Principle: Build for Sustainability

Overview

Building sustainable programs, platforms and digital tools is essential to maintain user and stakeholder support, as well as to maximize long-term impact. Sustainability ensures that user and stakeholder contributions are not minimized due to interruptions, such as a loss of funding. A program built for sustainability is more likely to be embedded into policies, daily practices and user workflow. For many digital initiatives, institutionalization by a nongovernmental organization, private company or local government is the ultimate goal in achieving long-term, positive impact. For others, institutionalization is achieved by developing a business model that has sustainable revenue generation.

Core Tenets

- **Plan for sustainability** from the start.
- **Develop a definition of *sustainability*** for your initiative.
- Identify and implement a **sustainable business model.**
- **Use and invest in** local information technology service providers.
- **Engage local governments** and integrate national strategies into programming.
- **Collaborate instead of competing,** and partner to identify the best approach with the greatest impact.
- **Build a program that can be adapted** as user needs and the context change.

PROJECT LIFECYCLE GUIDANCE

The following recommendations, tips and resources are drawn from the digital development community to give you options for applying this Principle during each phase of the project lifecycle. This guidance is not meant to be exhaustive, but rather suggests actions you can take to apply this Principle in your work. If you have other tips, resources or comments to add, please share them with the community at https://forum.digitalprinciples.org/

Principle: Build for Sustainability

Analyze & Plan

Analyzing and planning for sustainability requires making decisions about intended scale and identifying how the digital tool or platform will be sustained after initial funding ends. Sustainability and scale are directly linked; regardless of the success and impact of an initiative, if it is not sustainable, it will not achieve scale.

- **Develop a definition for sustainability for your digital initiative.** Collaborate with stakeholders to develop this vision, and modify as needed throughout the project lifecycle. The definition should include how long the initiative should operate and when it should be shut down, replaced or transitioned to a different approach. Some initiatives have a definite end, while others may have an indefinite timeline and should be sustained as long as users continue to find them valuable. You should also define long-term ownership for your initiative. Examples include commercialization, adoption by a government entity or local nongovernmental organization, or establishment of an active user community to provide user support and software maintenance.
- **Plan for sustainability from the start.** Develop a theory of change with sustainability as a goal, and identify a path to achieving desired outcomes. If the initial team will not own and implement the product in the long term, budget and plan for transitioning to local ownership and support. Transition plans should include handover processes; for example, a system handover may include management of the handover, system maintenance, version and configuration management, training, deployment, and development and support processes. If service providers are involved, include transition plans in their statements of work. Do not wait until the end to transition; instead, plan to transition as soon as possible, considering whether the recipient organization could be enabled to run the service from the start.
- **Partner with users throughout the project lifecycle and ensure that their needs are being met.** Validate whether the design you are building addresses the specific needs, context, culture and behaviors of the people who will use and benefit from the technology [http://digitalprinciples.org/design-with-the-user-principle/]. Trust, buy-in and incentives to encourage use are necessary for a digital initiative to be adopted and sustained. Form a representative user advisory group to give target users a voice throughout the project lifecycle. These users could also

ANALYZE & PLAN

TIPS AND RESOURCES

TIP: Include plans for how you will develop a sustainable solution in the proposal stage.

TIP: Avoid the short-term thinking that funding cycles can instigate. For example, a design choice may be made to create a parallel data collection system because developing an interoperable or linked platform can take longer to test. This makes it more likely that the system will have a short life span and the quality of its data will be drastically reduced http://digitalprinciples.org/design-for-scale/.

RESOURCE: The MAPS Toolkit: mHealth Assessment and Planning for Scale, World Health Organization. http://www.who.int/reproductivehealth/topics/mhealth/maps-toolkit/en/

RESOURCE: The Journey to Scale: Moving Together Past Digital Health Pilots, PATH. https://www.path.org/publications/files/TS_dhs_journey_to_scale.pdf

RESOURCE: Sustainable Financing for Mobile Health (mHealth): Options and Opportunities for mHealth Financial Models in Low and Middle-Income Countries, mHealth Alliance and Vital Wave Consulting. http://digitalprinciples.org/wp-content/uploads/2015/12/Sustainable-Financing-mHealth.pdf.

