Business Analytics Toolkit for Tech Hubs: Lessons Learned from infoDev’s mLabs and mHubs
The resource “Business Analytics Toolkit for Tech Hubs: Lessons Learned from infoDev’s mLabs and mHubs” is available at http://www.infodev.org/mobile/tech-hub-business-analytics-toolkit

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About infoDev

infoDev, a global program of the World Bank Group, supports growth-oriented entrepreneurs through creative and path-breaking venture enablers. It assists entrepreneurs to secure appropriate early-stage financing; convening entrepreneurs, investors, policymakers, mentors, and other stakeholders for dialogue and action. We also produce cutting-edge knowledge products, closely linked to our work on the ground.

About infoDev's Digital Entrepreneurship Program

infoDev / World Bank Group’s Digital Entrepreneurship Program (DEP) aims to support competitive digital entrepreneurs that create new business models, products, and services, to gain access to new opportunities and contribute to the public and private sectors. We encourage entrepreneurial solutions for improved government service delivery, banking, health, education, transport and logistics, transparency, and other development outcomes.

The DEP works with specialized innovation hubs and accelerators, called mLabs and mHubs, to advance the growth of high-potential startups and small and medium-sized firms. Specifically, it aims to:

- Connect innovative, growth-oriented entrepreneurs with knowledge, capital and markets locally and internationally;
- Create a demonstration effect that inspires nascent entrepreneurs and digital innovation stakeholders to take action; and
- Allow for scaling up through World Bank Group operations and other development partners.

The backbone of infoDev’s Digital Entrepreneurship Program is a global network of Mobile Application Laboratories (mLabs) and Mobile Social Networking Hubs (mHubs), rolled out across twelve countries.
Acknowledgements

This toolkit, commissioned by infoDev, a global partnership program within the World Bank, provides guidance on how to develop business analytics—measuring and learning from the performance and effects—of mobile application labs (mLabs) and mobile social networking hubs (mHubs). The mLab and mHub pilots were implemented by infoDev under the Creating Sustainable Businesses in the Knowledge Economy (CSBKE) program, funded by the government of Finland, in partnership with Nokia.

Nicolas Friederici (Oxford Internet Institute) wrote the content of the toolkit. Toni Eliaz was task manager for infoDev. The toolkit was informed by interview data and experiences gathered during earlier evaluations, notably the Business Model Evaluation of mLab and mHub pilots, available at http://www.infodev.org/mobilebusinessmodels. Catherine Amelink, Maja Andjelkovic, Brett Dickstein, Zoe Lu, and Sophia Muradyan from infoDev provided essential feedback during an internal review process.

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1. Purpose and Highlights

This Business Analytics Toolkit will help you:

1) Understand how to conduct performance measurement for an mLab or mHub, or other tech hubs\(^1\)
2) Improve your planning, lesson learning, and delivery over time
3) Collect data needed to communicate to potential investors and partners.

The toolkit:

- Is oriented towards tech hub managers but is also useful for others interested in the design of tech hubs (part 2)
- Provides a brief description of what led infoDev to put together this toolkit (part 3)
- Makes the case for the relevance of rigorous business analytics (part 4)
- Categorizes tech hub business models and outlines the consequences of business model selection for business analytics strategies (part 5)
- Highlights important considerations for tech hubs that are funded by governments and donors, including international development organizations such as infoDev (part 6)
- Gives detailed guidance on how a good business analytics approach can be developed and indicators selected in a performance measurement system (part 7)
- Provides instructions on how tech hubs can use business analytics and performance measurement in a continuous process (part 8)
- Briefly outlines how mLabs and mHubs can engage with infoDev once they have a sound business analytics approach in place (part 9).

This is version 1.0 of this toolkit, and you are encouraged to help improve future versions by submitting your feedback to infoDev.

\(^1\) Tech hub in this toolkit refers to all organizations that provide services for early-stage technology entrepreneurs, enabling them to network, develop technological innovations, and start growth-oriented businesses. In other publications, such organizations might be called innovation hubs/labs, technology innovation hubs/labs, networked incubators and accelerators, or other similar terms. Tech hubs across the globe are still evolving and defining their identity and differentiation factors, but overall tech hubs are a further development of incubation and acceleration approaches that focus broadly on early-stage innovation and systemic impact in innovation ecosystems, beyond direct business support. Tech hub business models can often be categorized as Start-up Creation, Skill Development, and Network Building (see section 5) mLabs and mHubs are a specific type of tech hub that function as mobile entrepreneurship enablers (see http://www.infodev.org/mobilebusinessmodels for more information), focusing on the creation of mobile software and applications.
2. Is this Toolkit for You?

This toolkit was made for managers of tech hubs. Dozens of tech hubs have emerged over the last few years across the globe. Managers of these innovation and entrepreneurship enablers grapple with problems that infoDev has experience with. This toolkit takes lessons that infoDev has gathered from its own tech hub pilots, mLabs and mHubs, and apply them to tech hubs in general.

The toolkit is especially useful for current and future mLabs and mHubs managers. mLabs and mHubs are tech hubs established through grants administered by the infoDev Digital Entrepreneurship Program.² infoDev is committed to supporting the analytical capacities of mLabs and mHubs. This toolkit is part of that agenda. It will help grantees to improve local implementation while setting a common framework on how to collaborate with infoDev on business analytics and performance measurements.

The third target audience is mobile innovation specialists at other World Bank units and other development organizations, who design impact and measurement frameworks for tech hubs. Given the recent rise in numbers of tech hubs, international development organizations are exploring if and how they can be employed to achieve socio-economic development impact goals. In particular, tech hubs’ flexibility and diverse potential effects have sparked interest but have also caused problems for specific and concrete analysis and projection of hubs’ effects and impact. This toolkit addresses this complication. All elements of the toolkit that speak of infoDev’s role in facilitating and coordinating with mLabs or mHubs on business analytics processes can be seen as use cases with potential for replication and adaptation by practitioners and decision makers of other development organizations, including relevant units of the World Bank.

² See http://www.infodev.org/workprogram.
3. What Led infoDev to Develop this Toolkit?

Tech hub numbers are burgeoning in developing countries, helping information and communication technology (ICT) developers and entrepreneurs to network, innovate, and start businesses. Set foot into a top-tier hub and you will be struck by the buzz and excitement that have infused local entrepreneurial communities within just a few years.

infoDev was at the forefront of the movement when, in 2011, it launched two different kinds of tech hubs to enable entrepreneurship in local mobile application and software markets: mobile application labs (mLabs) and mobile social networking hubs (mHubs). mLabs and mHubs were pilot mobile innovation support programs. The immediate goal was to help infoDev learn from experimentation how the innovation pioneer gap could be bridged through tech hubs. infoDev has since made great strides learning lessons, making evaluations and publishing knowledge products. Each mLab and mHub operated on different business models tailored to the needs of local markets, which increased the number of real-world experiments that infoDev could learn from.

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But the diversity of models is also a challenge when measuring the success of mLabs and mHubs consistently and continuously. It was difficult standardizing comprehensive measurements of mLabs’ and mHubs’ performance and effects. mLabs and mHubs themselves struggle to reliably track success indicators over time. This problem is enhanced by the dynamic and complex nature of innovation environments that mLabs and mHubs work in.

