves from the most closed approaches that offer an originator model and a high degree of control to the most open which offer little to no control in exchange for greater speed of replication. See figure above.

Enterprises expand by replicating the model on their own (through a branch strategy) - or by collaborating with others (through a franchise, joint venture or partnership strategy). Enterprises tend to choose a replication strategy that fits the mission and vision of their business. Entrepreneurs primarily aiming to increase their own company profits tend to favour a more closed approach to replication. The high level of control retained by such approaches allows the originator to protect its intellectual property and brand. Others chose a closed approach to maintain a high level of quality.

Highly mission-driven entrepreneurs set out to disseminate their model, enabling other entrepreneurs to adopt it. They often do so realizing that they can reach only a fraction of the world's poor through their own business activities. Opening a business model to others for replication can be accomplished in different ways and with differing degrees of involvement by the originator. For example, businesses can simply document their model, best practices and lessons learned, and make this information available to others. Alternatively, they can provide hands-on learning opportunities, for example by allowing interested organizations to visit their business sites or setting up learning centres to teach entrepreneurs more on their model.

However, expanding and disseminating are not mutually exclusive paths to replication. In fact, businesses can do both, either simultaneously or sequentially. Businesses often choose to expand within their own territories, where they already understand the needs of consumers and can best ensure the maintenance of quality, while opting to provide information on their model to those that are experts in other markets.

Adopters, or second-generation businesses, often also reproduce an existing model without the active involvement of the originator. Such businesses are often colloquially referred to as "copycats". They adapt and apply the essence of the original model to their own specific context and circumstances. Sometimes, the copied version of a model can outperform its originator.

Mostly, however, successful models don't have a single originator. Rather, they begin with a group of early movers that adapt and test a model. From this group of early movers, one business may emerge with the most widely known and successful form of a particular business model.

Case Study: Aravind Eye Care Hospitals, India

Worldwide, 37 million people are affected by blindness; 80 percent of these cases could be either prevented or treated. Cataract, a disease globally on the rise, is one of the major causes of blindness. In India alone, 3.8 million people go blind because of cataracts each year. Yet most cases of cataracts are operable, which means that blindness could be avoided if patients were given access to surgery. This is where Aravind Eye Care Hospitals' mission comes in.

Founded in 1976 by Dr. Venkataswamy, the hospital aims to eliminate blindness by providing high-quality eye care to both the rich and the poor. From a modest beginning in Madurai with only 11 beds and four medical staff members, Aravind Eye Hospitals has now **expanded its operations** across the state of Tamil Nadu in India, operating **branches** of its eye hospital in nine locations. Aravind's hospitals handle over 3.1 million outpatient visits and perform over 370,000 surgeries per year with over 50 percent of the patients paying nothing or very little for the services.

Besides establishing multiple wholly owned branches, Aravind also engages in **joint ventures** and **partnerships**, for example in Nigeria and Bangladesh. These models put strong emphasis on local ownership. The company also **actively disseminates** its approach so as to facilitate effective adaptation of its model in other countries. To this end, it created the Lions Aravind Institute of Community Ophthalmology (LAICO) training institute, which has supported replication of the Aravind model in over 300 eye hospitals in 30 countries.

Interestingly, some of the hospitals trained by Aravind have already become disseminators of the approach in their own region. For example, the Visualiza hospital in Guatemala has disseminated the model in Haiti and Peru. The Lumbini Eye Institute in Nepal is mentoring hospitals in Nepal and Cambodia.

Source: Endeva (2014): "Multiplying Impact: Supporting the Replication of Inclusive Business Models"; Interview with Thulasiraj Ravilla, Aravind Eye Care System.

Status of scale and replication in different sectors

Standardization, information communication technology (ICT), government support and hybrid financing partners are key levers for growth. Financial viability without external support is not necessarily a pre-requisite for scale. We identified hybrid models that operate at scale and have not yet reached financial viability and still rely on various sources of support such as governments and donors. Some models see hybrid status as a transitory phase and financial viability as an attainable objective they expect to reach. Others see their hybrid status as part of their business model. In these cases, the full cost of a product or service cannot be passed on to Base of the Pyramid (BoP) customers and subsidizing the cost becomes an efficient way to sustainably reach such clients. Both approaches are valid strategies and understanding when to use which financial viability approach is important for successfully promoting replication.

Most Enterprises have replicated through expansion, either replicating on their own (e.g. by creating branches/subsidiaries) or by collaborating with others (through franchises, joint venture or partnership strategy). Partnerships and the creation of branches or subsidiaries are the most popular approaches to replicating. Franchising is becoming increasingly popular; this model often encourages entrepreneurship, ownership and job creation. Very few companies actively disseminate their model, encouraging second movers to pick it up.

The identified BMIs show that there is significant replication in each sector—with each BMI being based on at least 10 examples with very similar models. For these models, one can rarely identify a single originator; rather, a group of early movers usually pilot and adapts the model. Nevertheless, there is little evidence of systematic learning within a BMI cluster, i.e., between enterprises in a cluster.

The sector sections below provide an aggregated view of each sector on

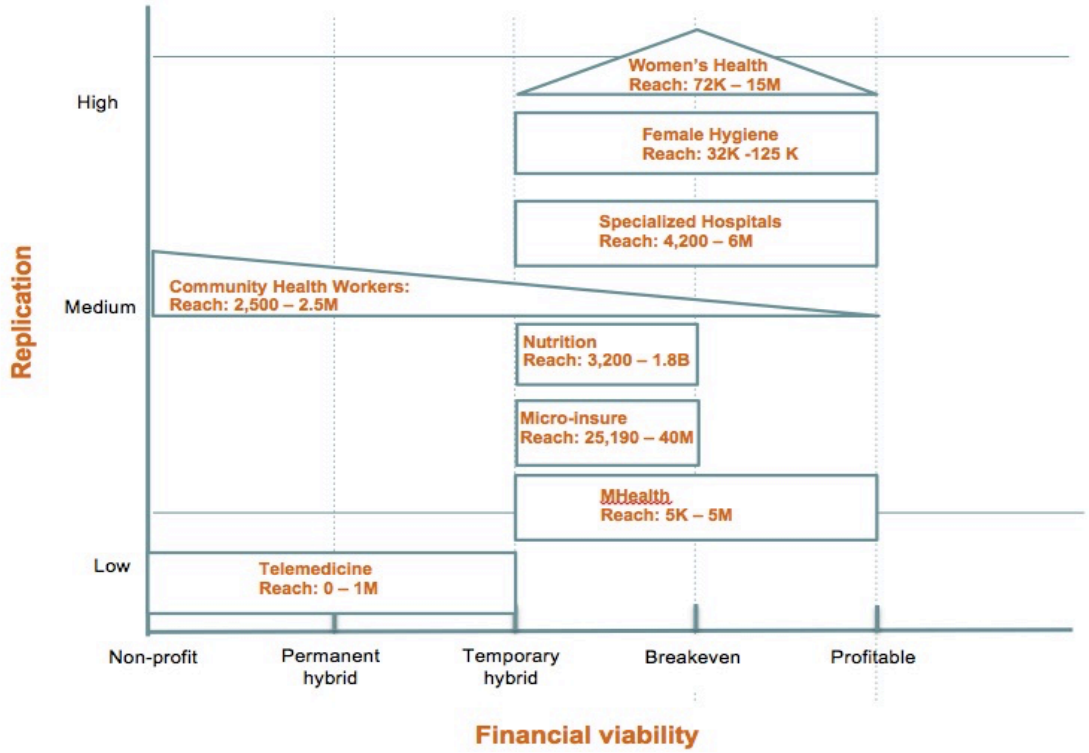
- The reach business models have achieved
- The replication approaches chosen
- The financial viability of each model

It is important to note that the analysis below is only based on a limited number of models that were pre-selected, with one selection criteria being the scale achieved.

Health sector

Most business model innovations in the health sector are replicating within or even across countries. Standardizing models for social franchising has been a key lever for replication. Reach—particularly in rural areas—is often achieved by involving and training local entrepreneurs. Models are often seed funded by donors or incubated by NGOs, but have the potential to become financially viable once they reach a significant scale.

Figure 2. Replication and financial viability in the health sector



Note on graph: Reach refers to the range of the specific models studied. The replication rank is based on how much replication activity has taken place within a model, the speed of replication and the growth potential. Within each of the 3 rankings of low, medium and high, there is no further ranking e.g. learning centers are not higher in replication than teacher quality. Different shapes offer an indication of which financial viability level a particular model a particular model is most commonly operating at.

Most models are scaling up and expanding, also to other countries. For example, Greenstar in Pakistan has developed a network of over 7,000 clinics providing reproductive health services to thousands of women. Living Goods' network of female entrepreneurs in Uganda is reaching one million patients and expanding its operations to Kenya. Jayaashree Industries (JI) has enabled seven million women in 17 countries to access sanitary pads.