RESOURCE: An Introduction to Theory of Change, Harvard Family Research Project. http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/evaluation-methodology/an-introduction-to-theory-of-change.

RESOURCE: Financing for Development: Progress and Prospects, United Nations. http://www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/Report_IATF-2017-min.pdf

be tasked with providing honest feedback about whether the initiative should be sustained or when it should be abandoned because it is no longer useful.

- **Quantify the long-term cost of the initiative and identify options to sustain it financially.** Determine which investments will be needed, including people, money, technology and institutional capacity. Include costs to continue activities like training or engagement opportunities that may influence the value of the initiative for users, or evaluate how stopping these activities may affect sustainability. Will the initiative always need external funding, or is there a possibility for future government or community ownership? Are there partnerships that can address some of the financial needs, or will it be self-sustaining [https://digitalprinciples.org/resource/howto-calculate-total-cost-enterprise-software/]? Identify how you will transition to a sustainable business model after current or initial funding ends.
- **Identify who can take ownership of the initiative to sustain it in the long term.** Think about who would be the right partner to scale your initiative and how the initiative is intended to fit into the ecosystem. For example, if the goal is that government will eventually assume ownership, identify government champions and engage them throughout the project lifecycle. Share your monitoring and evaluation data with them, be open about any implementation challenges, and work with them to determine if there is a path to sustainability. Consider whether it is possible for them to run the initiative from the start. If they do not have the capacity now, it's likely they may not have the capacity to maintain the initiative later. Begin working with them to increase their capacity as soon as possible.
- **Determine how costs will change as an initiative scales.** As you add more users, the cost per user often goes down. For example, if your design uses text messaging to raise awareness, consider that mobile network operators often reduce the cost per message as you send a larger quantity of messages. Aim to identify how many users you need to realize cost reductions, and make scaling the initiative to that point an explicit part of your sustainability plan.
- **Be collaborative.** [http://digitalprinciples.org/be-collaborative-principle/] A sustainable initiative is impossible without committed partners, especially at the local level. From the beginning, engage local governments and design your initiative

"In developing your own technology solution, you can make a lot of rapid prototypes and quick gains, but people who have a less technical background often fail to realize that's just the tip of the iceberg. Your investment is going to increase substantially if you want to sustain [the solution]. And if you don't [do the necessary maintenance and upgrades], you can trap yourself with legacy software that becomes difficult or impossible to use."

LUKE DISNEY
NorthStar Alliance

with an understanding of their current systems, challenges and needs. In Vietnam, PATH worked with the government's National Tuberculosis Control Program (NTP) to design, implement and evaluate an SMS-based tool that helped tuberculosis patients better understand the course of treatment and remember to take their medication and go to their follow-up clinic visits [http://www.path.org/publications/files/ID_vietnam_mobile_tb2017_fs.pdf]. Because they were involved from the pilot stage, NTP felt a sense of ownership and could clearly see and understand the tool's impact. As a result, NTP asked for the system to be rolled out in all 83 provinces in Vietnam.

- **Share regularly.** Frequently publish or share the assets you are developing, which may be in draft form, as you iterate toward your final version.
- **Learn about the existing technology ecosystem.** Reach out to local entrepreneurs, implementers, companies, and nonprofit and civil society organizations to understand tools and platforms that have been developed and tested locally [http://digitalprinciples.org/understand-the-existing-ecosystem/]. Identify if there are existing tools or platforms you can use or build on [http://digitalprinciples.org/reuse-and-improve]. If you have a tool or platform that has already been successfully piloted, identify ways to engage local technologists in your initiative, such as training them to take over software maintenance and user support.

Design & Develop

A sustainable initiative is one that is easy to maintain and flexible enough to adapt to a changing ecosystem and to evolving user needs. As you design your initiative, consider your definition for sustainability and the design decisions that will make it possible to reach your target population, your target timeline and your envisioned sustainability model.

