CROSS-CUTTING INCLUSIVE INNOVATIONS

Making Products and Services Affordable for Low-Income Consumers

Social enterprises are putting products and services in the reach of low-income consumers through innovative design and pricing, flexible payment terms, and consumer financing.

HIGHLIGHTS

• Making quality products and services affordable for low-income price-sensitive consumers is challenging due the need to provide value for money, yet irregular incomes and lack of access to finance limit affordability.
• Inclusive business models use different approaches to improve affordability, such as innovative financing, cross-subsidies, mobile payments, and pay-per-use.

Summary

Affordability is a challenge for low-income consumers for many reasons, and not just because of their low-incomes. Their cash flow is constrained because they have irregular income, frequent cash emergencies and lack access to credit or formal banking. Compared to consumers in middle-income markets, they typically have different needs, are more risk-averse and have less familiarity with new products, all of which also affect their willingness to pay for some products.

There has been considerable innovation in the last decade to address these issues. Innovative product design and use of technology has helped to reduce the absolute cost of some products. New ways of financing and cross-subsidizing products have also been developed. Models that match consumers’ cash flow have extended from simple “single sachet” strategies to sophisticated solutions that harness cutting-edge information communication technology (ICT) to allow pay-per-use and products with other forms of built-in consumer finance.

Challenge

Innovative products and services designed to meet the specific needs of low-income customers and underserved markets need to be affordable. There are four main affordability challenges that social enterprises must address:

• The cost of products is too high for a low-income consumer. Many products have been developed for higher-income consumers, and so it has been impossible for a company to develop a commercially viable business model for selling the products to a low-income consumer.
• Willingness to pay is hard to determine among low-income consumers. A lower price by itself may be insufficient to unlock demand among low-income consumers. Often assumptions about what low-income consumers either need or want are wrong, and so an enterprise will not know which features and benefits of a product to retain or dispense with. Some companies are now doing thorough consumer research with low-income people, for example asking them which flavors they like in food items and which fragrances they prefer in hygiene products.
• Irregular and constrained cash flows. Income is often unstable and irregular for low-income people, since they often work as casual labor or can only sell produce at certain times of the
year. Consumers are unable to make single large payments and require financing assistance. They also lack access to suitable sources of credit, bank accounts or other financial services that could help them to save or smooth out their income.

- Additional cost of serving BoP markets. There are multiple challenges when developing a product for low-income consumers, from raising awareness about product benefits to the relatively high distribution costs imposed by rural and dispersed communities. There is a growing recognition that high-volume, low-margin business models may not work in such contexts and that enterprises will have to either bear additional costs by building high margins into their pricing structure, or get external financial assistance in the early years of a new product rollout.

However, for some products, such as energy and water, low-income consumer can often pay higher prices per unit than more affluent consumers, and what they are able to access may also be lower quality. For example slum residents are often viewed as non-paying and defaulting customers for grid electricity, but there are instances where they pay a significant share of their incomes for energy connections from local illegal operators, or alternate energy sources such as kerosene lamps, candles, or batteries. Low-income people also often pay for health and education services, and in emergencies the former can be a devastating cost for a family living on a low-income. The quality of provision is also often very low, and consumers can easily be sold fake products or expired products, such as medicines, that render them ineffective. Therefore, innovation in affordability also depends on substituting quality products to replace inferior ones at existing price points.

Innovative Approaches

Innovative approaches to addressing the challenge of affordability fall into the four main areas explained in Table 1.

<table>
<thead>
<tr>
<th>Area of innovation</th>
<th>Description</th>
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<tbody>
<tr>
<td>Reducing product cost</td>
<td>Adapting the business model to reduce total cost and increase affordability.</td>
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<tr>
<td>Matching cash flow</td>
<td>Making a low cost product accessible by matching the cash flow of low-income consumers.</td>
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<tr>
<td>Providing consumer finance</td>
<td>Using consumer finance to increase low-income consumer’s ability to access products.</td>
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<tr>
<td>Assisting with payment</td>
<td>Reducing the cost that low-income consumers have to pay for products by assisting them with payment through cross-subsidies and other means.</td>
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These four areas are often linked, as, for example, access to consumer finance is very helpful to consumers with uneven cash flows. Each approach is covered in further detail below.

