Finding a path to financial sustainability is one of the biggest challenges faced by digital development programs. Most programs, especially those established by NGOs, are grant funded. But if they are to become sustainable, alternative ways of covering costs need to be identified before the funding runs out.

Digital development implementers have explored different approaches to financial sustainability — from transitioning ownership to government to charging end users to developing alternative commercial revenue streams. And although the term may not be frequently used among NGOs, this is exactly what a business model describes: the way in which an organization generates enough revenue from various sources to cover its costs and continue operating.

Until now, your business model may have consisted of a mix of institutional grants, individual donations and perhaps affiliate schemes where commercial partners, such as credit card providers, donate a percentage of every transaction to your cause. But for your digital solution to become sustainable, you will need to go further and forge commercial partnerships with private-sector companies or transition costs to government.

Whether your route to sustainability is through the public or private sector, a robust business model will be essential to securing investment. Fundamentally, you will need to balance revenue and costs and clearly articulate your digital solution’s value proposition.
Achieving these goals will involve scrutinizing your existing costs and how they may change as you scale or transition. On the revenue side, you’ll need to identify new buyers for your digital solution and establish how much they are willing and able to pay. This information can be used to forecast how much income you will generate or indicate the potential to make a profit if you are a social enterprise. Your business model can then be refined into a revised business plan and presented to investors or funders.

This module uses insights gained from interviews with organizations including BBC Media Action, Esoko, Kopo Kopo, Akros, Cell-Life, Dimagi, Praekelt Foundation, United Nations Capital Development Fund (UNCDF) and TaroWorks to help you make your digital development solution financially sustainable in the next phase of its life.

The steps and activities here will help you to:

1. Understand what the changing landscape means for your digital solution
2. Estimate the total cost of owning your digital solution
3. Identify who is going to pay for the next phase of your digital program
4. Forecast revenue for your digital program
5. Determine time to financial sustainability
6. Develop a case to secure investment
### Key steps

1. **UNDERSTAND WHAT THE CHANGING LANDSCAPE MEANS FOR YOUR DIGITAL SOLUTION**
   - Revisit your competition
   - Update your assumptions about your target audience
   - Take a fresh look at the payer landscape
   - Determine the impact of changes on your total addressable market (TAM)

2. **ESTIMATE THE TOTAL COST OF OWNING YOUR DIGITAL SOLUTION**
   - Map out solution costs and how they might change over time
   - Sort costs into capital and operating expenditures
   - Determine the total cost of ownership (TCO) for your solution

3. **IDENTIFY WHO IS GOING TO PAY FOR THE NEXT PHASE OF YOUR DIGITAL PROGRAM**
   - Reassess your value chain
   - Identify advantages for potential payers
   - Determine payers’ ability and willingness to pay
   - Choose the business model that’s best for your solution

4. **FORECAST REVENUE FOR YOUR DIGITAL PROGRAM**
   - Use your data to estimate revenue
   - Model different revenue scenarios
   - Update your forecasts regularly

5. **DETERMINE TIME TO FINANCIAL SUSTAINABILITY**
   - Estimate how long it will take to become sustainable
   - Step back, reassess and adjust
   - Budget sufficient resources for the long road to sustainability

6. **DEVELOP A CASE TO SECURE INVESTMENT**
   - Articulate your answers to the fundamental questions
   - Update your business model for financial sustainability
   - Build business cases for partners into a revised business plan
STEP 1 ➤➤➤➤➤➤

UNDERSTAND WHAT THE CHANGING LANDSCAPE MEANS FOR YOUR DIGITAL SOLUTION

Revisit your competition

New competitors, technologies and business models will all influence the demand for your digital solution among target audiences, governments and potential commercial partners. In a sector where different donors — or even the same donor — may invest in similar digital pilots in the same country, competition among NGOs for government resources for scale and sustainability can be fierce. Some organizations have found that their solutions just aren’t government priorities and can’t successfully compete for scant public-sector resources beyond the lifetime of their existing grants.

Even digital solutions offered by nonprofits compete with alternatives. If you are at a transition point and need to make big decisions, a useful first step might be to review your solution’s competitive landscape. Assess how other organizations compare to yours with respect to their digital services and products, scale of operations, business models, costs, investor and government relationships and the degree of sustainability they have achieved. A common way to assess the competition is through an analysis of strengths, weaknesses, opportunities and threats (SWOT).

Update your assumptions about your target audience

The needs and tastes of your target audience may have evolved while you’ve been building and piloting your digital solution. Thus it is worth asking and answering some key questions. Do your users have more access to the same technologies or are they using different technologies entirely? How have local industry trends changed their usage habits? If you are expanding to a new country, what are the similarities and differences between your new and existing target audiences?

Publicly available reports on consumer behavior and trends from companies like The Boston Consulting Group (BCG) and Deloitte or industry bodies like the GSMA can provide high-level data on your digital environment or market. When you’re targeting specific
In practice | BBC Media Action

What our market research didn’t reveal, and how it changed our business model

We first launched Kilkari, an IVR service that sends time sensitive audio messages on reproductive, maternal, neonatal and child health (RMNCH) to new and expecting mothers every week, in Bihar, India, in August 2013. By the end of the year, we knew our business model — where we charged end users a reduced rate for accessing the service to try to cover MNO network and service operating costs — wasn’t going to work. The challenge lay in our market research.