Standardization and focus are amongst the key levers for expansion. For example, most of the clinic networks focus on a particular therapeutic area—such as family planning, reproductive health or eye care. This focus facilitates the training of health care professionals and leverages economies of scale. Some companies also standardize via a "business in a box" model, which they provide to franchises/entrepreneurs (e.g., Living Goods) or partner companies (e.g., Jayaashree Industries).

Reach into rural areas is often achieved by involving and training people from local communities as health entrepreneurs (e.g., Living Goods, L V Prasad Eye Institute (LVPEI)).

ICT solutions support scaling and replication—but have yet to live up to their expectation.
Increasing access to mobile communication – even in the most remote areas – provides the potential to reach millions with suitable mHealth services targeted at patients or health workers. However, only a few mHealth solutions have reached significant scale. Rather, mHealth and telemedicine solutions are often used as "plug-and-play" features to enhance or help standardize an existing business model – and hence improve its reach. For example, some specialized clinics make use of telemedicine to increase their reach (e.g., Narayana, salaUno), or employ social media to attract new or retain existing patients (e.g., salaUno). ICT solutions can also help with standardization. For example, salaUno applies socially licensed software to improve internal data management. Computerized treatment protocols improve the quality of service provided by community health workers, also allowing them to reach more patients in less time and feeding data back into the health system. And services such as M-PESA facilitate payment for health services or to health entrepreneurs (e.g., in the case of Comprehensive Community Based Rehabilitation in Tanzania (CCBRT) Disability Hopsital).

Most models use social franchising or branch approaches to expand; some have replicated to other countries through a partnerships or dissemination approach.
Specialized clinics are usually set up as networks of branches or franchises. For example, Sorridents offers dental services through its franchised network of 180 affiliated clinics in Brazil, Greenstar provides reproductive health services through its over 7,000 clinics in Pakistan. Business models that work with community health workers to provide their services are also often set up as franchises (e.g., Living Goods).

Partnership models are applied for expansion in other countries. For example, Technology for Tomorrow (T4T) exports to Sierra Leone via a partnership with One Girl. Ruby Cup expands its reach to other countries by partnering with NGO networks across Africa to distribute their product, and Living Goods partnered with BRAC to tap their networks. Besides running its own clinics, RG Stone Urology & Laparoscopy Hospital scales by partnering with urologists in joint ventures or setting up and operating urology departments in other large private hospitals.

Aravind as well as Jayaashree Industries (JI) actively disseminate their business models. Aravind has trained over 300 hospitals through LAICO; JI has exported over 250 sanitary pad production machines to

17 countries, supporting replicators via email and video tutorials and also welcomes them in India to study the model.

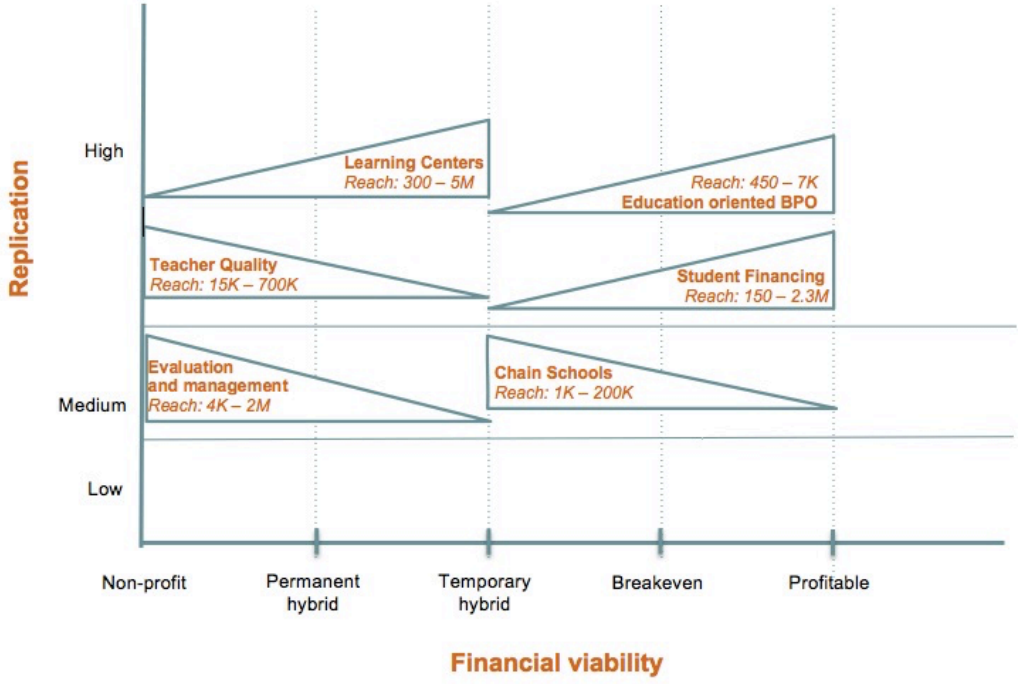
The scale a model has achieved also has an influence on its financial sustainability. Many models are profitable at the level of the franchisee or branch (i.e., the clinic or the health entrepreneur), but only reach financial sustainability at the franchisor level once significant scale has been achieved. The same is true for models producing and selling sanitary pads or specially formulated food for infants. While most enterprises generate significant revenues, they are only expected to become profitable with higher sales volumes. Nevertheless, some models—particularly those incubated or backed up by NGOs—may not be explicitly profit oriented.

Many of the financially viable models have received funding from international donors. Another lever is the integration of the solution into the health system. For example, Living Goods receives donor support to cover its operational costs. The clinics Merrygold and Tunza were set up by NGOs as social franchises. They are profitable or break even at the franchisee level. However, it is often not clear if the franchisor is a non-profit by design or due to a lacking business case. Mhealth models have high capital costs at the beginning—but the potential to leverage economies of scale is great. However, many models are still working on their business case.

Education sector

The replication of education business model innovations is at a nascent stage, with several fast growing models. ICT and standardization have been key levers that are paving the way for rapid expansion and growth. Despite attracting investment (USD 3 billion) as well as government and donor funding, financial sustainability remains one of the key challenges.

Figure 3. Replication and financial viability in the education sector



There is a medium level scale but high potential for growth in this sector. Given the rapid growth of emerging models such as low cost chain schools, the potential for reach is high. However, the majority

of models studied tend to reach around 100,000-350,000 students on average. The vast majority of models are in scaling up and expanding phases, while several second movers are in the start up phase. Relatively few models have replicated across national borders. Some exceptions include Kenya's Bridge IT, which has expanded to 10 countries globally, and LINK, which has gone into 5 countries in Africa. Replication in multiple countries is hindered by different regulations and curriculums in each country but it has not prevented second movers from copying and adapting a model in a new country. For example, ITA has copied the Gray Matters model of school evaluations in Pakistan. In a number of cases low standards in public schools have increased parents' willingness to seek affordable alternatives in the private sector.

ICT and standardization are key levers for rapid growth and scale. ICT solutions are a potent catalyst for educational development particularly when integrated in a holistic manner. Combining the standardization of processes and lessons with ICT can reduce the cost of education, thereby attracting more clients through improved affordability. Scripted lessons on tablets for example, as used by Bridge Academies, can facilitate the delivery of quality classes[3] by young graduates with limited teaching experience, significantly reducing staff costs.

Most models are expansion and partnership models with an increasing number of second movers. Many of the fast expanding models are vertically integrated 'build and operate' branch models that rely heavily on standardization and the use of ICT to maintain consistent standards of instruction and monitor performance. Examples include Omega, Bridge Academies, Citizens' Foundation and Enova. There are very few examples of franchising. Hippocampus a chain of pre-school learning centers tried to use a micro-franchising model to get local women to take on ownership of the centers. However this was eventually abandoned as most women preferred to be employees and have a stable salary. Instead Hippocampus is now franchising its model to other private schools. Most partnerships are with government agencies at different levels, particularly those models that aim to improve teacher quality, such as Bridge IT. Models like education oriented Business Process Outsourcing (BPO) and chain schools have seen an increasing number of second movers.

Many models hover between breakeven and non-profit on the financial viability scale. Exceptions are models in student financing and education oriented BPO models that tend to be more profitable. Several models report that they have reached breakeven operationally (Omega, Hippo, Enova) and that some have transitioned to become self-sustaining operationally (DAM, BRAC, CDI learning centers).