- **Identify how your technology choices will affect sustainability.** For example, what is the impact of selecting software that few local resources, such as people or funding, can currently support or maintain? Are you able to mitigate this risk through capacity building? A user advisory group can help identify risks and mitigation strategies associated with your technology choices.

DESIGN & DEVELOP

TIPS AND RESOURCES

TIP: You can increase a local service provider's ability to bid by accepting proof of the quality of their work rather than recommendations from past clients. You can also break up contracts for IT services into smaller bids.

RESOURCE: Promoting Local IT Sector Development through Public Procurement, United Nations Conference on Trade and Development (UNCTAD). http://unctad.org/en/PublicationsLibrary/dtlstict2012d5_en.pdf.

RESOURCE: ICT Sustainability Primer: What to Consider When Designing ICT Projects for Low-Resource Environments, Inveneo. http://digitalprinciples.org/wp-content/uploads/2015/05/Inveneo_ICT-Sustainability_Primer0910.pdf.

RESOURCE: The Pathway to Supply Chain Sustainability: A Planning Tool for Scaling & Institutionalizing Innovations Within Public Sector Supply Chains, John Snow Inc./SC4CCM. http://ccmcentral.com/wp-content/uploads/2014/04/Pathway-to-SC-Sustainability-Planning-Tool_SC4CCM_2012.pdf

RESOURCE: A Model for Sustainable and Replicable ICT Incubators in Sub-Saharan Africa, Innovative Partners Inc. http://www.infodev.org/infodev-files/resource/InfodevDocuments_734.pdf

- **Default to selecting local IT service providers and developers.** This promotes access to stable technical resources even after the initial implementation while building local capacity and experience. Local providers may be more equipped to respond to user needs due to familiarity with the language and culture. Additionally, local providers can bid on smaller contracts that larger international providers and developers might ignore. Engage local IT in all phases of the project lifecycle, from planning through to scale up and transfer of ownership, if applicable. Working with local providers can take more time, so build that into your project timeline.
- **Engage with the digital development community to benefit quickly from collective knowledge.** Many organizations and governments in the digital development community are seeking solutions to similar problems. Instead of creating your own tool or platform, consider reusing and improving upon existing ones that have had success elsewhere [http://digitalprinciples.org/reuse-and-improve/]. Where possible, identify opportunities where open standards, open source, open data and open access — which includes access to published outputs and data sets — can inform your design, and develop your tool using those same approaches. Seek out communities of practice that are involved in open innovation for digital initiatives [http://digitalprinciples.org/use-open-standards-open-data-open-source-and-open-innovation/].

Deploy & Implement

Throughout implementation, continue to identify opportunities and threats to your initiative's sustainability. Engage with the partners you identified in the planning and design stages, as well as with new stakeholders who can help to achieve long-term impact and sustainability.

- **Continue to review your design as you implement.** Are there elements of the design that are not meeting user needs and should be cut [http://digitalprinciples.org/design-with-the-user/]? How are you adapting to emerging needs and changes in the ecosystem?
- **Identify additional resources needed to sustain the initiative.** As you implement, are you finding that additional investments are still needed? Business processes and costs will change, hardware

DEPLOY & IMPLEMENT

TIPS AND RESOURCES

- **RESOURCE:** Organizational Guide to ICT4D: Leveraging Technology for International Development, NetHope. http://solutionscenter.nethope.org/assets/collaterals/Oct23_NetHope_GuideLayout.pdf
- **RESOURCE:** Integrating Mobiles into Development Projects, FHI 360 and Open Revolution. https://www.fhi360.org/resource/integrating-mobiles-development-projects.

and communications infrastructure may need to expand, and you may need to identify, hire and possibly train new staff.