Altogether, this led infoDev to develop a measurement and analysis approach to codify its improved understanding of how to capture mLabs’ and mHubs’ evolving effects. It also became clear that performance and effect measurements had to be designed to be directly useful for mLabs and mHubs themselves. infoDev’s grantees turn high-level concepts into on-the-ground reality. This also means that they have the greatest insights into strengths and weaknesses of the tech hubs, and the most direct access to qualitative and quantitative performance data.

**Box 1: mLabs and mHubs as Local Nodes of the Digital Entrepreneurship Program’s Global Network**

**mLabs** are specialized mobile business incubation and acceleration facilities, offering physical workspaces, mentoring and coaching, devices for app testing, training, and start-up competitions.

**mHubs** build mobile tech communities by convening a variety of stakeholder groups at informal gatherings, peer-learning sessions, conferences, and ideation and prototyping competitions.

infoDev is motivated by a grassroots-oriented entrepreneurship support agenda. infoDev decided that the best way to stimulate technology innovation in developing countries is by giving operational independence to in-country grantees that implement mLabs and mHubs, and leave most of the implementation decision making to local partners.

At the same time, infoDev provides technical assistance to mLabs and mHubs, leveraging its expertise, global partnership network, and unique positioning inside the World Bank for the grantees’ benefit. So far, infoDev has helped mLab and mHub managers network at global conferences and published extensive evaluations and knowledge products on mobile innovation. infoDev found this knowledge to be relevant for stakeholders far beyond its network, and therefore makes products like this toolkit available to the public.
This Business Analytics Toolkit is thus an outcome of infoDev’s own learning. It codifies what the Digital Entrepreneurship Program has learnt about performance measurement and business analytics, turning these lessons into a practical guide for designers and implementers of tech hubs such as mLabs and mHubs.
4. Why Are Business Analytics Key to a Tech Hub’s Success?

Innovation and entrepreneurship support is a complicated endeavor. Entrepreneurs’ successes are determined by their motivation, skills, and resources, but also by complex dynamics of the innovation ecosystems in which they work. As a result, business analytics (see box 2 for a definition) for tech hubs face particular challenges and opportunities.

4.1. Using the “Build, Measure, Learn” Principle to Work in Complex Innovation Ecosystems

A foresighted, sound business analytics approach is crucial for the success and sustainability of your tech hub. The importance of measuring and analyzing results is often underestimated, and is often low on a tech hub manager’s long list of priorities, especially during the set-up stage. However, infoDev’s and others’ experiences has clearly demonstrated that there are great risks in keeping business analytics for later (see box 3). When data is only collected ad hoc, it becomes difficult to understand the connection between provided services and their effects; detailed and continuous tracking is usually more insightful. Consistency and continuity, even beyond a tech hub’s own clients and beyond the duration of support programs, makes for the greatest possible learning from successes and failures.

What makes business analytics for tech hubs difficult is that hubs shape local innovation ecosystems and are influenced by them at the same time. They aim to have a positive effect on various elements of an innovation ecosystem, ranging from direct improvements of client start-ups’ performances to broad changes in entrepreneurial culture. Tech hubs also design their service portfolios.

Box 2: What are Business Analytics?

In this toolkit, business analytics refers to the collection, measurement, analysis, and sensemaking of quantitative and qualitative data that pertain to an organization’s performance and its effects on clients and stakeholders. The word business highlights infoDev’s belief that innovation support programs such as mLabs and mHubs should best be designed as value-creating, client-oriented, flexible enterprises, whether-funding is provided by governments, international development agencies, or private sector investors.

Box 3: A Clear Statement from the Aspen Network for Development Entrepreneurs (ANDE)

ANDE, in their widely noted 2013 report “Bridging the ‘Pioneer Gap’”, found a clear lack of rigorous and sustained performance measurement among impact accelerators; many of them tech hubs. This is in line with infoDev’s experience—in particular, ANDE’s observation that client data is often tracked only for short periods of time after they leave the program. This has prevented many hubs and accelerators from conducting reliable assessments of their own impacts, as improved client success—both social impact and commercial success—is usually their core goal. ANDE strongly recommends (1) investing in tracking clients’ performances, (2) collecting and comparing data for successful and unsuccessful applicants, and (3) collecting data from clients for a minimum of five years after they leave the support program.

Source: http://www.aspeninstitute.org/sites/default/files/content/docs/ande/Bridging%20the%20Pioneer%20Gap%20The%20Role%20of%20Accelerators%20in%20Launching%20High%20Impact%20Enterprises%20.pdf

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5 See infoDev reports at http://www.infodev.org/mobilebusinessmodels and http://www.infodev.org/mlaboutcomes for more information on the innovation ecosystem concept and case studies of ecosystems in which mLabs and mHubs operate.
so it can fill those gaps in the ecosystem that other organizations don’t fully address, so interaction between hub and ecosystem goes both ways.

**Innovation ecosystems in developing countries require support in many shapes and forms, and it can be easy to lose focus.** This often means that tech hubs struggle to clearly define their impact goals and rationale. Still, like for any other organization, a clear vision and longer-term, strategic plan is essential for tech hubs. You, the managers and designers, are being called upon to frame clear directions for your hubs, while continuously tweaking business models and adjusting to changes in ecosystems. Resource constraints and the need to coordinate with many diverse stakeholder groups add another layer of complexity. The best tech hubs maintain the highest possible degree of flexibility without losing focus on an overarching mission and strategy.

The “Build, Measure, Learn” approach—a key pillar of the Lean Startup philosophy—is useful in understanding how business analytics can be embedded into iterative business model design. The important insight is that organizational learning never ends, and that business analytics are not an afterthought of implementation. Instead, learning and analytics are part of an iterative process that is at the core of continuous and fast improvement (see figure 1). Another key argument is that start-ups should not spend limited resources on developing elaborate, meticulous measurement and documentation methodologies but instead measure a few simple and clear indicators at regular intervals. Most emerging tech hubs are like start-ups in that they too need to reconcile measurement rigor and flexibility while maintaining small budgets.

![Continuous improvement in the Build, Measure, Learn approach](image)

**Figure 1:** Continuous improvement in the Build, Measure, Learn approach

The “Build, Measure, Learn” approach is particularly suitable for organizations that work to improve innovation ecosystems. Simply put, the more complex and unknown the implementation environment, the more difficult it is to make precise projections and plans. Recent ideas to improve lesson-learning in international development have acknowledged this and begun to emphasize the need for piloting and experimentation as well as failure detection and frequent and fast course corrections (or “pivoting” in start-up parlance). For projects that operate in unknown and complex contexts, this is a superior way to think ahead compared to rigid, static, and detailed long-term planning. Innovation ecosystems, with their many diverse stakeholder groups—from government agencies to freelance software developers— can be
understood as complex environments, so tech hubs stand to benefit from flexible, dynamic, and iterative business analytics based on the “Build, Measure, Learn” idea.