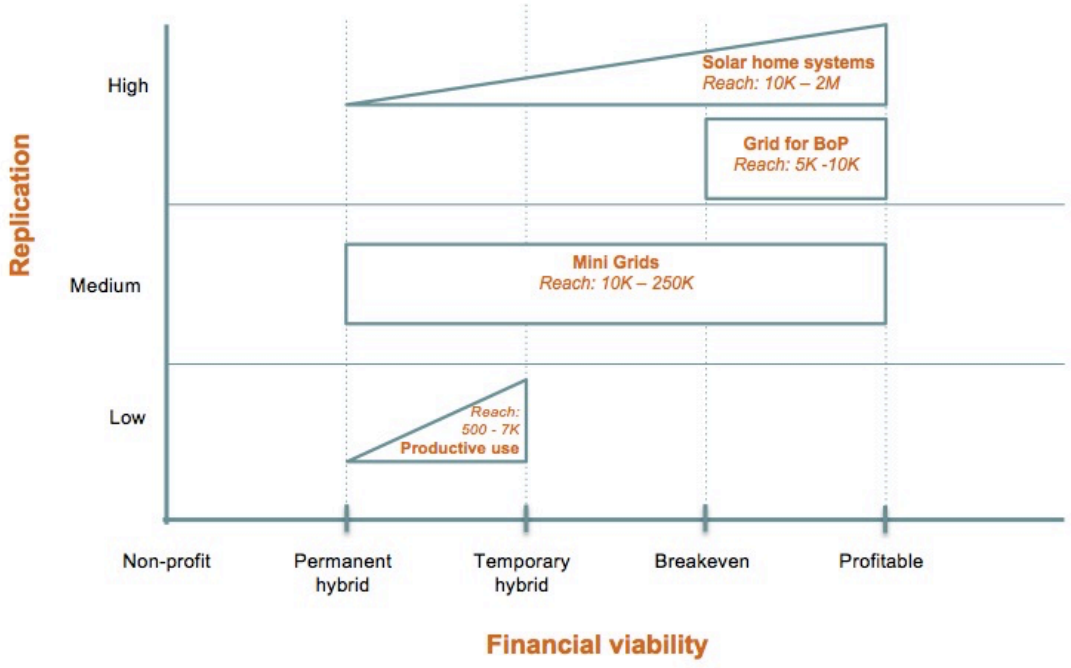
A major challenge for models is the low purchasing power of many BoP clients. Investing in education even when at a low cost requires ongoing payments over many years. While this investment can pay off with higher earnings in the long run, in the short run it can even negatively reduce household earnings. Government subsidies and donor support have played a critical role in increasing the affordability of education to BoP clients and thus spurring the expansion of certain models e.g., Gyan Shala and LEAP. It follows that the models that are profitable and rely less on external funding are focused on higher education and include an opportunity to earn an income during the learning process.

Energy sector

The energy sector is at a mature stage of replication with many models expanding in multiple countries and a large number of second movers in existence. The productive use BMI is the single exception. It is at an early stage with most models in piloting or rollout phases. This sector has a solid evidence base on impact however financial viability is a problem for certain models. Appropriate financing for businesses

particularly working capital to pre-finance products is more important for scale, as this sector is more dependent on import materials than others.

Figure 4. Replication and financial viability in the energy sector



Reach varies greatly amongst models, with solar lamps and solar home systems reaching the most BoP clients. Grameen Shakti, for example has reached more than eight million people. Grid connection for BoP clients tends to reach between 10,000 to 400,000 clients while models for productive use models have only reached several thousand.

Ensuring affordability has been key to successful replication and scale. Partnerships with various financing institutes, governments and donors to either cover high set up costs or provide financing to consumers has been vital to the success of some business models. Access to after-sales services has also been pivotal for expansion, extending the lifetime of products and increasing clients' value for money. For models that provide after-sales services this has been more cost effective in densely populated areas.

Models have replicated using all the approaches with expansion and partnerships being the most popular. The solar lamp model is the most replicated model and the easiest to operate. Consequently there are a significant number of second movers. Many solar home systems have replicated through expansion and are operating in multiple countries. Grid connection has some replication, which is almost always done through expansion, while mini grids tend to replicate through both expanding on their own or in partnership.

The business model innovations studied covered the entire financial viability spectrum as shown above. Extending grid connection to BoP clients such as slum dwellers is often a CSR effort of profitable utility companies. In other cases adding BoP clients has been profitable due to grid use intensification and or the conversion of non-paying consumers into paying customers. While some solar home system models are profitable many are hybrid models temporarily relying on donor funding or government

subsidies as the transition to break even and eventual profitability. Mini grid models are the most difficult models regarding financial viability due to high capital expenditure requirements. Models analyzed covered the entire financial viability spectrum and the model implemented by a range of actors. Companies tend to operate the model on a profitable or partially subsidized basis, while community driven models tend to be partially or fully subsidized. Productive use models are at an early stage and not yet financially viable. Models are often hybrid, partnerships with banks, MFIs, donors who help to make the end product more affordable for the end user. Most of the businesses analyzed are highly dependent on subsidies, with 30-90 percent of the product costs being subsidized.

Productive use models are at an early stage and not yet financially viable. Models are often hybrid, partnerships with banks, MFIs, donors who help to make the end product more affordable for the end user.

There are limits to scalability given that this sector is more dependent on import materials than others. Often products are bought in one currency, but consumers paying for them over a period of time in a different currency. The interest rate and inflation pushes up the price for end consumers. This is particularly the case in countries vulnerable to exchange rate volatility, and inflation.

Finance sector

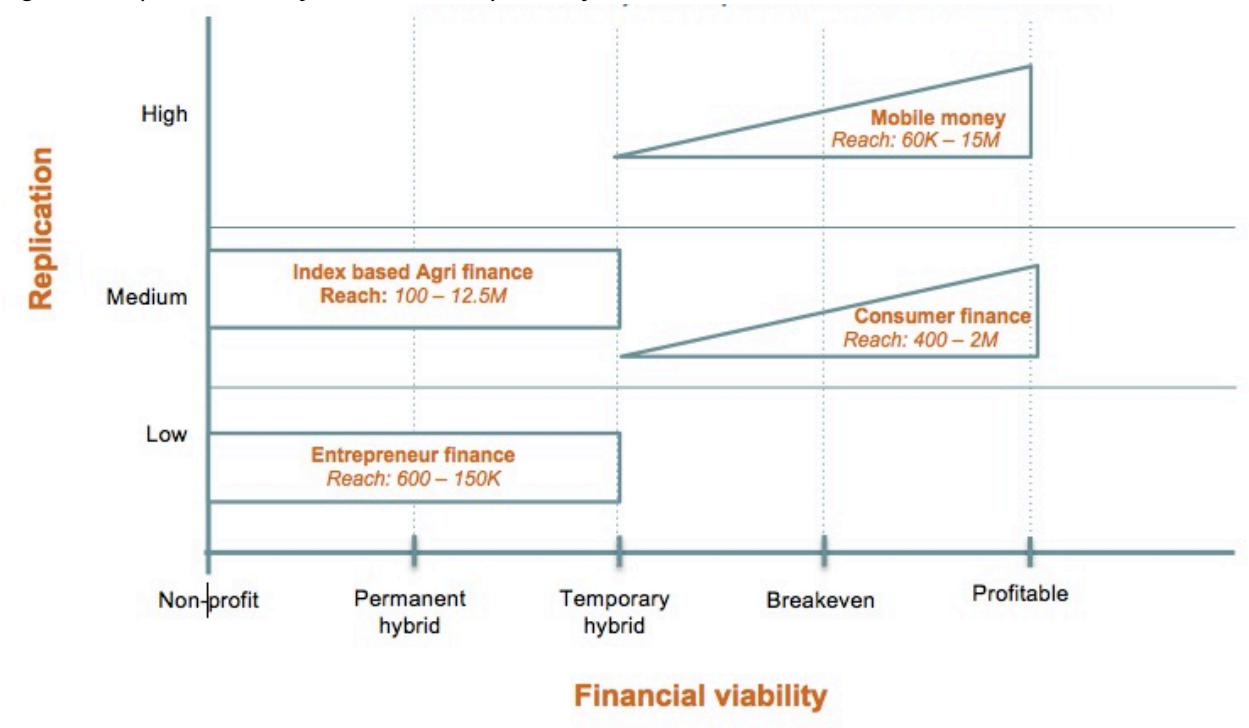
There is significant replication activity in the finance sector, although this tends to be concentrated around a few models, namely mobile money, consumer financing particularly in the housing sector and index based agricultural insurance. One other highly replicated model is microfinance however this was not one of the models covered in this study. Most models that are successful stand out either as being profitable or receiving significant government subsidies. A key driver for the successful models was that products met demands at a satisfactory price point; this often was facilitated by the use of ICT and or subsidies.

Mobile money is the most widely replicated model while within agriculture insurance and consumer financing a few specific models have managed to reach significant scale. Mobile money models have significantly scaled to reach high numbers, for example 15 million M-Pesa clients, 14 million BEAM clients and 6 million clients Wizzit. The rate of replication of this model across continents has been remarkable. “At the end of 2013, there were already more registered mobile money accounts than banks accounts in 10 African countries. While most index based agriculture insurance models tend to reach only several thousand clients, those that receive government support such as NIAS and AIC in India and Cadena in Mexico, were able to reach millions with government subsidizing up to 90 percent of premiums. Within consumer financing there are only a few examples of high reach including Cemex and Echale a tu Casa with one and two million clients respectively. Financing for entrepreneurs that are part of the distribution chain of inclusive businesses is a more recent BMI. Most models have provided financing for between 600–150,000 entrepreneurs.