While designing Kilkari, we did a survey of 1,500 people in Bihar to identify what functionality they used and how much money they spent on their mobile phones — i.e. their Average Revenue Per User (ARPU). The objective was to identify the most appropriate technology to use and whether they could afford to pay for the service. Our research indicated that IVR was the most appropriate technology, because it’s audio-based and accessible from any handset, and that with an ARPU of 60 rupees per month, our target audience could afford to pay for Kilkari, if the price was right.

We supplemented this research with concept testing to establish that the majority were not just able, but willing to pay a nominal, weekly fee for Kilkari. We cross referenced this with Indian census data on the crude birth rate to estimate a Total Addressable Market (TAM) of 500,000 families in eight districts in Bihar.

After launching the service, the response to our digital and rural marketing campaigns was positive, with thousands of people calling to subscribe each day. But 40% of these subscription requests couldn’t be activated by our MNO partners, because up to 50% of our target audience had no credit on their mobile phones at any given time. Although rural mobile subscribers in Bihar have an average monthly ARPU of 60 rupees (a little under one US dollar), the majority buy tiny amounts of talk time credit throughout the month, and tend to spend almost all of it immediately.

Although our target users had enough money to pay for Kilkari, their expenditure patterns meant they couldn’t subscribe. This meant that Kilkari was unlikely to succeed unless it was free to users, and MNOs could activate subscription requests from phones with no credit. But we did not have enough donor funding to cover call costs for hundreds of thousands of families.

Go to BBC Media Action’s ‘In practice’ case study next to Step 5 to read about how we overcame this challenge, making Kilkari free to millions of women in India.
groups, more granular information is needed on habits and preferences. Having staff and partners conduct surveys and focus group discussions with your target audience can give you a more specific, nuanced view of the people you’re trying to serve, particularly if they are low income, illiterate and female. MNO and other partners are unlikely to have rich data on the technology usage habits of these groups.

**Take a fresh look at the payer landscape**

Income levels and expenditure patterns change over time, and new payment approaches and methods replace old ones. If your route to sustainability relies on target audiences paying for your digital service or product, it is worth surveying your end users about the money they spend on their phone every month (often expressed as ARPU, or average revenue per user), their willingness to pay for solutions such as yours, the price point that’s acceptable to them, and the payment method that they’re most likely to adopt.

There may also be changes among institutional payers — e.g. government agencies or insurance companies — for solutions whose costs are covered by sources other than end user charges. In public-sector programs, talk to government representatives about how election and budget cycles and changing priorities may impact the government’s willingness to pay for a solution over time.

**Determine the impact of changes on your total addressable market (TAM)**

In addition to shifts in the competitive, audience, and payer landscapes, other factors that could affect demand for your solution (and your ability to deliver it) include changes in telecommunications and power infrastructure, marketing and distribution networks, and government policy in areas such as taxation. Understanding the changes in your digital solution’s ecosystem is important because all these factors will impact the potential scale of your solution in its next phase. This potential is often described as the total addressable market (TAM), which represents the maximum amount of income your digital development solution could generate.

TAM is based on the total number of people willing and able to buy a product or service at the targeted price point, regardless of whether payments are made entirely by users or subsidized by governments, donors or private-sector companies. TAM is based on many assumptions about users’ demand for a solution and their likeliness and ability to adopt it. It is often overestimated, so being transparent about your assumptions is important. Your estimate of the TAM for your solution will be useful when you forecast your revenue. Even if your service is free to end users, it’s still critical to try to estimate the TAM for your solution because of its usefulness in representing demand for it among possible payers.
Other examples

- When Cell-Life was looking for data on how to reach lower-income South Africans with SMS messages on nutrition, it found that there was very little information on low income mobile phone users. While there was substantial data on the number of mobile phones sold and number of active connections, it was rarely broken down by income groups, and no data existed on the use of phones by gender, literacy level and language. The organization decided to build this research into its work, comparing uptake of the service against each advertising channel used. It found that newspapers and posters didn’t work. Instead, mobile advertising was much more effective. Advertising a SMS service via SMS increased uptake; this was an insight its managers didn’t find in the literature on mobile solutions. Read more here.

How to

- See a SWOT analysis template here
- See an example of visualized SWOT analysis results here
- Learn how to conduct market research here
- Learn how to estimate your TAM here

Understanding the changes in your digital solution’s ecosystem is important because all these factors will impact the potential scale of your solution in its next phase.
BBC Media Action: building a business case for maternal health messaging

Sized the target audience

We used government census data to estimate the number of new and expecting mothers in Bihar, India.

Determined % of target audience with access to mobile phones & using VAS

We then carried out a mobile landscaping survey of 3,000 mobile phone users in Bihar to estimate the percentage of new and expecting mothers who had access to mobile phones and had ever used their phone to access value added services (VAS) in the state. We crossed referenced this with the latest quarterly report from the regulator on teledensity in the state.

Established willingness to pay for the service and affordable price point

We then carried out concept and price testing research to establish what percentage of their target audience with access to phones might be willing to pay for maternal and child health (MCH) information and how much they would be willing to pay.
We then carried out desk research to identify typical adoption rates of mobile VAS, including health services in Bihar, India to identify an average adoption rate. It applied this to the total addressable market of new and expecting mothers and their families with access to mobile phones, who were already using VAS and had expressed willingness to pay for MCH information, to estimate the number of subscribers we expected to adopt the service each month and year. It applied a less optimistic adoption rate to the percentage of the target audience who had never used VAS.