4.2. Six Ways for Tech Hubs to Benefit from Business Analytics
Sound business analytics will improve your tech hub in six essential ways (see figure 2):

![Diagram of six motivations for business analytics]

4.2.1. Finding Focus for your Vision and Decision-making
Business analytics help you focus on what matters and make tough decisions to guide your tech hub towards your vision. Tech hubs can pursue a wide range of value propositions and business models. The list of services to choose from ranges all the way from hosting informal gatherings with a handful of coders to managing an investment portfolio for gazelle start-ups. Opportunities and options are endless, and different stakeholders will approach you for interesting projects that are not always an ideal fit. Tech hub budgets are limited, and you will have to make tough decisions on how best to use your resources and in which direction to take your tech hub. Only if you have clear targets for the core results that you want to achieve will you be able to push essential services to maximum effectiveness and say “no” to ad hoc activities that are irrelevant to your unique value proposition.

4.2.2. Learning and Improving
Continuous learning about what works and what does not is a necessary condition for improving. You as the manager or designer of a tech hub are in the best position to understand the hub. However, even the best manager’s capacity is limited, and as the hub becomes larger and more complex, the less likely that ad hoc lesson learning will be enough. You will also improve your joint decision-making with your consortium members or advisory board if you can present them with well-documented information. If
you want to continuously improve the value that you generate for your clients, you will need to measure and analyze your performance as best as you can, much beyond your daily experience. This is particularly true with tech hubs like mLabs and mHubs, which can have unanticipated, but important indirect effects.(see box 4).

4.2.3. Fundraising
You will need compelling analytics to fundraise and “sell” your tech hub to your funders, clients, and partners. Just like any other organization, you need to market your tech hub to potential clients, funders, and other stakeholders. Your documented successes are the best argument to convince new client entrepreneurs and developers to join. In tech hub business models, access to clients is often what is relevant for partners and sponsors, so there should be synergies in your stakeholder management strategy. It is a good strategy to combine storytelling and qualitative evidence with hard results numbers. If you have a compelling and clear value proposition, and if you track important results numbers consistently, it would be easy to summarize and frequently update your pitch in short brochures, graphics, or videos. Infographics, as a tool to make complicated and dense information accessible to a wider audience, have become particularly popular in recent years. You can also include a simple real-time tracker that automatically imports selected statistics onto your website (see the website of Kenya’s leading tech hub, the iHub, at http://www.ihub.co.ke/). Beyond informing readers, this helps to convey immediacy and transparency of your website as a whole.

4.2.4. Showcasing Clients
Analytics help to showcase your clients, giving them visibility and improving their chances of success. Your own success as a tech-hub manager is tied to the success of your clients, whether you are leading a community or incubating start-ups. Moreover, you play the role of a broker and marketer for your client companies. Start-ups and early-stage entrepreneurs often do not have the resources for outreach and partnership building, but tracking and marketing their stories will benefit both clients and yourself.
Business analytics provide you with good arguments on the substance of your clients’ successes, making your joint outreach and communication easier.

4.2.5. Sharing Success with Clients

Your clients’ success determines your future revenue, and business analytics help you show them your added value. Most tech hubs—especially those directly supporting start-ups—generate part of their revenues directly from client entrepreneurs. Community members and co-creation space users might pay a fee to attend special events or use desk space, and business analytics will help you show them what you have to offer. Analytics are even more important to manage royalty and equity agreements with incubation and acceleration clients. The issue here is that your revenue only starts to flow a long time after you provide your services. For instance, an exit from an equity position might only make sense years after the start-up has left the program and, also, royalty schemes may kick in only after the start-up achieves a certain threshold turnover or profit. In these cases, long-term, reliable analytics will help you make your case that you have actually added value to their businesses. Secondly, analytics record and document when your clients received support, what kind of support, and the consequent results. This makes interaction and relationship with your clients more transparent and creates accountability on both sides, which will make it much easier to claim your fair share of your clients’ success even months and years after you supported them.

4.2.6. Being Accountable

If you receive funding from governments and donors, and if your tech hub is governed by a consortium, business analytics make it easier to fulfill additional accountability and reporting requirements. Public and private donors in international development as well as governments have a responsibility to use their funds judiciously, and to ensure high levels of accountability and transparency. At the same time, these organizations often manage large budgets, and the funding they provide to tech hubs might only be a small part of their overall portfolio. As a result, they often require data to assess their own impact and accountability that might go beyond the data that is immediately relevant for you. But with solid business analytics in place, it is much easier for you to service your government and donor funder information requests. Similarly, your consortium partners might be crucial supporters of your tech hub, but they too have an obligation to ensure that they selected the right tech hub manager to run day-to-day operations, which they are usually not intimately familiar with. Business analytics can help you illustrate and create documentation of your work and its impact. Creating more extensive accountability and tracking structures might also have positive side effects in professionalizing and formalizing your operations (see box 5).

Box 5: The Unexpected Benefits of Akirachix’ Reporting Struggle

Akirachix is a grassroots community-builder for women entrepreneurs in Nairobi. After receiving an mHub grant from infoDev, the small organization grappled with the burden of reporting back on results, struggling to free resources and staff to complete the task. The challenges and feedback ultimately held good lessons for infoDev and contributed to the motivation to develop this toolkit. But more importantly, the process also helped Akirachix formalize its results tracking and reporting structures, which contributed to its ability to secure a further grant from the Swedish International Development Agency (SIDA). See http://www.infodev.org/mobilebusinessmodels for the full case study.
5. What Does Your Tech Hub Want to Achieve? Your Business Model as the Foundation for Business Analytics

Many different tech hub models are possible but a clear focus on your goals is necessary to set up a useful business analytics approach. Tech hubs can fulfill various functions with various implementation models. They can be profit-oriented or not, and their services can range all the way from hosting an informal meeting with a handful of students to intensive multi-year, hands-on incubation programs. While diverse services can complement each other and experimentation is vital, it is not possible to measure potential effects that tech hub services might have. Instead, it is important to know why you are running your tech hub in a certain way, and what your goals are. Having a very clear answer to this question will help identify a small set of metrics that are relevant indicators of the effects that your tech hub has.

Once you have a clear goal, business model design is useful to understand how to align your services, financial sustainability, and requirements of the innovation ecosystem. You can understand business modeling as a structured way of thinking through your value proposition and how to improve and monetize it. Your business model value proposition also links your service offering and operational model to your overarching goal and vision for your hub. The value proposition is the benefit that achieving your goal generates for your clients. So it is essential for you to understand how each activity that you implement (with different partners, delivery channels, resources, etc.) contributes to increasing your value proposition for your customer segments. Only when you have thought through this effect chain will you be able to identify the most useful indicators for your business analytics approach. If you are unfamiliar with business model design for tech hubs, several infoDev resources can give you further information and guidance (see box 6).

Box 6: infoDev resources for tech hub business model design
The infoDev Digital Entrepreneurship Program has published several resources to help tech hub managers and designers identify viable business models in the innovation ecosystems of developing countries:

1. The Business Model Toolkit provides tools to develop and test a business model for an mLab or mHub, which can be adapted for other tech hubs.
2. The Business Model Evaluation report includes in-depth case studies of business models of four mLabs and three mHubs across five countries, as well as rich contextual and conceptual information.
3. The Holistic Outcomes Assessment of mLabs report takes a closer look at the effects that three of infoDev’s four mLabs have had, including their indirect and systemic effects on innovation ecosystems.
In *infoDev’s* experience, tech hubs like mLabs and mHubs have three approaches to achieve their goals:

**Box 7: Three business model approaches to support mobile application enterprises**

Innovation ecosystems in developing countries often have gaps beyond the lack of support for start-ups. For instance, innovator and entrepreneur communities could be fragmented, or the local talent base might be too small to develop compelling technological solutions. As a result, *infoDev* found that ecosystem building and skill development can be useful for longer-term and systemic improvement of the conditions for mobile app start-up entrepreneurs. The three different approaches can be connected back to groups of services that mLabs and mHubs can offer.