Reducing product cost

The innovation inspired by C.K. Prahalad and Hall’s “Fortune at the bottom of the pyramid” led to a surge of entrepreneurial activity that has often addressed affordability as a challenge. Table 2 outlines several ways in which enterprises are reducing the cost of products.

<table>
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<tr>
<th>Approach</th>
<th>Detail</th>
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<tbody>
<tr>
<td>Re-designing the product or business model</td>
<td>Taking a product and business model that is serving a middle class market and re-designing</td>
<td>• Jacaranda in Kenya has redesigned health delivery such that its nurses provide all clinical care, while assistants provide non-clinical care and community health workers manage home visits and client...</td>
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<td>Using ICT or other technology to reduce cost of delivery of a product</td>
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<td>This is similar to the above, but may not require product re-design. It specifically involves the use of ICT and other new technology to make a significant reduction in the cost paid by low-income consumers</td>
<td>Remote monitoring of water meters allows WaterHealth to provide quick responses when there are problems while maintaining a very small team of technical staff.</td>
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<td>Standardized products</td>
<td>Standardizing a product or process that may be quite flexible and tailored when delivered to a middle class market. Making it standard will retain the essential quality but remove the costs of some ‘nice to have’ features.</td>
<td>Micro-insurance products such as Guy Carpenter &amp; Co LLC, part of GIIF, Mozambique, use portfolio pricing and standard indices to assess risk and decide when to make payments to customers which saves the transaction costs of individual premiums and claim assessment.</td>
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<td>Shared access</td>
<td>Reducing the cost of a product to an individual user by sharing the cost with other users who are able to access the same product.</td>
<td>LYDEC in Morocco install collective meters for households that could not afford individual connection to grid electricity.</td>
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<td>Self-delivery</td>
<td>Taking a product where the usual delivery mechanism is part of the product and getting the consumer to undertake</td>
<td>Indian education provider Avanti uses peer-to-peer instruction, which cost a fraction of private coaching institutes.11</td>
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their own delivery (or collection). WaterHealth Ghana have an option of buying water at kiosks, which costs less than half the price of water delivered to the home.

Using volunteers Taking roles that would usually be undertaken by paid staff and enlisting volunteers to do so at a much lower cost. • Limited Resource Teacher Training keeps costs of its education service low by employing volunteer teacher trainers.

As the table shows, some businesses focus on stripping down product design to leave the essential functionality that is wanted by low-income consumers. Others reduce costs by creative approaches to distribution or use of ICT. Several apply multiple strategies. For example enterprises supplying decentralized clean and safe water use a combination of a standardized product (clean water in 20 liter containers), shared access (through sales at a single stand pipe or water kiosk), and self-delivery (in which customers collect the water in person and carry it to their households).12

Matching cash flow
Some of the earliest Base of the Pyramid (BoP) innovation took place when it was realized that low-income people were interested in buying consumer products but did not have sufficient cash flow to access products such as shampoos aimed at the more affluent middle classes. The approach taken by early innovators to address this desire to consume was to break down multiple serving packaging into single use sachets that could be bought when the consumer had some cash in hand and wanted to use the product immediately. There is now a much wider variety of approaches to matching low-income consumer’s uneven cash flow, as Table 3 describes.