Finally, we calculated the projected revenue that MNOs would earn from the service, based on the price point that target audiences had said they were willing to pay for the service multiplied by the number of families we projected would subscribe.
Map out solution costs and how they might change over time

If you’re evaluating different scenarios for making your digital solution financially sustainable, you’ll first need to figure out how much it might cost at scale. The first step is to review your major cost categories including hardware and software development, staff and user training, technical support, customer care, connectivity, marketing and regular replacement of devices. Map out all the costs your program will incur over a three to five-year period using data from the past several years as initial inputs. Take into account how these might change year-to-year due to growth in the number of users and factors such as inflation or new taxes.

Map out all the costs your program will incur over a three to five-year period using data from the past several years as initial inputs.

Sort costs into capital and operating expenditures

Once you’ve identified all the costs associated with making your digital solution sustainable, sort them into capital expenses (CAPEX) and operating expenses (OPEX). CAPEX may include costs such as legal counsel, content development or licenses, research, user testing, software development and deployment, infrastructure procurement and deployment,
In practice | BBC Media Action

The complexity of estimating ‘total cost of ownership’ while transitioning to government

Government adoption of our mobile health education services has necessitated estimating the total cost of ‘owning’ each service. For example, in Bihar, we needed to estimate both the capital investment (CAPEX) required to scale Mobile Kunji, our IVR and print-based job aid for community health workers (CHWs), as well as the cost of operating it (OPEX), before the state government would agree to adopt it.

We had already rolled out Mobile Kunji in eight districts in Bihar, demonstrating its efficacy and impact on a range of health behaviors, with support from the Bill & Melinda Gates Foundation. We had then scaled the job aid to several districts in two more states, with support from local government and donors. Thus, when it came time to estimate how much it would cost the government to scale Mobile Kunji across Bihar, we used the rates we had paid, or local government had paid, in other states as benchmarks.

The technology platform that powered Mobile Kunji had already been scaled, so the capital investment required to roll out the service was limited to the cost of printing decks of Mobile Kunji cards, and face-to-face training of CHWs in the remaining districts. The government agreed to cover these costs, if we would use donor funds to train government trainers.

Operating costs were more complex to estimate, because they were dependent on government negotiations with MNOs. The single largest operating cost was CHWs’ toll free calls to Mobile Kunji, which we estimated (based on the per minute rate we had agreed with our MNO partners, multiplied by the maximum number of minutes of Mobile Kunji played by CHWs to families each month, multiplied by the total number of CHWs) could cost up to $700,000 per year at scale. But, we also knew that the government already had an agreement with an MNO for providing Closed User Group SIMs to CHWs, which was worth more than this amount, and that on-net calls to numbers within the CUG were free to CHWs, thus costing the MNO almost nothing to provide.

After months of negotiations, the MNO agreed to integrate our short codes into the CUG, making calls to Mobile Kunji free to all CHWs using CUG SIMs in the state, at no additional cost to government. This significantly reduced the OPEX required to run Mobile Kunji, and meant that the project was no longer responsible for these costs.

Simultaneously, we supported the government in negotiating a cost-effective monthly rate with the same MNO for hosting, supporting and maintaining the Mobile Kunji IVR platform. The MNO, via a back to back agreement with an aggregator, had already been providing this service to BBC Media Action for several years — so all that was required was a transition of contractual responsibility for costs to government, rather than a change in technology solution design.

Thus, eighteen months after the transition process began, the Government of Bihar signed an addendum to its existing MNO agreement, and the contractual transition of Mobile Kunji operating costs from BBC Media Action to state government was completed.
security audits and end-user training. **OPEX** may include costs such as connectivity, server and website hosting, technical support, repairing or replacing devices, customer care, marketing, staff monitoring and supervision, and staff salaries.

This step provides another illustration of how costs will shift over time. At the outset, **CAPEX** will be high because you’ll need to cover all your set-up costs. But once your program is up and running at scale, **OPEX** should become cost effective as your user base increases and your cost per user decreases. However, be alert to recurring or hidden costs that many digital development programs overlook or mistakenly categorize as one-time costs — for example, handsets or tablets, which usually need to be replaced every three to four years, and the cost of data plans, which can be very expensive at scale in some countries.

Digital development organizations often fail to allocate sufficient funds for marketing their programs to end users, relying only on press releases and public relations to engage target customers.

**Determine the total cost of ownership (TCO) for your solution**

Create a spreadsheet-based model covering three to five years that captures all your costs broken down into line items, sorted by category type and divided into **CAPEX** and **OPEX**. Review the assumptions you made earlier about these costs and how they might change over time, and test them with members of your team and outside experts. Make sure to include costs to support an adequate marketing budget in your total cost of ownership (TCO) model. Digital development organizations often fail to allocate sufficient funds for marketing their programs to end users, relying only on press releases and public relations to engage target customers. In some cases, marketing and distribution costs can eat up to two-thirds of digital service revenues.
Other examples

For many years, Dimagi implemented digital health programs in various states on behalf of the Government of India. Then a new national nutrition program was envisioned where government staff would lead implementation with only limited technical support from Dimagi. This had significant impact on the TCO for their program. Dimagi found higher costs in two areas that are often underestimated by implementers:

- **Hardware procurement**: Costs for acquiring the necessary hardware to support the program were higher, due to lengthy procurement process for new government data center servers and mobile handsets.