**Start-up Creation:** mentoring, seed funding, focused networking (including with investors), acceleration-type start-up competitions, deal brokerage, marketing support, office space, business support.

**Skill Development:** technical and business training, workshops, app testing facilities, prototyping events and hackathons, coaching, virtual learning.

**Network Building:** informal networking events, multi-stakeholder conferences, virtual community building, team-building and ideation competitions (hackathons, start-up weekends, barcamps).

<table>
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<th>How? Three different but complementary approaches</th>
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<tr>
<td><strong>1. Start-up Creators</strong></td>
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<tr>
<td>Start and develop new growth-oriented start-ups.</td>
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<td><strong>2. Skill Developers</strong></td>
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<tr>
<td>Broaden entrepreneurial and technical talent pool and train competent potential start-up founders and employees.</td>
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<tr>
<td><strong>3. Network Builders</strong></td>
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<tr>
<td>Bring together diverse stakeholder groups and help activate and organize communities.</td>
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**Ultimate goal:** Support growth-oriented mobile entrepreneurship.

**Which services? Business models typically focus on different services**

| Informal networking events and gatherings |
| Multi-stakeholder conferences, often including small-scale innovation competitions (example, start-up weekends, barcamps) |
| Blogging, newsletters, and mailing lists. |
| Technical and business trainings, workshops, and clinics |
| Virtual learning courses and platforms |
| Mobile app testing facilities. |
| Regular, in-depth, one-on-one start-up mentorship and coaching |
| Core business support (accounting, financial management, legal services, etc.) |
| Business development: brokerage and mediation of formal contracts, grants, and partnerships. |

**Questions to ask yourself:**

Which approach is the best fit for you and your innovation ecosystem? All of them, one, none? If you have limitations in one of the areas, are there other partners that you can engage to help? If you are well suited to deliver all three, what resources will you need to effectively implement, monitor, and report?
start-up creation, skill development, and network building. Every business model is different, but there are categories of tech hub business models that can help narrow down your business analytics. For instance, it will help determine metrics if you are clear about what you are interested in: sowing the seeds of entrepreneurship at the foundations of the ecosystem, or work with start-ups and help them become regional and global leaders. *infoDev* has identified three different approaches that support growth-oriented mobile entrepreneurship but tackle gaps in ecosystems in distinct ways: **Start-up Generators** have start-up creation and development as their direct goal; **Skill Developers** focus on broadening the entrepreneurial and technical talent pool and train competent potential start-up founders and employees; and **Network Builders** bring together diverse stakeholder groups and help activate and organize communities (see box 7 for examples of services that these three approaches typically entail).

These three approaches are not mutually exclusive, but if you know which approach you want to take, you will have a better idea which business analytics to use. Clearly, Skill Development, Network Building, and direct Start-up Creation are all important for mobile app enterprises to emerge and thrive. It is definitely advantageous to pursue all three at the same time, and there could be important complementarities and synergies.⁶ Some services, like innovation competitions, may play a role in all three approaches. However, to develop a viable and compelling business analytics approach, it is important to know in which direction you want to go and which identity you want to have.

For example, there could be synergies, but there also could be tradeoffs and tensions between different services, as all tech hubs have limited resources. Business analytics are important in this context because, if your targets for example revolve around Start-up Creation, you could abandon informal networking events when push comes to shove. But if your goal is community building within a Network Building mindset, and if your tracking and targets reflect this mission, you could neglect services for Start-up Creation such as hands-on mentoring and seed financing. In other words, business analytics are determined by your goals and clear vision, but over time they also affect the services you implement and the tradeoff decisions you make. Setting the right course and being aware of differences between approaches is therefore important before you start to design specific indicators or performance-measurement systems.

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⁶ See the case study and lessons sections in http://www.infodev.org/mobilebusinessmodels.
6. Who are Your Funders? The Special Case of Funding from Donors and Governments

If you receive funding from donors or government organizations, you need to think beyond the value proposition for your immediate clients. If you are a profit-oriented tech hub that generates all of its funding directly from clients, identifying your value proposition within your overarching goal and business model framework provides you with a sound basis to understand which metrics matter for business analytics. But if your funders provide you with resources so that you create value for someone else, you will also need to understand the funders’ own success metrics.

Tech hubs often have several different public and private funders and sponsors. It is important to find common ground between the goals of all funders and of the hub itself. Funding rarely comes without strings attached, and not all funding will allow you to directly work towards your own long-term goal. If you have diverse partners from government agencies, to multinationals, to grassroots organizations, you need to be sensitive to their respective goals and their success metrics to be able to identify the best possible business analytics approach for your hub.

The basic alignment between your funders’ goals and your own should come from the value proposition for your clients—this is what ultimately determines your funders’ impact. Governments and donors are not your clients, as you do not provide value directly for them. Their reason for funding you is that they believe that you are better positioned than they are to provide value to someone else, “beneficiaries” in international development language—in this case, early-stage tech entrepreneurs and start-ups. In other words, by providing value to your clients, you help your funders have a positive impact on others’ lives, instead of generating profit or utility for themselves.

Governments and donors have their own vision and logic on how activities lead to impact, which they often codify in an impact model or a “theory of change.” For instance, a donor might conceptualize that business mentoring for young software developers leads them to start and run sustainable and growth-oriented businesses, which means that more people are employed and more taxes paid than without the mentoring. So, mentoring ultimately contributes to socio-economic development and improved quality of life. In InfoDev’s case, the envisioned impact is related to private sector development, so the focus is on metrics such as job creation and revenue generation through start-ups (see box 8).

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7 Donors is defined loosely and includes all organizations that contribute funds to a tech hub, mLab, or mHub with the expectation that it creates value for someone other than themselves. Examples include foundations, philanthropists, international development organizations, NGOs, and other grant-making organizations.
If you want your business analytics to fit in with your funders’ impact models, you should work with them to identify existing and potential overlaps, and do so proactively and continuously. Many problems that grant recipients have with reporting through scorecards and logframes stem from the underlying problem that funders can have somewhat different perspectives and priorities. They might use a different language, not fully aware of your constraints and local realities. Donor and government funders also tend to request as much information as they can to assess any potential impact that their funding has generated, which can put pressure on you, given your resource constraints and narrower focus. Your funders are also held to higher-level impact and results agreements that they made with their own funders or governing bodies. In this complicated and indirect communication and codification chain, overlaps might not be obvious and tracking and evaluation might become more cumbersome than it should be. It will help if you engage in a dialogue with your funder to continuously understand their requirements and communicate your own.