Table 3. Summary of innovative approaches to matching the cash flow of low-income consumers

<table>
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<tr>
<td>Paying for a product by installments in lease-to-own models.</td>
<td>Breaking down a payment into multiple small payments, often facilitated by access to finance, with ownership transferred to the consumer once the full product and finance costs have been paid.</td>
<td>• Customers purchasing WaterSHED toilets in Cambodia pay a small up-front fee for the latrine, followed by regular, fixed payments for 18 months, at which point they gain full ownership of the toilet.13 • M-KOPA in East Africa sells small solar units with embedded GSM sensors in each solar system allowing M-KOPA to regulate usage based upon payments. Once they have paid in full the device is unlocked for permanent use.14 • Tugende, a company that sells vehicles to boda (motorcycle taxi) drivers in Uganda, offers a lease-to-own scheme where drivers can purchase a bike for a small down payment and then pay weekly installments until they have covered the costs of the asset and the finance.15</td>
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<tr>
<td>Pay-per-use models</td>
<td>The consumer makes a small payment when they want to utilize the product’s benefits for a limited time but never own the product.</td>
<td>• Electricidade de Moçambique (EDM) uses prepaid metering systems, which allow its customers to decide how much they are able to consume and spend on electricity. • Claro Energy sells its irrigation pumps to franchisee farmers in India, who then rent them out to other farmers who only need them from time to time.</td>
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<tr>
<td>Small servings</td>
<td>In this model the product is broken down into very small portions</td>
<td>• Delivering soaps and shampoos in sachets rather than larger, multi-use containers has become a staple part of FMCG in many developing countries.</td>
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such that the consumer only pays for what they need in the immediate future and does not pay for a ‘stock’ of the product for future use.

Companies such as Hindustan Unilever Ltd (HUL) in India pioneered this approach and are now taking the same approach into more developed markets. This makes the cost per unit of product higher but makes them accessible to low-income consumers.

• Many mobile phone companies also sell scratch cards that allow small amounts of airtime to be bought instead of insisting on a contract.

Flexible terms

Allowing some free access to a service when customers cannot make one of their regular payments. This free access is at a time period chosen by the consumer to match periods of particular financial stress.

• Chain school Omega has flexible payment schedules that are aligned with BoP customers’ irregular income patterns. Omega allows parents several fee-free school days each term.

The use of ICT has been key to the development of innovative ways of allowing payment by very small installments to match consumers’ cash flow as explained in detail in the paper, “Information Communication Technology (ICT) as an Enabler,” which is in the same series as this one that summarizes how ICT is helping with business model innovation. Two such innovations are particularly relevant to affordability. Firstly, payments by mobile phone or scratch cards enable low-cost means of making small payments. Secondly, technology allows payment to be linked to unlocking usage, thus incentivizing continued payment much more strongly than in a conventional consumer financing scheme, where repossession is the ultimate sanction.

**Providing consumer finance**

Consumer finance in various forms is an important component of many business models that are making products more affordable and cash flow more manageable. Offering payment on installment terms is in effect a credit arrangement, although the consumer may never perceive it as such. In other cases, an explicit credit arrangement is made. There are two basic approaches to how this finance can be delivered. Table 4 summarizes these approaches, with examples.

<table>
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<tr>
<td><strong>Providing finance with the product</strong></td>
<td>An enterprise selling a product where a one off payment would be too large for a low-income customer, may choose to provide financing to allow payment in installments or leasing</td>
<td>• Echale a tu Casa, a company in the Self-Build housing sector in Mexico has a bank loan at 8 percent to cover its working capital and it charges its customers an interest rate of 12 percent. Proximity Designs sells their irrigation pumps in Myanmar by providing low-interest loans with only 10 percent interest rate to customers. Full repayment of the loan is due by the second harvest after it is taken out.</td>
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<tr>
<td><strong>Partnering with external finance provider</strong></td>
<td>Similar to the above, some enterprises partner with a specialized finance provider for consumer finance for their products</td>
<td>• EVN Bulgaria partnered with a microcredit organization to facilitate a one-year loan for customers to meet the upfront investment of a grid connection. • Larger home solar product sellers such as Grameen Shakti offer financing of their systems through traditional in-house micro-credits</td>
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Table 4. Summary of innovative approaches to financing for affordability
schemes, whereas smaller businesses such as Zara Solar, Barefoot Power or SELCO partner with finance institutions (both MFIs and banks) to make their products affordable.