- **Engage with local communities of technologists.** Throughout the world, software developers, designers and technology experts engage with one another through technology innovation hubs. For example, AfriLabs is a Pan-African network of over 50 technology innovation hubs [http://www.afrilabs.com/]. These hubs bring people together to solve complex problems and encourage economic growth. Through these hubs you may be able to identify local developers to work on your tool or platform or learn lessons from local technology entrepreneurs that can inform your implementation and ongoing sustainability planning.
- **Gather feedback from users to understand if your initiative should be sustained.** A technology tool or platform should only be sustained if there is a demand for it. By engaging with your users, you can understand if the tool or platform is meeting a need and adds value. If usage drops off after initial uptake, ask your users why the tool or platform lost their attention, and determine if design changes can support more active engagement and justify continued investment.

Cross-cutting: Monitor & Evaluate

Throughout the project lifecycle, monitor the impact of your initiative as you consider whether it should be sustained and how to sustain it. Use the information you collect to periodically review and revise the definition of sustainability for your initiative.

- **Identify indicators that can help measure sustainability.** FFor example, evaluate whether the tool or platform saves users time or effort, as these indicators drive the likelihood that the tool or platform will be used over the long term. If women and men may be affected differently, include gender-related indicators and analyze sex-disaggregated data. When women's needs are not incorporated into the design, women are less likely to be ongoing users.
- **Gather baseline data on sustainability indicators and analyze progress.** Review the outcomes with users and stakeholders for additional insight. Can you identify improvements to your initiative that will make it more sustainable? Once implemented, use impact

CROSS-CUTTING:
MONITOR & EVALUATE

TIPS AND RESOURCES

- **RESOURCE:** Performance Monitoring & Evaluation Tips: Selecting Performance Indicators, USAID. http://pdf.usaid.gov/pdf_docs/pnadw106.pdf.
- **RESOURCE:** Data Demand and Information Use in the Health Sector: A Conceptual Framework, MEASURE Evaluation. https://www.measureevaluation.org/resources/publications/ms-06-16a.
- **RESOURCE:** Guidelines for Integrating Gender in an M&E Framework and System Assessment, MEASURE Evaluation. https://www.measureevaluation.org/resources/publications/tr-16-128-en.
- **RESOURCE:** Introduction to Evaluations, J-PAL. https://www.povertyactionlab.org/sites/default/files/resources/Introduction-to-Evaluations.pdf.

data to judge the value and usefulness of sustaining your initiative [http://digitalprinciples.org/be-data-driven/].

- **Evaluate if your initiative should be sustained in the context of the ecosystem.** Is the initiative having impact? Is it using resources, including time and money, efficiently? Is there another tool or platform that is a better fit now? Is the tool or platform still addressing a priority need, or would resources be better used on something else? It is OK if the answers to these questions aren't all positive. Identifying and discussing failures also benefits the larger digital development community.
- **Monitor if user interest and benefit justifies sustaining the platform.** While a tool or platform may initially generate a lot of interest, the usage may quickly reduce and justify shutting down the initiative. It is also possible that after a certain period of time the initiative will have reached its intended objectives and does not require continued investment.
- **Calculate the cost per user and compare to other initiatives.** A useful measure to determine if it is feasible to sustain a tool or platform is the cost per user. Determine if potential long-term owners of the tool or platform have budget constraints that would limit the total cost per user that they can support. For example, education funding allocations may specify a limit on how much can be spent per student.
- **Consider using an impact evaluation methodology.** When investing the resources to scale an initiative, you want to be certain that you understand if the initiative really had an impact. The evaluation design could be experimental or quasi-experimental, depending on budget, expertise, timing and priorities. A rigorous way to measure the effectiveness of an initiative is to set up randomized treatment and control groups and measure the differences between the two over time. If the treatment group using your initiative has better outcomes than the control group not using it, these data can provide clear justification to your funder or other stakeholders to scale the initiative. Setting up a randomized control trial requires planning from the beginning of the pilot or when scaling, such as to a new area or target audience, and significant funding support because it typically requires more time and resources than other impact evaluation methods.

"It's unrealistic for donors to expect or assume that development organizations are going to design sustainable programs when donor funding only covers specific targets during a limited time frame."

ANONYMOUS