Ideally, impact models and your value proposition are interlocked in a coherent logic. Usually, donors and governments fund an array of projects like yours, and your project is only part of their program portfolio. This means that your performance feeds into your funders’ activities that are conceptualized to lead to some type of wider-scale impact. Ideally, the impact models of higher-level programs are aligned, and the value you create contributes to the start of your funders’ results chains (see figure 3). While it is not your responsibility to be intimately familiar with all higher-level impact models, general awareness of how your results are interlocked with this can help you to better communicate with your funder and work towards better alignment, or think about solutions when alignment cannot be reached.

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Box 8: A success on many levels: the case of Kopo Kopo

One of mLab East Africa’s most successful incubation graduates is the mobile financial services company Kopo Kopo. In just a few years of operation, the enterprise created about 50 jobs and served more than 10,000 small business customers. In 2013, Kopo Kopo secured series A funding of $2.6 million. Kopo Kopo attributes substantial value to the support that it received from the mLab in its early days (see http://www.infodev.org/mobile-entrepreneur-case-studies).

For mLab East Africa, Kopo Kopo greatly contributed to its targets to increase revenues and investments of incubatees. For infoDev and the Digital Entrepreneurship Program, both the job creation effect and Kopo Kopo’s function as a role model and active member of the Nairobi innovation ecosystem were important private sector development results. Finally, for infoDev’s donors, such as the government of Finland, Kopo Kopo represents an example how growth-oriented mobile application enterprises broadly contribute to socio-economic development in low-income countries, in this case by increasing financial inclusion of small businesses and transformative impact on payments.

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Your government or donor funder can often be a valuable source of information to decide your business analytics approach. The fact that your government and donor funders usually manage several projects like yours can help you conduct benchmarking and comparisons with other tech hubs. For instance, infoDev brought together mLab and mHub managers from across the globe about once per year and, at the end of the grant period, codified lessons in several reports (see box 6). Another example is the effort of the German Agency for International Cooperation (GIZ) to work with Afrilabs. Together, they organized two annual reunions in Berlin that helped African hub managers to coordinate and strategize a joint agenda. Knowledge-oriented international organizations are also increasingly publishing rich reports on innovation ecosystems in developing countries. While direct comparisons of concrete results figures (for example, number of start-ups created) can lead to unfair comparisons that neglect the ecosystem context, most of these resources use both qualitative and quantitative evidence that you can use as “enriched benchmarks” and learning material. Examples of resources are included in the appendix.

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7. What Should You Measure? Developing a Business Analytics Approach and Selecting Indicators

What you should measure should be solely driven by your goals and your specific context. As explained in the previous sections, your own goals, your business model (adjusted to the local context), and your funders all help decide the right approach to business analytics. Tech hubs are not all the same, and so there is no common recipe. That is true even among infoDev’s tech hubs, mLabs and mHubs. Each mLab and mHub has different local co-founders and different local ecosystem conditions that they address. At the same time, mLabs and mHubs are initially infoDev grantees, which means that they must be aligned and contribute to infoDev’s Digital Entrepreneurship Program impact model. While they may have additional more confined goals with regard to supporting mobile innovation ecosystems and mobile app entrepreneurs, the impact model is a tested one and its indicators are based on previous experience in a variety of countries and unique ecosystems. Grantees also receive guidance and inputs from infoDev throughout the process. In the following section, the toolkit will draw from infoDev’s past experience with mLabs and mHubs and use their examples to illustrate potential approaches for tech hubs in general. While the general logic remains the same, you will need to adapt the guidelines provided here if you are dealing with different funders and different overarching impact models.

7.1. General Guidelines for Tech Hub Performance Indicator Selection
You should always remind yourself of the general principles of business analytics, as this will help you to avoid common mistakes. In infoDev’s experience, tech hubs and incubators often struggle to follow general principles of performance measurement and evaluation (see figure), either because they lack awareness or because they do not prioritize this agenda early on, only to feel the consequences later.
7.1.1. Less Can Be More

There is often a temptation to measure everything that can be measured. More data is often confused with more information and, therefore, more knowledge. The greater the number of data points one has, the greater the capacity needed to make sense of it; and the greater the complexity in understanding what is really important to your specific mission. Further, as implementation is what we do every day, the majority of indicators tend to be developed for the output level, with a lack of attention to the measures that really matter in the long term, outcome indicators. Outcome indicators measure your added value. If you cannot demonstrate this value, the position of your tech hub becomes much more tenuous. For instance, the number of people in a contact data base or the number of people attending a prototyping competition can be meaningful if your goal is to reach a lot of stakeholders, but if your goal is to create start-ups, the link between these data points and your success is less clear (see box 9).
Another problem with measuring too much is that your stakeholders will get tired of being evaluated, especially if you rely on surveys and interviews. You should ultimately arrive at a clean, clear, short list of qualitative and quantitative indicators that you want to measure, which should only contain those indicators that are definitely relevant for the impact you want to have and the value you want to provide.

7.1.2. Focus on Your Contribution

The standard approach to impact and performance evaluation is to do comparisons between a group of people that has used or benefited from the offered service (the treatment group) and a group of people that was similar at the outset but did not receive the service or support (the control group). The success that the treatment group has above and beyond the success of the control group can be claimed to be the contribution. This is similar to conducting real-world experiments. The logic is similar to evaluation approaches such as randomized control trials of health care interventions or A/B tests in (online) marketing.

However, it is extremely difficult to find control groups for the kinds of services that mHubs and mLabs offer. Stakeholders of innovation ecosystems are difficult to compare as they depend on each other in complex ways. It becomes tough to isolate a tech hub’s contribution effect without substantial effort. While you should keep in mind your contribution to your clients’ success, all of your clients’ success is not a result of your support. Simply put, you should ask yourself: Where would my client be without the value that I provided for them?

7.1.3 Longitudinal and Before/After Data Is Key

The best alternative to a proper contribution analysis is to track data for the supported group over extended periods of time and make inferences about changes to it that were very likely due to the service you provided. For instance, you will know that your support was useful if a small start-up joins your program, having had flat revenues for a year or so, and three months after joining, its revenue increases...
by 30 percent. This also works for specific services within your portfolio: you can compare revenue evolution during the year before a new mentor was recruited and over the following year. The same is true with perceptual and qualitative indicators such as satisfaction with your service that clients express in surveys and interviews. It is essential that you consistently and rigorously track key indicators and collect additional contextual information, which should be easier once you identify a short list of indicators as described in the first principle.

7.1.4. Use Quantitative Information but Target It Wisely

Numbers are a powerful communicator, and almost every business analytics approach will include some sort of quantitative element. However, making quantitative data reliable and meaningful is often not as easy as it seems. For instance, the number of people joining your events might give you a good idea of your reach in the local ecosystem, but it does not tell you much about the quality of connections that participants made during the event and how this changed their success or the success of your immediate clients. Quantitative data collection was also cumbersome for mLabs and mHubs because their activities and services change frequently depending on ecosystem needs, and a lot of effects happen through informal exchanges and through indirect paths.9

So, you should ask yourself how the value you provide can be quantified meaningfully before you look at any data points just because they are easily available. What is the best proxy measure for the kind of value that you want to achieve? This exercise goes hand in hand with the first and second principle: you should find a handful of quantitative indicators that directly speak to your value proposition. Focus on those, tracking them consistently.