**Assisting with payment**

There are many ways in which part of the costs of a product or service can be paid by a third party, so only a fraction falls on the low-income end user. This is particularly the case where products have a strong element of public good, such as health and education services. The enterprise approach is still very much part of these models to ensure effective use of the subsidy and to be the engine for sustainability of the model, as shown in the examples given in Table 5.

**Table 5. Summary of innovative approaches to use of subsidy and cross-subsidy**

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<tr>
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| Sharing of the cost by a third party with an interest in contributing to the social outcomes, such as a public body, NGO or large company. | The government or a large company is prepared to subsidize some of the costs to make a product more affordable for low-income customers. For goods such as water, this is often a model whereby the users payments cover operational costs and public/charitable funds cover the capital costs. | • BridgeIT requires governments and technology partners in the Philippines to each bear about half the costs related to school roll-outs.  
• Clinic chain Pushpagari Eye Institute provides 80 per cent of their services for free to the poorest of the poor. It is a long-standing beneficiary of Sri Rajiv Aarogyasri scheme of the Government of Andhra Pradesh to subsidize the cost of its health services.
• WaterHealth Ghana covers all operational costs related to providing clean water to its customers, including staff and maintenance costs. The cost of the filtration equipment and all other infrastructure is paid for by WaterHealth, which raises finance from grants and impact investors. |
| Cross-subsidization between clients           | Segmenting consumers according to their ability to pay and then using the higher margins from sales to better off customers, to reduce the cost to low-income consumers. | • Chain school Vienova reserves 20 percent of its revenues for scholarships for students from low-income households.  
• Women’s health franchise Merrygold employs a cross-subsidy model of tiered pricing charging different customer groups at different rates. This enables the business to charge 50 to 60 percent below market price to its low-income patients who make up over 70 percent of the client base. |

The input from governments, donors, or others, is often performing a dual role in making a product more affordable but also driving uptake of new products where a lack of awareness of the product benefit may also be an issue. This is certainly the case for micro-insurance products.

In other cases, the main reason for governments to procure provision of services or cover part of the costs, is to meet public responsibilities, such as in health. It may be that the public sector is not able to offer a high quality service on its own, but by contributing to the costs of private provision to the BoP, it can make a high quality private service more available to people with lower incomes than would otherwise be the case.
Constraints and Drivers for Growth and Scale

There has been a great deal of progress in making products for low-income consumers more affordable. There has been successful innovation in reducing cost and matching low-income people’s cash flow. The key drivers of progress so far are:

• Growing recognition of the BoP market - not just the size of the consumer base, but the willingness of low-income people to buy products that meet their needs and aspirations.
• For-profit companies see an opportunity to sell low-cost versions of their products, or add new products to their range, and therefore access a large number of new customers.
• A growing number of not-for-profit social enterprises that exist to address the low-income people’s basic needs through the development of affordable new products and services.
• Use of ICT, money transfer, and other technology that have created opportunities to alter payment mechanisms with low costs.

Despite strong drivers and progress, there are also limiting factors on how affordable products and services can be:

• Prices cannot be lowered so far that they impair the quality of the product. Cheap versions of products that are not durable carry a much higher ‘lifetime cost’ than the version produced by a social enterprise that is designed to maximize user benefits rather than to minimize the up-front cost. Products that are only designed with cost in mind can be bad for consumers and ultimately bad for the business.
• The costs of providing products to low-income consumers are often inherently high. BoP consumers often live in remote, rural locations with high distribution costs. They require consumer finance that can require high transaction costs. Expensive high-touch marketing may be needed, to raise consumer awareness or provide training and education on how to use products.
• Affordability cannot compromise the sustainability of the business model. In recent years the focus has shifted from focusing only on affordability through achieving a low up-front product cost to greater consideration of the sustainability of the business model, because an affordable product that is driven by subsidy will only benefit consumers for a short time. Instead the affordable product should deliver both value to the consumer but is also financially viable for the enterprise. A high margin model based on more effective selling of the lifetime value of a product will sometimes be the only successful strategy available.