ICT and government support are the biggest drivers of scale. The use of ICT and mobile phones in the mobile money models has made it possible to economically reach millions of clients. In addition the distribution model that relies on a network of agents has successfully reached even the most remote areas. The incorporation of mobile money in other models like index based agriculture insurance and BoP consumer financing has been mutually beneficial in scaling-up the models. For instance, ACRE’s close links to the M-PESA mobile banking system not only reduced transactions costs but also increased availability. For consumer financing for housing in Mexico, one of the key success factors was the role of the Mexican government that recognized at an early stage that the Cemex model could help them

overcome the urban housing crisis. They put various measures in place including a subsidy for low-income people buying self-built homes, which unlocked a large volume of sales for companies like Cemex.

Figure 5. Replication and financial viability in the finance sector



Note on graph: Reach refers to the range of the specific models studied. The replication rank is based on how much replication activity has taken place within a model, the speed of replication and the growth potential. Within each of the 3 rankings of low, medium and high, there is no further ranking e.g. index based agricultural finance is not higher in replication than consumer finance.

The most replicated models use expansion, franchising and partnership and attracted second movers. For instance, M-PESA was the one of the first movers in Mobile Money. They have expanded into 10 countries through a franchising model that was tweaked to fit local realities and regulations. They have also entered into many partnerships with other models which has helped them further expand. M-Kopa Solar clients in Kenya for example can pay their installments for a solar home system using the M-PESA mobile money service. In addition there is a myriad of second movers in low-income countries worldwide. In BoP consumer financing and agriculture insurance, expansion and partnerships were the most popular approaches.

Financial viability can boost scale but is not a pre-requisite for reaching scale. As shown in diagram 4, financial viability helps models to reach scale, as is the case for mobile money. For example, Beam Money broke even in four years and earned revenue of more than US$15 million in 2013 by which point they had reached a total of 14 million clients.[4] However, even when a model is not financially viable, if governments or donors sufficiently value its impact it, for example it may be more cost efficient for them to pay the mod[5]els to offer the service than rely on standard non-profit programs, the model can still reach scale. This is the case for index based agriculture insurance. In some cases such as Cemex, this

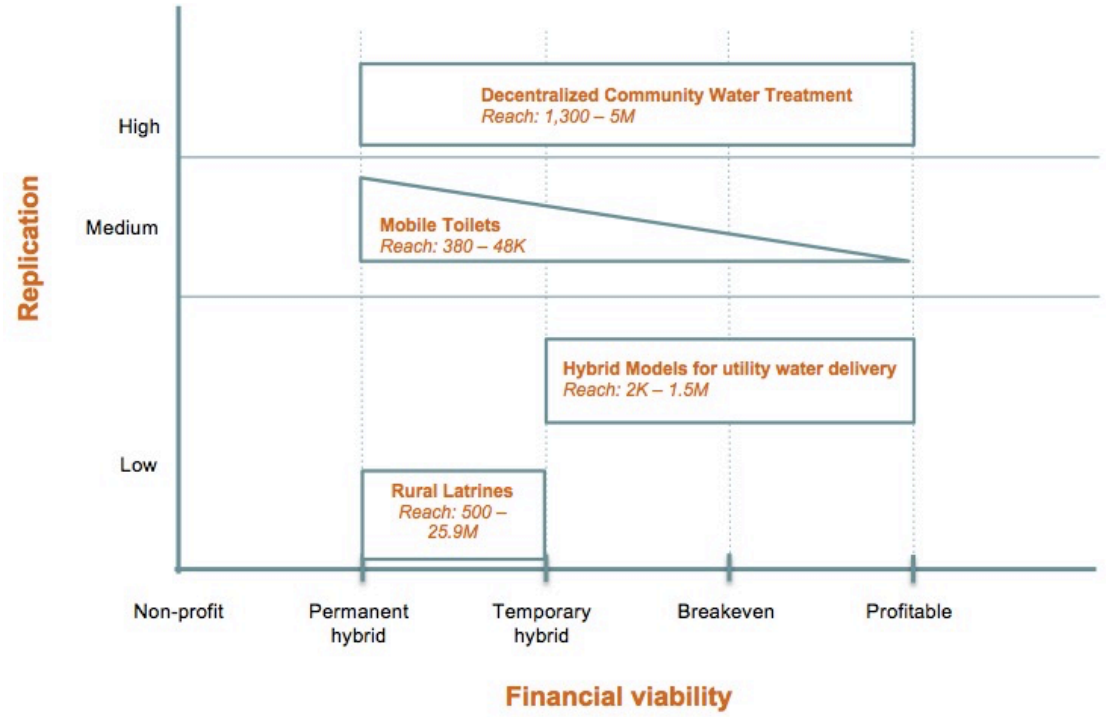
large company was already financially viable when it introduced consumer based financing for its BoP product.

WASH sector

The studied models in the WASH sector reach hundreds of thousands of people and a few even reach millions. Most organizations have expanded to other countries, with franchises being popular amongst the toilet and decentralized water treatment models. Some models are inherently set up for dissemination, fostering local entrepreneurship. In those cases, standardization of operations and processes are key levers for scale. Breakeven has only been reached by a few, but most aim to become financially viable with scale.

Most models in the WASH sector reach hundreds of thousands. A few mature models reach millions, while others are still in their pilot stage. The models with the highest reach are, for example, WaterHealth with 500 sites in six countries in 2012 serving five million customers or Ecotact toilets in Kenya, which are used by 48,000 people per day. Some NGO-led multi-country programs to activate local value chains for construction of hygienic and affordable toilets also reach millions of households (e.g., SNV's Sustainable Sanitation & Hygiene for All Results Program). Most WASH models are still being piloted. For example, X-runner has rented less than 100 of its water free toilets so far. Also, the scheme in Kotei (Ghana) is a pilot that provides safe water from the utility's network to 5,000 people. For example, X-runner has rented less than 100 of its water free toilets so far. Also, the scheme in Kotei (Ghana) is a pilot that provides safe water from the utility's network to 5,000 people.

Figure 6. Replication and financial viability in the WASH sector



Most organizations have expanded to other countries. For example, Ikotoilet operates its high-quality, public, pay-per-use sanitation facilities in Kenya and Tanzania, Blue Diversion operates its toilet franchises in Uganda and Kenya. WaterHealth is active in India, Bangladesh, Ghana, Nigeria, Liberia, Philippines and Lifelink operates its water project in Uganda, Haiti and Malawi.

Toilet and treatment plant businesses are often operated as franchises. For example, Sanergy built a network Fresh Life Operators—local residents who purchase and operate hygienic sanitation facilities. Blue Diversion works with local franchisees as salespeople to rent toilets. In addition they collect the waste and transport it to off-site resource recovery plants, where it is converted into fertilizer. Sarjaval franchisees operate the treatment plant and share a proportion of revenue with the franchisor to cover e.g. maintenance costs and costs for water testing.

Many models are inherently set up for dissemination, since they aim to activate the market and incentivize local entrepreneurship. For example, the Indian NGO Gramalaya supports local producers in manufacturing better quality latrines at lower cost—and creates the market through awareness raising and offering end-user financing. Likewise, SaniShop has sales entrepreneurs in Cambodia, India and Mozambique trigger demand in their community through sales and awareness events, with toilets being supplied by local masons who have undergone SaniShop production training. Spring Health (India) provides services to develop a filtration system and ensures water quality, while an entrepreneur supplies land, electricity connection and day-to-day operational management.

Most models in the WASH sector are struggling to become financially viable. As in many other sectors, many models are profitable on the local level (e.g., on the level of the entrepreneur selling the toilet or operating the water treatment plant). However, they struggle to cover overhead costs associated with, for example, creating awareness for safe water or for using toilets/latrines or training entrepreneurs.

However, many models expect to break even once they reach a larger scale. For example, Clean Team in Ghana aims to reach breakeven at 1,500 toilets installed by March 2016, X-Runner in Peru similarly estimates that production of 1,500 toilets would enable the company to cover all its costs. Also, eKutir in India aims to reach breakeven in 2016, covering market activation activities from its toilet sales. The approach by these social enterprises also encourages NGOs like Gramayala, WaterSHED, iDE to explore ways to evolve from pure grant funding into a social business to achieve long-term sustainability.

The few companies that have reached significant scale are able to cross-finance their activities. For example, WaterHealth runs the business on a cluster basis where treatment plants that perform better cross-subsidize those that are not yet breaking even. The clusters also share services to keep operating costs low.

Sometimes, government initiatives with fully subsidized products undermine entrepreneur´s viability. But governments can also help companies reach scale by preferring social enterprises in their tenders. However, frequently low-cost (and hence often low-quality) options are preferred by public buyers. A driver for financial viability is partnerships with MFIs that provide loans to entrepreneurs or end-user financing.

Steps to supporting scaling and replication

Replication-specific support is practically non-existent despite the fact that BMIs are achieving socio-economic and environment impact. We recommend the following three intervention areas as a way to support the expansion, dissemination and adoption of proven models.