7.1.5. Don’t Underestimate the Qualitative

Quantitative data will always be part of your business analytics, but they will rarely be enough for you to understand and improve your performance and value proposition. This is true because many of the effects of services that mLabs and mHubs provide unfold only over time and in indirect ways. You are trying to affect different elements of a complex innovation ecosystem, so some things will remain uncertain and impossible for you to fully capture and quantify.

This is where qualitative data can be powerful.10 First, it can help you to get a rough idea of the magnitude of your contribution: if your clients express that they could not have achieved what they did without your support, this will give you a clear indication that your program provides value—which is also why testimonials are generally such a powerful communicator.

Second, people’s perceptions drive their actions. You can also use qualitative evidence to understand the effects of your support on your clients’ and other ecosystem stakeholders’ changing beliefs and motivations. For instance, local innovation ecosystems are in large part driven by buzz and excitement, and community building in particular relies on individuals’ vision and drive. So if you can reliably track, for instance, that your clients’ confidence to start a business or lead a community has changed as a result of your support, this is evidence of a valuable contribution that you would not be able to capture with quantitative data alone.

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9 This was confirmed in infoDev’s mLab Outcome Assessment, which found that mLabs’ ecosystem impact is indirect and complex, but nevertheless palpable. See http://www.infodev.org/mobile/mLaboutcomes.

10 This is also why infoDev emphasized qualitative evidence for its initial evaluations of mLab and mHub pilots implemented under the CSBKE program, see http://www.infodev.org/mobilebusinessmodels and http://www.infodev.org/mobile/mLaboutcomes.
Third, other lessons and learnings, which are strongly context and situation-related, could be difficult to capture with quantitative indicators. For example, a certain mentor with a strong personality could work well for some of your clients and not so well for others, or a political incident could affect the ecosystem. Such information, very important to understand your clients’ success, is unlikely to be uncovered through quantitative data.

7.1.6. Find the Right Mix Between Consistent and Flexible Measurement

Simple quantitative indicators provide most insight when measured consistently over extended periods of time. On the other hand, as an mLab or mHub that is starting out, you will almost definitely adjust your business model, or you might even pivot to an entirely different model, which will of course affect your choice of performance metrics. Overall, the mix between consistency and flexibility also means that the indicator selection process will be reiterated over time—very much in the spirit of the “Build, Measure, Learn” principle—and infoDev and you will need to flexibly adjust whenever this helps you better understand your value contribution and impact.

Altogether, this means that you will need to be consistent and flexible at the same time. In other words, you should differentiate between those key (quantitative) indicators that are most insightful when tracked continuously and consistently, and those where you can flexibly adapt without losing too many insights as you adjust your business model. This point emphasizes even more that the handful of key quantitative performance indicators that you want to track should be chosen carefully, as you will benefit from sticking with them over a long time period. Qualitative indicators, on the other hand, lend themselves more to adjustments; you can more easily incorporate additional contextual and exploratory information queries, for instance, taking interview questions in a different direction once you uncover something new or surprising.

7.1.7. Integrate Performance Tracking in Agreements with Your Clients and Partners

A big challenge with performance measurement is that there is wide agreement that it is relevant and useful, but often the people that hold the critical information (in particular, clients and partners) are reluctant to spend time and effort to share it. There is often a fundamental misalignment of incentives: your clients and partners might think that the information is relevant only to you and not to them, and they gain nothing by spending time sharing it with you.

This means that you need to go the extra mile to convince your clients and partners that your performance tracking will benefit them as well. It also implies that you have an obligation to keep information seeking from clients and partners to the necessary minimum. This is in line with the principle that you must only focus on a few key indicators and consistently track them. Lastly, you should also share the insights that you derive with your clients and partners, at least as far as they are relevant to their work. There is a chronic dearth of information in many if not most innovation ecosystems in developing countries, so your clients and partners are likely to appreciate your evaluation efforts if you show them the knowledge benefit that they get from you when they share the information you need.

It will also help if you discuss your performance measurement requirements with clients and partners early on. You should include specific clauses and requirements in formal support agreements that you set up with your start-up and entrepreneur clients. This will help them anticipate the time and effort that they are expected to invest in providing you with feedback and information on their progress. In particular if your business model relies on revenue sharing or royalties from start-ups and entrepreneurs,
you will need to formally agree with your clients on reporting requirements even beyond the duration of their participation in your program.

7.2. Selecting Indicators and Performance Metrics for Tech Hubs

7.2.1. Funder-Designed vs. Your Own Business Model

There are two scenarios for setting indicators and performance metrics for a tech hub: either your funder proposes a comprehensive business model including indicator templates and measurement plans, or you as the aspiring tech hub lead develop the business model and indicators yourself. At the outset, you need to assess the basic requirements that your funder sets. For instance, infoDev has experimented with different approaches to business model design and indicator selection for its tech hubs, depending on the project context (see box 10). Your funder may give you a specific implementation and business model, including indicators, or if they may expect you to develop the business model and indicators from scratch.

If you design your own tech hub business model, identifying performance metrics should be part of your business model design before you pitch the model to your funder. infoDev has published the Business Model Toolkit for mLabs, which takes you through all the steps necessary to design a comprehensive strategy and value-creation approach for a tech hub that can be tried out in the market. The following presupposes that you have run through this exercise and already have a good idea of the market conditions and your goals, strengths, and weaknesses.

If you advance in your application for a tech hub grant, you will usually co-develop your performance metrics with your funder. As you progress through the stages of a tech hub funding application process, you will collaborate more and more with your funder to further develop your business model, including your business analytics approach. For instance, for an infoDev mLab or mHub grant, you might suggest a crude list of indicators during the expression of interest phase, and then advance with detailed indicator lists, definitions, and targets based on the feedback received from infoDev when you submit your application.

Box 10: infoDev’s Role in Business Model Design and Indicator Pre-Selection

When setting up the 12 original mLabs and mHubs, infoDev asked for proposals of business and implementation models from local grant applicants who were given only a relatively broad framework of expected deliverables, services, and functions. infoDev chose a different approach for the Caribbean Mobile Innovation Project (CMIP). Here, it involved the region’s mobile innovation stakeholders in a design process and then developed a detailed business plan. The plan would guide implementation of services and also specify the business model for the grantee over the four years of the project. This approach was chosen as infoDev was well positioned to provide a birds-eye view of the Caribbean project, where nascent innovation communities on different islands, with different backgrounds and economic contexts, had to be organized in a coherent large-scale project. For future mLabs and mHubs, infoDev will determine the depth for upfront business planning and indicator selection on a case by case basis.

If you can measure it, you can manage it. The indicators you select are your guideposts; providing you with key progress information and the ability to correct course if performance is not what it should be.
The co-development process should be interactive, but your funder will usually have some basic requirements. As described in section 6, your value proposition will need to fit in with your funder’s impact model. In the example case of the Digital Entrepreneurship Program, the overarching goal is to find, nurture, and help accelerate high-growth potential mobile applications enterprises. Many services and activities that tackle early-stage innovation gaps are possible under this umbrella—from community-building and ideation events to intense accelerator programs that emphasize one-on-one business mentoring and equity investments. At the same time, the program’s focus on growth-oriented entrepreneurship clearly frames the metrics and evaluation approaches that are relevant to assess its effects, and suitable mLab or mHub business models will usually pursue one or a combination of the three business model approaches of Network Building, Skill Development, and Start-up Creation (see box 7).