- **Human resources**: Costs to hire and train government technical support staff were significantly higher, due to government restrictions on using third-party recruitment services.

How to

- Download a sample TCO tool [here](#)
- Learn more about hidden costs in low-resource environments [here](#)
Reassess your value chain
If you need to become sustainable or profitable before your donor funding or seed capital runs out, it’s critical to identify who’s going to pay for your digital solution going forward. To answer that question, you could start by reassessing your existing stakeholder value chain — the value that your digital solution holds for each organization that has a stake in it, such as government, MNOs, other private-sector companies, and their contribution to delivering it. The objective is to identify whether this value will motivate organizations to pay for some or all of the costs associated with delivering your solution going forward. If your analysis doesn’t reveal sufficient value for your existing stakeholders, you will need to consider other potential payers who might see more value in your solution.

It’s also worth considering how your value chain might change over time. For example, new mobile payment options might make existing service providers redundant and reduce your costs, while tighter government budgets could limit the ability of governments to cover costs. Meanwhile, new groups of stakeholders could enter the picture, such as companies seeking to monetize user data.

Identify advantages for potential payers
Once you’ve reassessed your value chain and identified potential payers for your digital solution, the next step is to identify what they might gain from it so you can articulate its value to them. Potential payers often break down into stakeholders at distinct levels. For example, government officials at the national, state and district level may want different things from your digital solution: making progress towards Sustainable Development Goals targets, winning votes, justifying an existing investment or accessing more funding. National and state-level MNOs may have opposing goals such as improving brand positioning versus hitting a monthly revenue target.
In practice | Esoko

Nothing is sacred, not even your business model

Our business model now exists in a state of constant iteration. In the past year alone we’ve deleted it and started over four or five times. We’ve rooted out any sense of complacency, and we approach our business model with the mantra that nothing is sacred.

This process has strengthened the organization overall and informed the development of new services like Insyt, a tablet-based data collection service for social protection and agricultural programs, and Tulaa, an m-commerce platform connecting farmers to finance and inputs — the latter was recently spun-off into a new company. To fund Tulaa’s growth, we raised capital from a commercial investor for the first time. Taking commercial investments has forced us to be laser-focused on achieving profitability. This impacts every decision the company makes. For example, when we wanted to add a call center to Tulaa, we had to first assess the costs it would add, determine the value it would bring to the service, and then find a way to balance the two.

Tulaa’s investors have set a series of milestones for us and routinely ask to see our business plan, revenue projections and break-even analysis. The next round of funding and the expansion of Tulaa will depend on performance against these milestones. It hasn’t been easy, but we think Tulaa should be able to break even within two to three years. The only way to get there is to continue to challenge our assumptions and treat no cost as sacred.

Other examples

The management at Kopo Kopo, a merchant payments platform, tried to replicate the success of their model in Kenya when expanding into Tanzania. They set up a new office and hired people to go out and acquire merchants. But they soon found it was going to take a long time and more money to scale up, and without funders this wasn’t possible. Instead, they pivoted to a strategy of licensing their software to banks and MNOs who used it as a tool to build their merchant networks.

How to

- Learn how to map your stakeholder value chain here
- Learn how to profile potential investors here
- Read about success factors for sustainability and scale here
- Explore a range of funding and revenue models for digital development solutions here
- Learn more about how to improve your business model here
Determine payers’ ability and willingness to pay

Now that you’ve calculated how much it’s going to cost to run for three to five years, you can assess how much identified payers might be willing and able to pay for your digital development solution. For example, you could use your latest research on ARPU to calculate whether your end users can afford to pay a price that covers your costs. If not, can you find private-sector partners willing to subsidize the cost of running the service? Or does it make more sense to transition costs to the government?

If your digital solution is going to be paid for by private-sector partners or government, you’ll need to identify specific potential sources of funding, for example grant-making mechanisms, corporate social responsibility funds, rural marketing budgets or government budget lines. In some cases, information about the limitations or caps on these budgets will be in the public domain. If not, you may be able to find amounts that potential payers have invested in similar projects in the past. Use this information to estimate the amount that each new or existing payer could potentially contribute each year.

Choose the business model that’s best for your solution

An analysis of potential payers for the next phase will help you identify the business model that’s right for your digital solution. For example, some implementing NGOs have found that public school teachers are not willing to pay for the digital tools they need to use every day as part of their jobs, such as devices and software to create lesson plans or facilitate group learning.

In this situation, a business-to-consumer (B2C) business model — where end users are charged for using a digital product or service — is unlikely to work, particularly if the relatively small numbers of workers might not attract advertisers to your service. You might need to explore a business-to-business (B2B) model, where a public- or private-sector organization covers the cost of providing your solution to end users. Many digital development programs land on a hybrid model that combines revenue from users with payments from governments and private-sector companies (see graphic in the following section).
Many digital development programs land on a hybrid model that combines revenue from users with payments from government and private sector companies.
# Common digital development revenue models

## Sample revenue model

### Grant funded

- **Donor** provides grant to cover all or some of the costs of designing and delivering the service.
- Enables research and development using human centered design processes, independent of commercial or political interests. Enables service development for target audiences that are of little or no commercial value to the private sector.
- Grants are often short term, and do not ensure long term sustainability.