(1) Understand replication and create awareness for it
(2) Adjust existing interventions to include a replication focus
(3) Create new interventions to support the adoption of proven and viable BMIs

1) Understand replication and create awareness for it

Scaling and replication is already happening—but there is almost no systematic learning amongst peers. While case studies can be found on a number of the models studied for this project, there has to date not been an effort to learn systematically. The comprehensive nature of the research project; analyzing close to 300 models clustered into 26 business model innovations across five sectors with 54 in-depth case studies is thus a unique and valuable resource for originators and replicators alike.

Existing findings on scaling and replication need to be disseminated amongst enterprises and other stakeholders. It could provide enterprises with ideas on how to improve their model, or offer second movers inspiration and lessons on designing a new model. To create awareness, research results need to be made available to entrepreneurship centers, incubators, accelerators, at industry conferences/fairs or to members of industry associations.

Current research is a good starting point but considerable gaps need to be addressed. For example, additional sectors may be included in the research—and new clusters may be identified in each sector. An in depth insight into the functioning, effectiveness and preconditions of models could also add value. Crucially, there is a need for more robust data on the impact of many models. In a large number of cases the economic and social impact is based on anecdotal or self-reported evidence. However, to be able to foster the replication of proven models, it is vital to know which models actually generate results that merit replication and where improvements are necessary.

Ensure research translates into action. Too often valuable research fails to achieve its potential impact. The dissemination of studies and papers can be a good starting point for dialogue and action, but some creative thinking may be necessary to ensure this happens. Dissemination activities should move away from the standard PowerPoint presentations plus Q & A session to more interactive and action oriented formats. For example, a workshop could bring several originators together to discuss findings and encourage peer learning for replication. An interactive workshop series could bring together a group of policymakers and enterprises around overcoming a particular constraint or a specific social target such as 50 percent improvement in learning outcomes for girls.

2) Build on existing interventions to include a replication focus

Actors can reinforce existing programs, policies and instruments by including a replication focus. An overview of the factors that drive and constrain replication and scale reveals that many of these factors are related to the common challenges of doing business. Indeed replication does not necessarily bring about new challenges but rather adds a layer of complexity to already existing challenges. For example understanding evolving regulation requirements and adapting a business model accordingly is all the more complex when a business is operating in a dozen countries. This means many interventions that tackle the key constraints shown in Table 1 are implicitly supporting replication. Based on an understanding of the drivers and constraints, actors can build on an existing intervention to deliberately promote replication. For example, some models successfully scaled because a government realized that certain business models offered a more cost efficient and sustainable way to achieve a specific development goal. Supporting governments to use business models to achieve social objectives more systematically could be part of an ongoing policy support program.

Table 1. Constraints of Expanding Businesses

	Constraint	Drivers and support being offered
Information and	• **Lack of evidence base.** While some models receive awards and have anecdotal	• **High demand from BoP clients.** Models that can show clear value to clients at an affordable

awareness	evidence, it can be difficult for second movers and ecosystem partners to be sure a model is achieving its alleged impact. • **Difficult for second movers to learn from first movers.** There is a dearth of granular information on successful business models with the operational and financial details that would be of particular relevance.	price point tend to flourish. E.g. Mobile money. • **Government sponsored public awareness campaigns** in Health and WASH have helped models attract clients. Particularly valuable in WASH where gaining customers is a greater challenge than retaining customers.
Rules and regulation	• **Missing regulation**. For some new innovative models, there is an absence of regulatory provisions e.g. Student financing and mHealth. • **Prohibitive regulation**: This affects all models and includes policies such as high import tariffs, strict requirements for registration or licenses. For example regulation in India that restricts schools from earning profits. In Malawi high import tariffs make it difficult for business models that rely on imported products e.g. in the water sector. These sectors would benefit from similar tax exemptions the government has offered to the solar sector in Malawi. • **Destructive policies and disincentives**. In some cases subsidies can distort markets and erase willingness to pay. This has been observed in the Solar and Energy sector.	• **Governments mainstreaming BMI into existing structures.** For example Gyan Shala a chain of primary schools has been able to improve government school results by up to 35 percent through an additional program that advises government on curriculum design and trains government teachers based on the Gyan Shala approach. • **Conducive regulatory environment.** In some cases a lack of regulation has allowed models to flourish, chain schools and mobile money in East Africa vs. India. It is important that regulation grows with a sector in a way that encourages growth. • **Supportive policies**. When governments see value in a business model and actively support it through tax breaks, and subsidies this can help rapidly expand models. E.g. consumer financing for low-cost housing in Mexico.
Financial resources	• **BoP clients' lack of purchasing power**. While clients may see significant value in a product or service their income constraints and irregular cash flows remain a key barrier this is relevant for all sectors especially Education, Health and WASH. Where ongoing costs can become a substantial drain on resources. • **Models need financing to cover high set up costs.** Common constraint in some Education, WASH, energy and Health models. For example a setting up each new chain school costs around USD 65,000. • **Reliance on unreliable funding streams.** Over reliance on government or donor support can be risky as it is subject to political and regulatory change. Many financing, education and health models face this constraint. • **Affordable financing for operating costs.** Many companies struggled to grow due to a lack of affordable working capital, particularly small businesses.	• **Support from government or other partners to make a product affordable**. In agriculture insurance many government have provided subsidies to extend coverage to a large number of BoP models. • **Cost saving mechanisms**: Hyper efficiencies such as para-skilling, standardization and the use of ICT have been able to drive down costs in Health and Education. • **Appropriate and attractive financing options for BoP clients.** Options like leasing-to-buy for BoP entrepreneur financing and risk sharing financing schemes in education can help address cash flow challenges. • **Increasing BoP client's income in a relatively short time frame.** Models that address BoP clients ultimate challenge - poverty - at a reasonable cost and profitably tend to expand rapidly e.g. education oriented BPO and mobile money. • **High density of clients** helps reduce the cost of distribution and after sales support of models. e.g. Energy and WASH models.
Structure and	• **Finding and retaining talented staff** particularly at managerial level or skilled	• **Standardization and para skilling** By using a "business in a box" model with a high degree of

Capacity	employees • **Poor infrastructure unstable power supply, missing 3G connectivity and poor transport networks** can be a major challenge, particularly for ICT intensive enterprises e.g. Mobile banking, Telemedicine, education oriented BPO in rural areas, and after sales support in Energy.	standardization and breaking down skilled services into simplified tasks, less skilled staff can be hired to effectively carry out skilled work. This also helps bring down costs and is common practice in the Health and Education sectors.

3) Create new interventions to support the adoption of proven and viable BMIs

Originators are interested in replicating their model with partners; second movers actively scout for replicable BMIs. Mission-driven organizations and entrepreneurs that have developed a viable business model with proven impact often actively seek to replicate it. However, they themselves often lack the resources and time to foster replication in other countries or regions. In addition, they may lack access to the right individuals or networks interested in copying their model. While the topic of replication is slowly rising up the agenda, at present there are hardly any agencies specifically focused on it.

At the same time, motivated social entrepreneurs in other regions may be scouting for business models with positive economic and social results. With their knowledge on their home market, they may also have an advantage when it comes to adapting existing models to their specific cultural and regulatory context.

Intermediaries can play a crucial role in engineering and brokering relationships between originators and potential adopters or expansion partners. For example, development partners or other intermediaries can organize hands-on workshops in a specific country or region that showcase existing models and invite adopters to learn from them. Inviting additional stakeholders and experts to such workshops could further enhance the value of the event. They could range from investors or other financiers, legal specialists that could provide advice on social franchising to consultants that have experienced advice on how to package and "hand-over" a model.

Disseminators can also be supported to set up training programs and centers to coach second movers. Indeed, some Enterprises keen to disseminate their model develop their own training programs, with the goal of actively spreading their approach and building the capacities of potential second movers. For example, the eye-care hospital Aravind has trained over 300 hospitals on their approach. The program offered by LAICO is essentially a longer-term consultancy process, including a week-long capacity building and strategic planning workshop in India. Development partners can help with financial or technical support, such as curriculum development or even training implementation. When bringing together originators and adopters, also bring together other stakeholders that could provide them support.

New financing instruments specifically targeted at disseminators or second movers may further incentivize replication. A range of financial support already exists for those companies piloting business model innovations that cater to the underserved. However, replicating what works may actually offer funders a higher social return on investment. Instruments could include grants for businesses to open their model to the public (i.e., document it), financial support to open up dissemination centres, or start-up loans for franchisees and second-generation businesses. Grants could also be provided for the organization of visits of entrepreneurs to other countries to study specific models (e.g., immersion and on-site training).

Annex I. Overview of BMIs Studied

The table lists 27 BMI clusters that were studied as part of this research.