7.2.2. Implementation Quality/Output Indicators

You will need to track a set of core implementation indicators, measuring to ensure that your tech hub is on par for service efficiency, effectiveness, and quality. There are several basic measures that indicate whether your tech hub is functioning at a good standard. This list of measures should be easy to track as it relates mostly to basic records of your activities and tracked client participation. In an impact model, these measures would be called output indicators, which reflect your funder’s direct accountability towards their own donors. Mostly, these indicators do not by themselves imply that you are providing value for your clients: instead they track that you are implementing of the services, rather than their effects on the clients. As an example, table 1 summarizes the output indicators that infoDev usually expects mLabs and mHubs to track. Even though these indicators seem basic, infoDev requires mLabs and mHubs to keep consistent records and report back at regular intervals. This will be true for other funders too. The appendix includes detailed definitions of some of the indicators.

<table>
<thead>
<tr>
<th>Getting the mLab or mHub up and running</th>
<th>Building capacity to deliver</th>
<th>Delivering services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business/implementation model/plan developed/co-developed and revised with infoDev (infoDev template or own)</td>
<td>Number of partnerships with financial and non-financial service providers.</td>
<td>Number of businesses/entrepreneurs receiving services: different levels/kinds of support, increases in the volume of services over time.</td>
</tr>
<tr>
<td>Number and type of consortia/partnerships formalized to deliver the business/implementation model/plan</td>
<td>Amount and type of financial and non-financial contributions (human, in kind) secured/committed from partners for additional support of businesses/entrepreneurs (equivalent to resource leverage by mLab or mHub, unless implemented services uniquely benefit non-entrepreneurial stakeholders)</td>
<td>Volume of seed funding from mLab or mHub received by businesses/entrepreneurs (if applicable)</td>
</tr>
<tr>
<td>Development of sound and robust governance structures for the mLab or mHub (for example, advisory board set up)</td>
<td>Institutional capacity established (for example, functional reporting and governance processes)</td>
<td>Number of businesses/entrepreneurs reporting satisfied or very satisfied with mLab/mHub services</td>
</tr>
</tbody>
</table>
Locally relevant results framework and performance monitoring frameworks developed and in use by mLab or mHub to collect and share data and lessons.

mLab or mHub manager/staff’s use of gained implementation knowledge.

Number of knowledge sharing events and knowledge products developed.

mLab or mHub manager/staff’s use of gained implementation knowledge.

Number of knowledge sharing events and knowledge products developed.

Number of media appearances

Enabler cost to sustainable revenue ratio

### 7.2.3. Value Proposition/Outcome Indicators

In addition to implementation quality indicators, you will need to track a set of core value proposition/outcome indicators. Beyond your basic implementation quality, you will need to assess to what extent you succeed in offering the value proposition that you envisioned for your clients. In mLabs and mHubs, managers must track a short list of indicators that assess the effectiveness of their implementation, that is, the value created and the outcomes they contribute to.

InfoDev has identified three separate approaches to mobile app enterprise support for tech hubs: Start-up Creation, Skill Development, and Network Building. Tech hubs can pick from an extensive list of services when they design their business model. But the Digital Entrepreneurship Program’s experience with the mLab and mHub pilots has shown that some services have the potential to support mobile app enterprises directly while others rather serve to set the foundations for enterprise development in ecosystems with large gaps that prevent start-ups from emerging. Skill Development and Network Building were identified as crucial approaches, aside from direct Start-up Creation (see section 5, and box 7).

The core value proposition/outcome indicators that you will need to track depend on the approach that you pursue. InfoDev’s past experience has shown that for each approach—Start-up Creation, Skill Development, or Network Building—different sets of core indicators are needed to measure outcomes. For instance, trainings implemented within a Skill Developer model might have substantial effects on mobile app entrepreneurship, but it might be impossible to link the indirect and long-term effects of trainings to typical Start-up Creation outcome indicators, such as increases in start-up revenues. The core lists of possible indicators are deliberately kept short, and you should be able to choose additional indicators that allow flexibility in your business analytics approach. The appendix includes detailed definitions of the Start-up Creator indicators.

<table>
<thead>
<tr>
<th>Possible indicators for a Start-up Creator</th>
<th>Possible indicators for a Skill Developer</th>
<th>Possible indicators for a Network Builder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional sales revenue for businesses</td>
<td>Increase in skill level of businesses/entrepreneurs (self-reported, for example, measured in tests and through surveys)</td>
<td>Usefulness and outcomes of networking and community-building events as reported by participants (for example, measured through twice annual surveys)</td>
</tr>
<tr>
<td>Profitability of businesses, including changes over time</td>
<td>Increase in investment readiness of businesses/entrepreneurs (baseline measure at entrance and</td>
<td>Number of registered/signed-up community members as a result of the activity of the mLab or mHub</td>
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</table>
There could be additional indicators that your funders require you to track for specific service agreements or projects. The social impact potential of mobile applications is widely recognized, and international development organizations and institutional development funders are exploring approaches to stimulate inclusive and social mobile app innovations. This means that they might integrate additional indicators in their impact models to incentivize you to develop your services in a ways that they have greater potential to generate a specific type of social impact. For instance, infoDev together with the four mLabs and mHub Nepal ran the global mobile microwork challenge “m2Work,” and many mLabs and mHubs have individually attracted social impact funding or run inclusive innovation competitions (see box 11). Similarly, strengthening opportunities for women to close the gender gap in tech entrepreneurship is

**Box 11: mLabs Tapping into Entrepreneurial Communities to Generate Social Impact**

A good example of a social impact innovation competition is **mLab East Asia’s and UNICEF’s Mobile Hackathon** in June 2013. The mLab tapped into its large network of entrepreneurs and coders across Vietnam to promote developing innovations for children. Close to 100 hackers gathered at the main event in Ho Chi Minh City; two teams won the challenges that UNICEF had set out and received cash prizes (see [http://www.unicef.org/vietnam/media_21108.html](http://www.unicef.org/vietnam/media_21108.html)). The mLab also provided follow-on support for the best teams.

In January 2014, mLab East Africa embedded a social enterprise track into its incubation program. The mLab set up the **Mobile Impact Ventures Program** (see [http://mlab.co.ke/mivp/](http://mlab.co.ke/mivp/)) in partnership with the Global Impact Investment Network and with financial support from the Rockefeller Foundation and Tony Elumelu Foundation. Focusing on the agriculture, education, and health and water sectors, selected start-ups undergo a three-month intense mentoring program and group trainings. The venture with the most traction will then receive seed funding of $5,000 and support to attract additional growth capital.

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11 See [http://www.infodev.org/m2work](http://www.infodev.org/m2work).
important for infoDev, and it has started to develop a women entrepreneurship agenda.\textsuperscript{12} infoDev will facilitate and sometimes integrate such initiatives into its core programming in collaboration with donor partners. In cases where infoDev provides you with funding to specifically implement services targeted at social and inclusive innovation, additional outcome measurement will become necessary. Given the broad variety of potential initiatives and focus areas, it is impossible to specify these indicators upfront, but infoDev and other funders will engage with you to develop a viable and useful indicator approach on a case by case basis.