### Advertising revenue or data monetization

- Monetizes the value of customer engagement via sale of advertising space or user data.
- Capitalizes on the value presented by access to an end-user market. Low-income, low-literacy target audiences may not appeal to advertisers. Sale of user data to third parties may not be allowed under local data protection law, users may not give their consent to the sale, or it may be challenging to obtain and record informed consent.

### Public- or private-sector owned

- Governments or private-sector organizations pay for the service, potentially making it free to users.
- Provides potential long-term financial sustainability and accessibility for low-income target audiences.
- Requires strong evidence of return on investment for private sector, or alignment with existing government objectives or political agendas for the public sector.

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In any business or service, there are end users or beneficiaries and there are **payers**, and they aren’t always one and the same. The delivery of many digital services for low income people is subsidized by donors or governments, who value the social or economic return on this investment.
Common digital development revenue models

By funding source

### Pay-as-you-go or pay-per-use

Service is metered and billed to the user.

- Creates long-term, sustainable revenue to cover some or all service costs. Useful when users are unable to subscribe to services due to low or no credit on phones. ⭕
- If service pricing is affordable to low-income users, revenue may be insufficient to cover roll out and marketing costs. ❌

### Subscription service

User pays set, recurring fee for continued access to digital service.

- Spreads larger payments over time and provides regular source of guaranteed revenue. ⭕
- Users may be hesitant to commit to long-term use or subscription billing may fail due to lack of credit on users’ phones. ❌

### Freemium service subsidized by premium service

High-income users subsidize usage by low-income users.

- Commercial service enables sustainable delivery of free service to low-income target audiences. ⭕
- Can be challenging to target same service at very different target audiences. ❌

More and more digital service providers are experimenting with models where end-user payments and other forms of revenue can help them reach long-term sustainability. This diagram compares just a few common revenue models across a spectrum of who pays in order to highlight some of the pros and cons of different models. See a broader range of revenue models for digital development programs [here](#).
Use your data to estimate revenue

Revenue forecasting can be a complicated task that requires specialized expertise, but a first step is to go back to your solution’s TAM. This figure represents the potential demand for your solution, and will give you a point of reference for your revenue estimate. Next, use data from your audience and payer landscape analyses to estimate revenue from each potential source, and then add them up. Capture these data points and assumptions in a spreadsheet, and factor in projected growth over time. When estimating the number of users, segment them according to their likelihood and probable time frame for adopting your digital solution. For example, young urban men may adopt more quickly than older rural women. Segmenting users also helps identify potential new marketing and distribution channels.

Note that even if your organization will not, and perhaps legally cannot, profit from sales of your digital solution, you still need to estimate revenue for potential commercial partners such as MNOs. Revenue assurance teams in MNOs will not approve commercial agreements or sign contracts with the government unless there is robust evidence that the company will make a profit.

Note that even if your organization will not, and perhaps legally cannot, profit from sales of your digital solution, you still need to estimate revenue for potential commercial partners such as MNOs.
In practice | Esoko

If at first you don’t succeed… revise your business model

When expanding to new countries, we ran the numbers and realized that we were losing money. Our old business model relied on a cadre of market enumerators that were expensive to hire, train and manage. It had worked for us in Ghana because we had donor funds to subsidize our losses, but it wasn’t a model that could scale. At this point, we could have scrapped our plans for expansion, doubled down in Ghana and sought additional donor funds. That would have been a safe path. Instead, we chose to disrupt our core operating model, embrace the uncertainty and view this as an opportunity for innovation.

The first thing we had to do was unlearn what we thought we knew about the business. We threw out our old financial model and carefully reassessed our costs to find efficiencies. We listened to what the market research was telling us, even when it challenged our assumptions. And we re-examined our pricing, marketing and branding strategies. We needed to track our finances in more detail including cash flow, cash burn rate and profitability.

Sustainable growth meant that funding shortfalls could no longer be covered by personal loans from our founders, as is often done by startup companies. With more detailed and frequent data about our cash on hand, we were able to cut down our cash burn rate by 70%. We did this by making informed decisions to cut loss-making programs and focusing our efforts on products with higher profitability. This ultimately led to us spinning off Tulaa as a separate company.

Other examples

➤ Watch Brent Chism, CEO of TaroWorks, talk about incremental costs and updating revenue forecast.

How to

➤ View a break-even analyses template for financial projections here
Model different revenue scenarios

Once you’ve developed a baseline revenue estimate, develop a model that lets you play with different assumptions for growth and income from the potential *payers* you’ve identified — donors, government, MNOs, other commercial partners and end-user payments. Identify the critical variables in your revenue forecast model (e.g., price, number of users) and analyze the impact of changing their values. Arrive at a series of total revenue numbers for varying scenarios and vet them with internal and external stakeholders, including your commercial partners.

When modeling revenue, it’s critical to keep costs in mind because these will determine the speed and scale of your expansion. For example, your marketing or training budget will determine the number of new users you can acquire, while your customer care or monitoring and supervision budgets will impact the number of users you can retain. If possible, test scenarios with your identified *payers* before you invest too many staff and partner resources, though you’ll need to discuss their willingness and ability to do so.