Sector	BMI	About BMI	Examples studied	Reach (Aggregated number)		Range	Average reach	Heat map
Education	Chain Schools	Chain schools offer standardized education to many chi\ldren in low-income communities through a centralized design of low-cost, reliable and replicable school models.	10	451,250	Students	950 - 125,000	45,125	Medium
			10	23,566	Teachers	110 - 5,040	2,357	
Education	Learning Centers	Learning centers offer non-traditional sources of education to those in the BoP communities by providing new spaces and formats for low-cost, locally delivered learning.	11	9,380,000	Learners	1,000 - 5,000,000	852,727	High
			11	223,010	Employees	510 - 200,000	20,274	
Education	Education Financing	Student financing from non-banking financial institutions (NBFI) can offer affordable, realistic and low-risk financing solutions, as well as guidance and training to improve employability for BoP students.	9	3,150,000	Loans disbursed	157 - 2,300,000	350,000	High
Education	Teacher Education	Training and educating teachers in cost-constrained areas by equipping them with innovative models of teaching-kits, exchange networks and cloud-based platforms can positively impact the quality and accessibility of education and improve the livelihoods of the students.	10	146,050	Teachers	550 - 40,000	14,605	High
			10	1,300,000	Students	3,000 - 700,000	130,000	
Education	Impact Sourcing	Impact Sourcing Service Providers (ISSPs) offer employment opportunities to low-income, disadvantaged youth, and often support them in their transition to working outside the ISSPs by providing career guidance and access to vocational training and higher education.	7	5,200	Employed	150 - 2,000	743	High
			7	7,980	Trainees	300 - 7,000	1,140	
Education	School	School evaluation and	8	8,432	Schools	22 - 3,462	1,054	Medium

	Evaluation and Management	management consultants cut costs and increase the value of education by assessing schools to determine where improvements can be made and by guiding the implementation phase.	8	3,000,000	Students	115 - 2,000,000	375,000	
			8	54,400	Teachers	288 - 30,000	6,800	
Energy	Mini Grids	Mini-grids expand commercial access to electricity by offering coverage to communities that are excluded from the national grid.	15	819,125	People reached	900 - 340,000	54,608	Medium
			15	918	Mini-grid	10 - 500	61	
Energy	Grid Connection	By developing local solutions to expand connection to the grid, distribution companies and their partners can offer access to legal, safe electricity to those in low-income, urban areas.	9	2,600,000	People reached	26,000 - 1,000,000	288,889	High
Energy	Productive Use	Innovative stand-alone renewable energy solutions that are customized for the BoP market can create access to electricity and thus multiply productivity and profits of micro, small and medium-sized enterprises.	16	797,000	People reached	17,000 - 450,000	49,813	Low
			16	10,000	Drip irrigation systems	0-10,000	625	
			16	2,500	Stoves	0 - 2,500	156	
			16	140,175	Solar-powered pumps installed	50 - 140,000	8,761	
Energy	Solar Home Systems	Solar home systems (SHS) are an affordable, easy-to-use and environmentally friendly solution for providing rural off-grid populations with electricity that can have catalytic effect for the development for them.	18	26,500,000	People reached	9,000 - 7,977,765	1,472,222	High
			18	2,623,287	Solar systems installed	500 - 1,595,553	145,738	
Finance	Agri-Insurance	Index-based agricultural micro insurance substantially reduces transaction costs and removes bureaucratic barriers for low-income farmers.	13	27,000,000	Farmers reached	100 - 17,500,000	2,076,923	Low
Finance	Mobile Money	Mobile money platforms allow people with no, or limited, access to formal banking facilities to use a range of financial services through their	13	42,800,000	Users	60,000 - 15,000,000	3,292,308	High

		mobile phones.						
Finance	Entrepreneur Finance	Inclusive businesses are now establishing innovative models to provide affordable credit to micro-entrepreneurs in both the BoP and low-income markets.	8	346,700	People reached	500 - 150,000	43,338	Low
Finance	Consumer Finance	Some inclusive businesses are offering affordable credit to their consumers to allow them purchase high quality, alternative products.	5	4,200,000	People served	400 - 2,000,000	840,000	Medium
WASH	Decentralized Community Water Treatment	Decentralized community water treatment models provide safe and affordable drinking water by combining grant or impact investment capital with payment for the water by the user to cover the direct costs of production.	22	7,000,000	People served	1,300 - 5,000,000	318,182	Medium
			22	850	Plant installed	0 - 850	39	
WASH	Mobile Toilets	Mobile toilets are compact toilet units serviced by a business that evacuates waste, and can therefore be used in urban homes and communities in areas without access to centralized sewage systems.	16	127,360	People reached	380 - 48,000	7,960	Medium
			16	7,150	Toilets built	100 - 3,450	447	
			16	200	Sewage treatment plants	0 - 200	13	
			16	52	Bio centers	0 - 52	3	
			16	995,000	Bio-degradable self-sanitizing bags	0 - 995,000	62,188	
WASH	Rural Latrines	Market-led sanitation projects aim to activate local value chains for construction of hygienic and affordable toilets in rural homes and communities.	16	55,000,000	People reached	500 - 25,900,000	3,437,500	Low
			16	11,000,000	Toilet blocks constructed	3,200 - 122,840	687,500	
WASH	Hybrid Models for Utility Water Delivery	Hybrid models make safe, affordable water from the utility's piped network available for sale to households that do not have a connection to the network.	9	2,000,000.0	People reached	2,000 - 1, 500,000	222,222	Low
			9	4,000	Stand-pipes installed	0 - 4,000	444	

Health	Telemedicine	Telemedicine is an innovative solution to expand healthcare services and education to rural and low-income communities via ICT devices.	1	1,000,000	Patients reached	0 - 1,000,000	1,000,000	Low
Health	Specialized Hospitals	Highly specialized healthcare clinics with lower operating costs and cross-subsidization of revenues across patient segments can provide affordable services for those at the BoP.	15	41,470,000	Patients reached	4,200 - 6,000,000	2,764,667	Medium
Health	mHealth	mHealth can improve the health outcomes for any person with access to a mobile device by offering efficient and effective mobile health services.	10	5,800,000	patients reached	5,000 - 3,000,000	580,000	Low - medium
Health	Nutrition	With advice from nutrition experts, businesses can develop low-cost, fortified food for specific groups within low-income communities, while also including them in the value chain as suppliers.	7	,770,000,000	portions/units sold	3,200 - 17550000	252,857,143	Medium
Health	Micro insurance	Health micro insurance schemes protect households from steep out-of-pocket expenses for medical needs.	7	40,200,000	Users	25,190 - 40,000,000	5,742,857	Medium
			7	60,000	agents	0 - 60,000	8,571	
			7	153	customer touch points	0 - 153	22	
Health	Women's Health	Women's health franchises deliver quality reproductive health services to low-income women, thus decreasing both maternal and newborn mortality.	16	87,000,000	Couples receive protection	72,000 - 15,000,000	5,437,500	Medium - high
			16	75,000	retail outlets	0 - 75,000	4,688	
			16	7,968	clinics	370 - 7,000	498	
			16	80	hospitals		5	
Health	Community Health Workers	Using locally based community health workers (CHW) to provide services to their communities can improve equitable access to basic health services while aiming for financial sustainability.	7	6,600,000	people reached	2,500 - 2,500,000	942,857	Medium
			7	250	facilities	0 - 250	36	
Health	Female Hygiene	Social enterprises develop low-cost methods of sanitary	11	529,312	girls and women impacted	32 - 125,000	48,119	Medium

		pad production coupled with innovative models of distribution and marketing, while including women at the BoP at all stages of the value chain.	11	505,000	sanitary pads produced	500 - 500,000	45,909	
			11	407	communities/villages impacted	5 - 300	37	

Annex II. Description of Companies Mentioned (Alphabetical)

Color-coding of examples

Education
Energy
Finance
Health
WASH

Company	Country	Weblink	Solution description
ACRE (Formerly known as Kilimo Salama)	Kenya, Rwanda, Tanzania	http://www.acreafrica.com/	ACRE offers micro insurance products using mobile banking and indices based on various data sources.
Aravind Eye Care Hospitals	India	http://www.aravind.org/	Aravind Eye Care Hospitals provide high-quality eye-care to the rich and poor. The company also actively disseminates its approach so as to facilitate effective adaptation of its model in other countries. To this end, it created the Lions Aravind Institute of Community Ophthalmology (LAICO) training institute, which has supported replication of the Aravind model in over 300 eye hospitals in 30 countries.
Beam Money	India	http://www.beam.co.in/	Beam has developed a mobile money wallet that allows both banked & unbanked customers to transact at anytime through apps, SMS and the Web. Services include domestic money transfers, mobile recharge, DTH TV recharge, utility bill payments etc. Once registered with Beam, customers can top up their Beam wallets using credit/debit cards or through direct cash transfer through Beam franchisees.
Blue Diversion	Uganda, Kenya	http://www.bluediversiontoilet.com/	Blue Diversion works with local franchisees from low-income communities as sales people to rent toilets to households, landlords and communities. There are 2 price models for commercial and household customers. There is an upfront fee for installation, paid for by a microloan for the private customer. The local franchisees also collect the waste and transport it to off-site resource recovery plants, where it is converted into marketable fertilizer end products. Field tests conducted in collaboration with Sanergy.
Bridge International Academies	Kenya	http://www.bridgeinternationalacademies.com	Bridge operates private, low-fee ($6 per month in 2014) nursery & primary schools using a vertically integrated, highly standardized 'school-in-a-box' business & educational model. It uses web-enabled technologies to constantly monitor, evaluate and streamline all processes, enabling rapid scale-up at low marginal cost.
BridgeIT	Philippines, Tanzania, Chile, Colombia, India, Bangladesh, Indonesia, Nigeria, South Africa, Haiti	http://text2teach.org.ph/	BridgeIT is a public-private partnership that uses mobile phones to deliver professional development materials and educational resources to teachers (videos, lesson plans, online network). Schools receive a package containing a mobile phone, through which they are able to access and download a variety of educational content and teacher training material. The package further includes a cable and a projector/screen through which videos can be displayed in class.
CCBRT Disability Hospital	Tanzania	http://www.ccbrt.or.tz/disability/	CCBRT Disability Hospital provides surgical and outpatient services for ophthalmology, obstetric fistula, orthopedics, and reconstructive surgery and anesthesia, targeting the lowest income communities subsidizing low prices or free of charge services through charging higher prices at the Private Clinic where extras such as convenience of appointments and fast track service is available. the quality of care is the same for all income groups.
Cemex	Mexico	www.cemex.com	Patrimonio Hoy provides low-income families living in urban and semi-