Pure affordability of high quality products may not be as much of a constraint as it appears, as low-income consumers are also not always interested in the lowest possible cost. Research suggests that low-income consumers have a strategy of minimizing their risks instead, to ensure that the money that they do spend can deliver the benefits that they were looking for, as the Toyola example below illustrates.

Toyola Example - customers choosing whether to cut risk or cost
Toyola, an enterprise selling cook stoves, offered an 11 per cent discount to customers that paid cash. They also gave them an option to forego this discount and test the cook stove at home first, while putting aside savings from their reduced use of charcoal so that they can assess the amount that they are actually saving. About 50 per cent of customers preferred to pay more so that they could verify the cost saving of the stove that would accrue over time.

Roles and Implications for Government

There are a number of helpful roles that government can play to stimulate further innovation towards greater affordability of beneficial products, although in many countries governments have not yet created a business climate or regulatory environment where inclusive business can thrive.
Private organizations have generally taken the lead in stimulating and supporting technical innovation that can provide the opportunity to produce high quality products at lower cost. Instruments used by private actors, such as incubators and accelerators that bring together Universities, NGOs and companies, and the use of grants and prizes for inventors with promising ideas, are available to governments also.

For innovations that depend on ICT, when governments react quickly to register new products, it allows innovation to happen in a way that also protects consumer rights. For example, Nigeria’s National Agency for Food and Drug Administration and Control (NAFDAC), endorsed Sproxil’s Mobile Product Authentication™ service before it was even deployed in the country. This allows consumers to verify that that are getting the quality of medicine that they are paying for.

However, when the regulatory backing for an affordable product is not in place this can hinder innovation. For example, Abellon Clean Energy has a successful bio-pellet business in India selling safe and affordable fuel solutions to low-income consumers, but a different and difficult regulatory context has hindered its expansion into Ghana. Such constraints apply in the mobile money space as well. Some governments, such as the South African Reserve Bank have taken a cautious view of mobile-based financial products, which also has the effect of reducing the rate of innovation. On the other hand, as the South African Reserve Bank also points out, failing to regulate some forms of financial products well enough may lead to low-income consumers being put at excessive risk.

Other government initiatives have been more helpful in stimulating roll out of innovations that allow those on very low-incomes to access products that otherwise would be beyond their reach. Vortex Engineering, an Indian company in the financial sector, has benefitted from government support to set up ATMs in rural areas. The government of India has also supported training organizations by giving them access to credit at a concessional rate which has helped them to scale, which is a better alternative than the Government directly providing training itself as their contribution is leveraged by private sources.

Endnotes


14 M-Kopa Solar “About us” M-Kopa Solar website http://solar.m-kopa.com/about/


16 Kala Vijayraghavan. 2012. *Unilever takes HUL strategies like small packs, cheaper variants to developed markets.*


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29 See, for example, the Asian Development Bank country studies such as: Asian Development Bank. 2013. *Developing the Business Case for Investing in Inclusive Business in Bangladesh: A Market Scoping Study.*
https://drive.google.com/file/d/0BwXPtWGsnEshbE55a1pEaWFRTWM/edit


31 For example: The Inclusive Business Accelerator “What is IBA?” The Inclusive Business Accelerator
https://iba.ventures/what-is-iba/ and the Intrapreneur Lab “Intrapreneur Lab” www.intra-lab.com

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33 Sproxi. 2015. *Improving Anti-Counterfeiting Efforts in Emerging Markets through Private-Public Partnerships.*


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