Update your forecasts regularly

Revenue forecasting, just like expenditure forecasting, is not a one-time exercise. Regularly updating your forecasts using the most recent revenue data will enable you to respond quickly and keep unpleasant surprises to a minimum. As your program scales, revisit the assumptions you used for forecasting and check them against actual revenues. Audience research provides useful inputs for forecasting, but you may find that actual willingness to pay differs from predicted willingness. Once you have revenue data, consider why your assumptions might have been mistaken and test other possibilities by following up with small groups of users to see how they respond.
Once you’ve developed a baseline revenue estimate, develop a model that lets you play with different assumptions for growth and income from the potential payers you’ve identified — donors, government, MNOs, other commercial partners and end-user payments.
Estimate how long it will take to become sustainable

Regardless of whether your approach to sustainability is through the public or private sector, you’ll need to estimate when your digital program is likely to break even. You can do this by combining your revenue and cost forecasts. If your route to sustainability is government adoption, you’ll still need to figure out how much donor funding you need, and for how long, to support a gradual transition of costs to government. Be sure to make conservative scenarios as well as optimistic ones, as it is common to be overly optimistic in assumptions and forecasts.

Step back, reassess and adjust

Once you’ve compared your revenue with your costs, you may find it’s going to take too long to break even, and that you’re going to run out of funding too soon. In these circumstances, you might need to look at your costs. Is there any way they can be reduced? Alternatively, could you expand your TAM by adding new features to your solution to reach more people and earn more revenue or investment?

Once you’ve compared your revenue with your costs, you may find it’s going to take too long to break even, and that you’re going to run out of funding too soon.
In practice | BBC Media Action
Changing direction on the road to sustainability

By calculating the CAPEX and OPEX required to set up, run and market Kilkari, our IVR-based, RMNCH education service for new and expecting mothers, and Mobile Academy, our IVR-based RMNCH training course for Community Health Workers (CHWs) in Bihar, India, we realized that we couldn’t break even on call share revenue alone. The amount that poor subscribers could afford to pay was too low. MNOs’ network costs could be covered by the weekly subscription fee, but hosting, support and marketing costs could not.

Nevertheless, we decided to launch Kilkari and Mobile Academy as paid for services, because we thought we could make up the deficit in our budget with advertising revenue or sponsorship once we had a sizeable user base. But when we failed to hit our subscription targets (see In practice in Step 2), we realized that we had to identify alternative funding sources to make it free.

It was at this point that we were approached by the Government of India, which wanted to adapt Kilkari to automatically deliver RMNCH education to every woman who registered in its Health Management Information System (HMIS), and provide Mobile Academy to every CHW in India. It asked the Bill & Melinda Gates Foundation to support us in migrating Kilkari and Mobile Academy to a national platform in a government data center, so that the millions of pregnant women and mothers registered in its database could receive Kilkari for free, and up to a million CHWs could take the Mobile Academy training course for free.

It took a little over a year to complete this migration, including adapting the content for national deployment, with support from a consortium of donors: the Bill & Melinda Gates Foundation, USAID and the Barr Foundation. The government took responsibility for contracting the data center, and for procuring a MNO to provide connectivity to the platform. Through this contract, the government is now covering all call costs for Kilkari and Mobile Academy. Thanks to the government’s adoption, Kilkari is now providing critical free health information to millions of families, and hundreds of thousands of CHWs in 12 states.
If reducing costs or reaching significantly more people isn’t realistic before you run out of money, you may need to adjust your revenue mix or even consider changing your business model altogether. For example, if it’s not realistic to think that government can adopt all the costs associated with your digital solution, you may need to charge end users a nominal fee to cover connectivity costs, which can be significant at scale.

**Budget sufficient resources for the long road to sustainability**

It takes many organizations years to acquire sufficient customers to make a profit or to transition a free service entirely to government. This long wait can work if you plan and secure funding for this period of growth or transition in advance. NGOs and social enterprises need to maintain positive cash flow and a long enough runway to continue operating and find alternative funding if expected revenue or grants don’t come through.

For purely commercial digital solutions, developing a clear path to profitability will be essential to recruiting new investors and keeping the ones you have on board. Successful organizations target raising twice as much in cash as they calculate they will need and plan that it will take twice as long as they expect before they meet their fund raising goals.

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Other examples

In a number of countries, **UNCDF** supports programs with ‘pay-as-you-go’ business models, also known as ‘pay-go’, that offer people and communities flexible ways to pay for solar power and clean cook stoves in the same way they use prepaid mobile airtime. Based on their experience with investing in pay-go energy companies, UNCDF characterizes the lack of sufficient working capital, especially in local currency, as one of the biggest barriers to scaling. The pay-go business is capital intensive whereby assets such as solar power units are pre-financed by the companies and customer payments are then recouped over time.

Several pay-go energy companies have been successful with their capital raise, mostly through investors. In one example, a UNCDF grant commitment of $250,000 contributed to a pay-go solar company raising over $22.5 million in blended capital from investors, including $2.5 million in loans from a private debt provider, and an additional $20 million in equity from a range of investors, including impact investors, to finance its pay-as-you-go business in Asia and Africa.

UNCDF and other market facilitators have been putting in motion ways to build the confidence of local banks to lend to the pay-go solar sector by developing harmonized portfolio quality indicators and a loan portfolio data sharing platform for financiers, in addition to setting up debt guarantees or refinancing facilities.