(Patrimonio Hoy)			urban areas with access to building materials and technical assistance to build good-quality houses. The company offers finance to customers through a savings and credit facility.
Centers for Digital Inclusion (CDI)	Brazil, Chile, Colombia, Spain, United States, England, Mexico, Portugal, Venezuela, Wales, Ireland, Scotland, Poland, Romania, Latvia	http://www.cdi.org.br/	CDI partners with community groups and public institutions to establish informal centers equipped with donated computer equipment which provide computer access and skills training for all ages, as well as civic education and entrepreneurial skills. CDI centers in time become autonomous self-financing community enterprises. CDI operates in low-income communities, public schools, prisons, psychiatric institutions that care for people with physical and / or mental disabilities, indigenous villages.
The Citizens Foundation Schools (TCF)	Pakistan	http://www.tcf.org.pk/	TCF provides affordable primary and secondary private education to low-income students in Pakistan's urban slums and rural areas, with a focus on girls. All school principals and teachers are female, thereby addressing cultural constraints on girls' education.
Clean Team	Ghana	http://cleanteamtoilets.com/	Clean Team charges a monthly subscription fee for an in house portable toilet with a waste collection service 2-4 times per week for houses not connected to sewage or water infrastructure. It is a more private, safe and hygienic solution than defecating in the street or unclean public toilets.
Componente Atención a Desatres Naturales (CADENA)	Mexico	http://www.sagarpa.gob.mx/Paginas/default.aspx	The CADENA program contains two main components: the Catastrophe Agricultural Insurance (SAC): macro-level index-based crop and livestock catastrophe insurance program, and in States where SAC is not provided, the continued direct support (Apoyo Directo) compensation payments to farmers for climatic disasters.
¡Échale! a Tu Casa	Mexico	http://www.echale.com.mx/	In Mexico, ¡Échale! a tu casa, an affordable housing provider, has committed to making US$25 million in low-cost financing available over the next five years to enable 25,000 low-income families to build their own "eco-friendly" homes, which include wood-saving stoves or bio-digesters for energy needs and rain harvesting water purification systems. Nearly nine million families in Mexico have inadequate housing, and two thirds of them face difficulty obtaining loans to purchase homes. As a result, millions resort to building unsafe and unsecure housing structures. ¡Échale! a tu casa's self-built kits are up to half as expensive as buying already built homes.
Ecotact (Ikotoilet)	Kenya, Tanzania	http://ecotact.org/	Ecotact runs Ikotoilet, building and operating high-quality, public, pay-per-use sanitation facilities. Each block contains a toilet, shower facilities, taps & soap, tanks for rainwater harvesting, water tap with treated drinking water, baby changing areas & sanitary bins. Each unit also contains a shop & shoeshine area, to create a central meeting place. Public land in urban centers is provided by local government to make the project affordable and part of the community.
eKutir	India	http://www.ekutirsb.com	eKutir (Svadha) trains local entrepreneurs so that they can establish self-sustaining businesses to supply, install and maintain hygienic toilets in rural households, and educate local communities on the importance of sanitation. Svadha is a social business that buys goods in bulk and sells them on to entrepreneurs at a cheaper price.
Enova Digital Centers	Mexico	http://www.enova.mx/en	Enova offers technology access and affordable e-learning courses for all ages with personalized support in digital centers and digital libraries located in BOP communities. Enova's aim is to create a network of community centers that trigger social change.
Ghana Water Company Limited (GWCL)	Ghana	http://www.gwcl.com.gh/pgs/hmp.php	The model delivers water via standpipes to low-income consumers in partnership with these under-served communities. It has been piloted on Kotei, a district of the city of Kumasi, and is now being rolled out in a second district in Ghana. GWCL retains the ownership of the piped infrastructure and is responsible for upkeep and maintenance but awards a

			management contract to the CMC (Community Management committee).
Gramalaya	India	http://www.gramalaya.in/	NGO Gramalaya engages local communities in awareness raising program and works with committees responsible for sanitation provision in their area. It promotes a range of toilet models to households, supports local producers in manufacturing better quality latrines at lower cost, trains masons in installing them, and offers end-user financing through its spin off arm Guardian or partnerships with local MFIs.
Grameen Shakti	India	http://www.gshakti.org	Grameen Shakti has developed one of the most successful market based programs with a social objective for popularizing Solar Home Systems (SHSs) including other renewable energy technologies to millions of rural villagers.GS is the first company in the world to promote solar energy technology to rural communities and develop a sustainable and cost-effective renewable energy program for the poor.
Greenstar (Sabz Sitara) Network	Pakistan	www.greenstar.org.pk/Sabzsitara-Clinic.html	Greenstar works through both private and public channels towards improving health care in Pakistan. Areas of activity for Greenstar include social marketing of family planning products and services, training for health care professionals, mother and child health services, clinic construction and rehabilitation, vouchers for safe delivery, outreach activities and tuberculosis detection and treatment.
Gyan Shala	India	http://www.gyanshala.org/	Gyan Shala provides high-quality primary classes to out-of-school children in networks of 400-500 single-room centers in rented premises, staffed by community members trained as para-teachers. Results show students outperforming government and private schools.
Hippocampus	India	http://www.hlc.hippocampus.in/hlc/	Hippocampus Learning Centers (HLC) provides a fee-paying Kindergarten program in small centers housing three classes (max. 25 children each class) in rented premises in Indian villages while creating jobs for village women by hiring them as teachers.
iDE (International Development Enterprises)	Honduras, Nepal, Zambia	http://www.ideorg.org	Solar-powered pumps for improved irrigation. iDE's Clean Irrigation Solution (CIS) can compete with fossil fuel pumps both in terms of cost and enhancing agricultural productivity. CIS's universal piston pump can run on a variety of power sources—solar steam power, photovoltaic power, and grid-connected alternating current (AC) where available. The system accesses groundwater from deeper depths than conventional pumps, and maintains a slow, steady discharge rate. iDE will work with local businesses to sell and service the CIS.
Jayaashree Industries	India	http://newinventions.in/	Jayaashree Industries currently has made more than 1300 low-cost machines to produce sanitary towels, which are installed across 27 states in India and seven other countries. The low cost machines are sold directly to rural women through the support of bank loans and not-for-profit organizations. A machine operator can learn the entire towel-making process in three hours and then employ three others to help with processing and distribution.
LEAP Science and Math Schools	South Africa	http://leapschool.org.za/	LEAP Schools are a chain of no-fee independent high schools offering 'whole-child', learner-centered education in relatively small classes to underprivileged South Africans. LEAP requires all students study Maths, Science, English and has an extended school day / Saturday classes. It incorporates extended 'Life Orientation' self-awareness/confidence training, community work. In addition, LEAP provides learning centers within communities where schools are located.
LifeLink (Grundfos), Water Missions International	Uganda, Haiti, Malawi	http://www.grundfos.com/cases/find-case/sustainable-private-water-service-delivery-by-Water-Missions-International.html	The TradeWater project is run by non-profit Water Missions International who builds Grundfos pumps, with LivingWater filtration systems in the center of communities. WMI maintains responsibility for all financial management and administration of the system. A locally recruited 'water agent' is trained to be responsible for daily operations and customer service. Additional revenue streams have been added including solar charging of mobile phones and solar lamps.
LINK Community	Ethiopia, Ghana,	http://www.lcdinternational.org/	Link's School Performance Review (SPR) process is a partnership with rural government school districts. Link trains local educators to gather school