**How to**

- Learn about break-even analyses [here](#)
- See a break-even analysis template with data visualizations [here](#)
Articulate your answers to the fundamental questions

Use the market research and financial analyses you’ve done to update your answers to those fundamental questions: What unique value does your digital program bring to each member of your value chain? How do you compare with other ventures looking for the same source of funding and why is your solution a better investment (e.g., higher impact, more scalable, more efficient use of funds, strategic fit with the investor’s strategy)? Do you want to deepen your impact for existing target audiences or expand your reach to new ones? How can you structure the program so that you are able to generate value for your stakeholders, cover your costs and expand your impact? Answering these questions is essential to convincing new funders to invest.

Update your business model for financial sustainability

Answering the questions above will either validate your chosen route to financial sustainability, or reveal that it’s unlikely to ever become independent of donor funding. If the program cannot become financially sustainable in any scenario, it may be advisable to plan an exit.

Build business cases for partners into a revised business plan

Once you’ve finalized your business model, you’ll need to translate it into an updated business plan for potential investors. Public- and private-sector investors need to see your model laid out in a way that shows the social and business value of the digital solution and the investment required to deliver it.

You may also need to develop separate business cases for different stakeholders — one projecting revenue for MNOs, another projecting the total cost of impact over time for government, and still another projecting cost per customer acquisition for other commercial partners. Remember that a business plan is a living document, and you don’t have to be a business to need one. Constantly update it to reflect the evolution of the service and new market opportunities.
In practice | BBC Media Action

Applying private-sector learning to public-sector sustainability

When we first designed Kilkari and Mobile Academy, we wanted to make it financially sustainable at scale by charging subscribers through their mobile phones. To do this, we had to prepare business cases to persuade six MNOs in India to partner with us.

We used market research to identify an affordable tariff, and to estimate the Total Addressable Market (TAM) for each MNO, based on its market share. We worked with the GSMA Development Fund to use this data, in conjunction with our marketing strategy, to estimate how many Kilkari subscribers we could acquire — by MNO — each week, and how many minutes they would consume. We then calculated the revenue that each MNO would earn, based on their proposed revenue share. We used this to successfully negotiate partnerships with all six MNOs.

When the government decided to adopt Kilkari and Mobile Academy, making the services free to new and expecting mothers and Community Health Workers (CHWs), our solution design changed. Since we no longer had to integrate with MNO billing systems, the government could procure just one MNO to provide connectivity.

The government used its Health Management Information System (HMIS) data to estimate the TAM for Kilkari — i.e. all women who had registered a unique mobile number, along with their pregnancy or the birth of their child, at their local primary health center, as well as the TAM for Mobile Academy, based on the number of CHWs registered in its database.

The government used this data to estimate the total number of Kilkari subscriptions that could be activated — initially in six states, but also at national scale, and the maximum number of minutes of content that these subscribers would consume each month, to prepare a Request for Proposal (RFP) to procure a MNO. They did the same thing for Mobile Academy.

MNOs used the government’s estimates to calculate how much revenue they would earn each quarter, and the price they would need to charge for calls to cover their costs and make a profit. The government, as per its procurement policy, selected the lowest MNO quote.

Other examples

Akros quantified the cost of implementing its sanitation program in Zambia to become more cost effective and then to sell their model, or parts of it, to other countries or donors. They offered potential clients a menu of packages, such as Phase 1 only or Phases 1, 2 and 3 together. They knew it cost approximately $120,000 in Phase 1, $180,000–$190,000 in Phase 2, and $50,000 in Phase 3 per district per year for a total average cost of $1.64 per individual. This packaging was very attractive to donors and government and allowed them to pick how many districts they wanted to target with a clear sense of the cost.

How to

Learn how to create and update your business plan here
See a list of guidelines on investor pitches and examples of pitch decks here
RESOURCES ROLLUP

Who do you need?

Re-evaluating your business model will take time, effort and human resources that you may not currently have. The table below indicates the types of human resources you will need to complete the steps in this module. Many of these activities may be short term, which means contracted or partner resources could be an option.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Resource type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value chain analysis</td>
<td>Business Analyst/Strategist (contracted)</td>
</tr>
<tr>
<td>Market/user research</td>
<td>Quantitative Analyst, Mid-level Researcher</td>
</tr>
<tr>
<td>TCO model creation</td>
<td>Financial Modeler/Analyst, Accountant</td>
</tr>
<tr>
<td>Revenue forecasting/ Break even scenario analysis</td>
<td>Financial Modeler/Analyst</td>
</tr>
</tbody>
</table>

Pro tips

• **Challenge your assumptions.** You may feel that certain aspects of your program can never change, like not charging users for a service, but implementers say that everything should be questioned when you’re at an inflection point.

• **Talk to your partners early.** Don’t spend too long formulating a new approach to bringing in revenue. Talk to your key public- and private-sector partners about your ideas, get their feedback and iterate.