Development International	Malawi, South Africa, Uganda		data covering multiple indicators of quality. Link analyzes the data and produces recommendations that the school's stakeholders discusses to formulate a school action plan. The process is repeated for all schools in a district, building a district-wide picture of school quality. Link co-facilitates district-level meetings to help formulate district improvement plans. Link also provides a Solar Connect program, which enhances schools' capacity to use ICT to share data.
Living Goods	Uganda	http://livinggoods.org/	The Living Goods model combines practices from the worlds of microfinance, franchising, and public health to create a sustainable system for defeating diseases of poverty. Living Goods reduces illness and death by significantly improving access to and adoption of health interventions in the many places these are scarce or non-existent. Network of franchised community health promoters who provide health education and earn a living selling essential health products door-to-door at prices affordable to the poor.
Lumbini Eye Institute	Nepal	http://www.lei.org.np/	At the grassroots level, LEI provides primary eye care services that are provided through house-to-house visit, school screening, screening camps at sub health post and health post levels, which are vital components of primary eye care and treatment of eye disease. At the district level, eye care services are provided through primary eye care centers where basic eye disease are treated, glasses are prescribed, outreach surgical camps are organized and special investigation are referred to the base eye hospital. Tertiary eye care services, as well as high volume cataract surgery, are provided at the zonal level at the Shree Rana-Ambika eye hospital in Bhairahawa.
M-Kopa Solar	Kenya	solar.m-kopa.com	M-KOPA makes solar products affordable to low-income households on a pay-per-use installment plan. Customers acquire solar systems for a deposit and then purchase daily usage “credits” for US $0.45, or less than the price of traditional kerosene lighting. After one year of payments customers own their solar systems and can upgrade to more power.
M-PESA	Kenya	http://www.safaricom.co.ke/personal/m-pesa/m-pesa-services	M-PESA began in 2007 and quickly became a pioneer in the mobile money space. It provides customers with basic financial services through a mobile platform. Customers, most of who are formerly unbanked, send money quickly and easily using the pay-as-you go service. M-Pesa started off as a simple mobile wallet but now also has partnerships with banks and MFIs to provide other banking services.
Merrygold Health Network	India	www.merrygold.org.in	Merrygold Health Network creates access to low cost good quality Maternal and Child Health (MCH) services by networking with Private health service providers as franchisees.
Narayana	India	http://www.narayanahealth.org/	By applying the principles of assembly line production to cardiac surgery he was able to demonstrate that world-class cardiac surgery could be performed at lower costs. He achieved this difficult feat by enhanced productivity (more number of surgeries in a day than other surgeons), which in turn translated into affordability that brought profitability to the hospital.
Omega Schools	Ghana	http://www.omega-schools.com/	Omega's 38 schools offer low-fee primary and junior high school education to over 20,000 children in low-income communities in Ghana (2013-2014), paid for with an all-inclusive daily fee incorporating meals, uniforms, learning materials etc.. Its “school-in-a box” business model is based on scale (large numbers of students) and standardization, in-house teacher training and development of lesson plans, with a technology-enabled centralized management system regular monitoring and evaluation.
One Girl (Launchpad)	Sierra Leone	http://www.onegirl.org.au/what-we-do/launchpad	LaunchPad delivers affordable, biodegradable sanitary pads to women and girls in Sierra Leone, using a network of female entrepreneurs and school systems.
RG Stone Urology & Laparoscopy Hospital	India	http://www.rghospitals.com/	RG is spreading the services of urology through either establishing own clinics, partnering with doctors in JVs or establishing a department in a large clinic.
Ruby Cup	Kenya,	http://www.ruby-	Ruby Cup developed a menstrual cup which leveraged can be used for 10

	Zambia, South Africa, Uganda	cup.com	years. Ruby Cup is now partnering with NGO networks across Africa to distribute their product, and is also using a buy one give one free model to subsidize the distribution in Africa.
salaUno	Mexico	http://www.salauno.com.mx/	SalaUno eradicates needless blindness through 6 lines of activities that prevent or revert blindness: cataracts surgery, photocoagulation laser to treat diabetic retinopathy, pterygium surgery, glaucoma treatment, prescription glasses and corneal transplants.
Sanergy Inc.	Kenya	http://saner.gy/	Sanergy has developed a low cost toilet which it rents/sells to micro-entrepreneurs in areas without access to piped sewage systems. The toilets are used by the community at an affordable price. The waste is collected by Sanergy and processed into useful products such as organic fertilizer.
SaniShop (World Toilet Organization)	Cambodia, India, Mozambique	http://worldtoilet.org/what-we-do/sanishop/	Low cost toilet products built with locally available materials and distributed/sold by local entrepreneurs.
Sarvajal	India	http://www.sarvajal.com/	For-profit social enterprise that operates community water-filtration plants through local franchisees in mid-sized Indian villages (approximately 5,000 inhabitants). Franchisee pays Sarvajal 40 percent monthly revenues They have also recently expanded to link Water ATMs, which sell smaller amounts of water at separate locations.
SNV's Sustainable Sanitation & Hygiene for All Results Program (SSH4A)	Multi-regional	http://www.snvworld.org/en/sectors/water-sanitation-hygiene/sustainable-sanitation-hygiene-for-all-results-programme	SNV and its local partners implemented the SSH4A approach in 15 countries across Africa and Asia. The program builds capacity to implement demand creation in partnership with local governments and local community led total sanitation facilitators. It develops the market-based solutions in the supply chain for hardware and services.
Sorridents	Brazil	http://sorridents.com.br/	Sorridents is the largest chain of dental clinics, either fully owned or franchised in Latin America. These clinics aim to provide accessible, affordable dental care closer to home, typically on the outskirts of large and mid-sized cities, where real estate is more affordable and most low-income people live. Sorridents clinics offer a variety of dental procedures, serving as a much-needed one-stop shop for dental care, especially for the elderly and people with disabilities.
SpringHealth	India	http://www.springhealth.co.in/	Providing clean safe drinking water to communities of less than 200 to 500 households in India suffering from microbial contamination through a partnership model of water kiosks. SpringHealth provides the filtration system and ensures its ongoing quality but the kiosks are setup with a local operator who is responsible for managing the day to day of the facility as well as sales. Entrepreneurs cover the cost of land, water source, and electricity connection as well as an subscription fee of 5,000 (US$80), to cover 20 percent of capital cost. This helps SpringHealth cover not only the operating costs but also the capital costs too. The filtration system remains the property of SpringHealth.
Technology for Tomorrow (T4T)	Sierra Leone	http://t4tafrica.co/	MakaPad, a sanitary napkin made of papyrus and paper waste, manufactured locally in Uganda without the use of electricity. This is a more affordable alternative to traditional store-bought products, cutting the cost by about 50 to 75 percent. He also invented special incinerators to dispose non-biodegradable waste in schools. They are also built on a larger scale so they can be used in hospitals and clinics
Tunza Family Health Network	Kenya	http://www.psikenya.org/index.php?id=73	The Tunza franchise recruits and trains private practitioners in the provision of a range of contraceptive methods while promoting uptake in the community and provides access to quality and affordable health services including cervical cancer and STI screening, HIV counseling, male circumcision and childhood diseases.
Visualiza	Guatemala, Haiti, Peru	http://visualiza.org.gt/	Visualiza operates clinics in that provide private care alongside free vision services for the poor. Leading the nation, Visualiza performs over 20 percent of all cataract surgeries in Guatemala, and is the only institution in the country that provides eye care screening for children.
WaterHealth	India,	http://www.wate	WHI uses a build-operate-transfer model, to build water-filtering plants in

International	Bangladesh, Ghana, Nigeria, Liberia, Phillippines	rhealth.com/	local communities. CAPEX expenses are covered by grants so water can be sold at a more affordable price. Access to land, electricity and water are provided by the community (or council on behalf of the community).
Waterlife	India	http://www.waterlifeindia.com/	Waterlife works through public-private partnerships setting up a treatment system and operates it under a management contract for 5–15 years. It charges the local community for water at a fixed rate to cover operational and maintenance costs. The system operator is from the local community and is trained by Waterlife. The company has a servicing team of 120 employees, and has deployed a national toll-free number for technical support.
WaterSHED	Cambodia	http://www.watershedasia.org/	NGO acting as market facilitator, Watershed creates supply chain networks, working with local businesses, government and communities to commercialize low-cost latrines. It currently works with 165 latrine manufacturers
Wizzit	South Africa	www.wizzit-int.com	Wizzit is the first company in South Africa to develop a mobile technology platform and a branchless banking model that allows people to open full-fledged bank accounts through their mobile phones. Account holders can conduct financial transactions, remit money, pay accounts and get their balance through their mobile phones 24 hours a day.
X-runner	Peru	www.xrunner-venture.com	Mobile, water free toilets rented by households without access to fixed sewage or water in urban slums. The waste is collected on a weekly basis and turned into bio fertilizer.

Endnotes

[1] The note also takes into account previous research undertaken by Endeva. Most notably, the study "Multiplying Impact: Supporting the Replication of Inclusive Business Models," which was commissioned and published in 2014 by the German Ministry for Economic Cooperation and Development.

[2] The discussion on the evidence of impact, while integral to replication, is reserved for the Evidence Cross Cutting paper. See World Bank. 2017. *Gathering and using evidence for innovative business models serving the Base of the Pyramid.* Washington, D.C: World Bank

[3] This is particularly the case when the script is adapted to national curricula and developed by teaching experts.

[4] BEAM Mobile, "Beam in News," BEAM Mobile http://blog.beam.co.in/category/Beam-in-News