• **Bring in flexible help.** Rapid hiring during an expansion can be daunting, but short-term consultants and advisors may be able to fill gaps. Think about discrete activities related to business models that could be more effectively done by outside resources.
1. UNDERSTAND WHAT THE CHANGING LANDSCAPE MEANS FOR YOUR DIGITAL SOLUTION

- Case study: Kilkari: a maternal and child health service in India, lessons learned and best practices for deployment at scale
- Tool: SWOT Analysis Template
- Tool: SWOT Analysis Data Visualization
- Guide: The Ultimate Guide on How to Conduct Market Research
- Guide: What’s Your Startup’s TAM (Total Addressable Market)? A Practical Guide to Crunching the Numbers

2. ESTIMATE THE TOTAL COST OF OWNING YOUR DIGITAL SOLUTION

- Tool: Total Cost of Ownership Model

3. IDENTIFY WHO IS GOING TO PAY FOR THE NEXT PHASE

- Report: Sustainable Financing for Mobile Health (Section 1: Financial Sustainability and Value Chain Analysis)
- Report: Emerging Market Entrepreneurs & Silicon Valley
- Report: Sustainable Financing for Mobile Health (Section 2: Success Factors for mHealth Financial Sustainability and Scale)
- Training: Mastering Business Models

4. COMMON DIGITAL DEVELOPMENT REVENUE MODELS

- Article: Exploring Alternative Funding for Mobile Platforms

5. FORECAST REVENUE FOR YOUR DIGITAL SOLUTION

- Template: Break-Even Analyses for Financial Projecting

6. DETERMINE TIME TO FINANCIAL SUSTAINABILITY

- Guide: A Quick Guide to Break-Even Analysis
- Tool: Harvard Business School Break-Even Analysis

7. DEVELOP A CASE TO SECURE INVESTMENT

- Training: Santa Clara University’s My Own Business Institute: Free Online Business Courses
- Article: How to Create a Great Investor Pitch Deck for Startups Seeking Financing
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Average revenue per user (ARPU) Source</td>
<td>The total revenue divided by the number of subscribers.</td>
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<tr>
<td>Break even Source</td>
<td>The point at which revenue received equals the costs associated with receiving the revenue.</td>
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<tr>
<td>Burn rate Source</td>
<td>The rate at which an organization is consuming or burning its financing or store of capital to support operations in excess of cash flow.</td>
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<tr>
<td>Business model Source</td>
<td>A plan for the successful operation of a business which identifies sources of revenue, intended customer bases, products and details of financing.</td>
</tr>
<tr>
<td>Business plan Source</td>
<td>A formal statement of business goals, reasons they are attainable and plans for reaching them. It may also contain background information about the business organization or team.</td>
</tr>
<tr>
<td>Business-to-business (B2B) Source</td>
<td>A situation where one business makes a commercial transaction with another.</td>
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<tr>
<td>Business-to-consumer (B2C) Source</td>
<td>A service or product exchange from a business to a consumer, whereby merchants sell products to consumers.</td>
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<tr>
<td>Capital expenses (CAPEX) Source</td>
<td>Funds used by a company to acquire or upgrade physical assets, such as property, industrial buildings or equipment.</td>
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<tr>
<td>Incremental costs Source</td>
<td>The increase in total costs resulting from an increase in production or other activity. Also called marginal cost.</td>
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<tr>
<td>Interactive voice response Source</td>
<td>An automated telephony system that interacts with callers by gathering information and routing calls to the appropriate recipient.</td>
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<tr>
<td>Market share Source</td>
<td>The portion of a market controlled by a particular company or product.</td>
</tr>
<tr>
<td>Operating expenses (OPEX) Source</td>
<td>Ongoing cost for running a product, business or system, such as rent, marketing or payroll.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Pay-as-you-go model</td>
<td>A system where the consumer pays for a service before using it and cannot use more than they have paid for.</td>
</tr>
<tr>
<td>Payers</td>
<td>A person or organization that gives someone money that is due for work done, goods received or a debt incurred.</td>
</tr>
<tr>
<td>Positive cash flow</td>
<td>A position where the cash that flows in to the organization is higher than the cash amount that flows out during the same period of time. A positive cash flow will not indicate for sure that profits have been made, but it means that finances are improving for a firm.</td>
</tr>
<tr>
<td>Revenue assurance</td>
<td>A function within some telecommunications companies designed to ensure that corporate activities improve revenue generation and/or profitability.</td>
</tr>
<tr>
<td>Revenue share</td>
<td>The distribution of profits and losses between stakeholders, such as partners, employees, or companies in an alliance.</td>
</tr>
<tr>
<td>Runway</td>
<td>The length of time in which a company will remain solvent assuming they are unable to raise more money.</td>
</tr>
<tr>
<td>Sustainable Development Goals</td>
<td>A set of 17 global goals developed by the United Nations for improvements in areas such as health, education, poverty reduction and environmental well-being by 2030</td>
</tr>
<tr>
<td>Strengths, weaknesses, opportunities and threats (SWOT) analysis</td>
<td>A structured planning method that evaluates internal and external factors that are favorable and unfavorable to achieving a business objective.</td>
</tr>
<tr>
<td>Total addressable market</td>
<td>The total market demand for a product or service.</td>
</tr>
<tr>
<td>Total cost of ownership</td>
<td>A financial estimate intended to help buyers and owners determine the direct and indirect costs of a product or system.</td>
</tr>
<tr>
<td>Value chain</td>
<td>The full range of activities that organizations go through to bring a product or service to their customers, including production, marketing and the provision of after-sales service.</td>
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</tbody>
</table>