\textsuperscript{12} See http://www.infodev.org/workprogram.

Once you select your performance indicators, you will need a measurement approach that is feasible and blends smoothly with your roll-out. The best indicator selection is useless if you cannot track them reliably throughout implementation. Given that tech hubs are so diverse and usually implement a wide array of services, putting measurement into practice can be where things go wrong. For instance, it might look realistic and useful on paper to collect a large number of indicators, but then some metrics might turn out to be difficult or impossible to track, there can be evaluation fatigue and low response rates from clients and partners, or the collected information might be less useful than originally envisioned. Your business model, the agreement you have with infoDev, and feasibility conditions that you face in your local context will always determine the best approach to put your business analytics into action. This section will introduce you to the basics.

8.1. Establishing a Performance Measurement System

You should set up a performance measurement system that is a master repository and documentation of all indicators that you track and all analyses you conduct. A performance measurement system is at the heart of any business analytics approach. Over time, the system also becomes a resource for you to detect effects of larger trends in the ecosystem or results that change due to strategic decisions you make. The system will make all (codifiable) analytics available to you and others to whom you give access. You can see this as your performance and value creation data base, which you fill with relevant and increasingly insightful bits of data, information, and analysis.

The main function of the performance measurement system is to provide you with a consistent structure that allows you to codify your findings and measurements. Ideally, the performance measurement system will become your one-stop shop for all information that is relevant to understand your performance and the value you provide to your clients. Through the logical links that exist between implementation quality/output indicators and value proposition/outcome indicators, the system will show the areas in which you are on track and in which you are not. Over time, the system will also allow you to set targets more realistically. It will help you maintain consistency and will become your frame of reference for all things related to performance and business analytics during the rollout and operations of your tech hub.

Keep it simple: Advanced software programs and intricate quantitative indicators are not always necessary. The software market is flooded with software solutions that are meant to help you track and document...

Box 12: The CMIP Performance Measurement System

The Caribbean Mobile Innovation Project (CMIP) was designed to foster entrepreneurship and the start-ups ecosystem with a region-wide approach, nurturing early stage mobile app innovators across the Caribbean islands. Given the complexity of the project, infoDev decided to conduct substantial feasibility scoping and business planning upfront. In 2014, infoDev gave a grant to the UWI consortium that covered a large part of the cost of the project for four years. infoDev, together with the Canadian government, also developed a framework of key performance indicators (KPIs) that would guide the CMIP’s priorities. The KPIs firmly set the consortium’s focus on project sustainability, setting expectations of increasing effectiveness and co-financing.
Your indicators, with software packages including more and less sophisticated analytical functions. While good software can definitely be useful, you need to find out for yourself what level of complexity is most useful for you and your staff. The challenge will be that tech hubs are not typical businesses, specialized digital performance tracking tools and interfaces do not yet exist. Moreover, learning to use and maintaining a sophisticated software package can cost a lot of time and effort and you will need to assess the usefulness of any given performance tracking software. When in doubt, keep it simple and accessible to others. Your tech hub will likely be unique and many lessons will not fit with standard analytical and documentation software. A master spreadsheet and embedded notes might be all you need and will make updates and access easier for others.

There is no recipe for how a performance measurement system should look. The process of setting it up is a valuable learning exercise in itself. You should avoid looking for “cookie cutter” approaches to performance measurement. You need to understand that you cannot outsource performance measurement, not even the design of the measurement system itself. In fact, this is often where software use goes wrong: managers put faith and effort into technology but forget about the basics and their responsibility. It is better to emphasize the system design process and also involve your staff in it than to slavishly follow complex software or scorecards. Start with your value creation goals and then define your indicators (as described in this toolkit), and you will be able to design and set up your own (simple) system. Easy-to-use and simple desktop/mobile software and online tools like spreadsheets, note-taking, mind-mapping, and content management systems are probably enough.

Establish a timeline and insert your measurements in intervals that are appropriate for each indicator. A performance measurement system inherently becomes more valuable over time. If you set up an accessible and focused system, you will increasingly gain knowledge that will be clearly documented in the system. Once you have a number of measurements, you will find that you can easily derive learnings by looking at and analyzing the evolution of important metrics. You will see that many indicators confirm your intuitions, but others might not, or they might make you aware of nuances, and you will be able to conduct ongoing self-checks. Naturally, you will need to consistently fill in your findings and results at specified time points for trends to become obvious. Which interval is most useful will again depend on potential legal or funder requirements, but also on a given indicator and the availability of data or the reporting structure that your clients agree to. For example, you might find it useful and viable to track your client entrepreneurs’ revenue for every quarter, while you might run a satisfaction and feedback survey only once a year. Bigger evaluations, for which you or an outside agency conduct multiple interviews and analyses to derive broader data, might only happen once every two years.

8.2. Use Lean Start-up-style Hypothesis Validation to Extract Better Learnings

Continuous performance measurement and analysis are essential within a “Build, Measure, Learn” framework. Measurement, analysis, and learning for tech hubs are ongoing and should never be an afterthought. Large, holistic evaluations in two-year cycles or at the end of a particular programming period are useful to understand the bigger picture and derive in-depth knowledge. But such post hoc evaluations do not replace the need for ongoing learning. In the highly complex and uncertain innovation ecosystems that tech hubs interact with, there are hardly any tested and universally valid implementation and business models. This implies that a tech hub will likely perform worse than it should if it “flies blind” until a large-scale evaluation is conducted.

Your measurement should do more than tracking. It must also compare your findings with your projections and estimates. This kind of hypothesis testing will yield more meaningful insights as the thought process
that you go through when making your estimates will make you aware of the assumptions you make and beliefs you have about how your services relate to your value proposition.

Ideally, at the beginning of every time period and for every indicator, you can make crude estimates of the results at the end of the period. You can make one very risky or optimistic hypothesis and one very conservative one. When you see the results at the end of the time period, you will be able to validate or disprove the hypotheses and assumptions that you made when planning your services and your impact. This works both for quantitative and qualitative indicators.

Such data-driven hypothesis testing is very similar to the Lean Start-up methodology that is widely seen as a success factor for tech start-ups and other early-stage or small and medium-sized businesses. The basic idea behind the methodology is that business model and product innovations inherently advance into uncharted territory where evidence has to be collected to iteratively improve decision-making. At the same time, the method is particularly suitable for small start-ups with limited resources, as it emphasizes the need to keep business modeling and learning-oriented measurements agile and lean. In other words, in order to gain insights on its business, a venture does not necessarily need a large analytics department or build complicated statistical projections, but should instead rely on deliberate small real-world experiments that help validate or falsify hypotheses, which then leads to adjustments. Of course, this implies that a manager also has to be honest and admit when an assumption turns out to be false—these can actually be the most valuable lessons, leading to pivoting away from the wrong track.

While the method works particularly well for software and web-based start-ups where extensive data collection from users is easier, it can also be applied to tech hubs. Tech hubs also work in uncertain and complex environments where not much data is available and many implementation options and service portfolios are possible. Iterative, lean, and simple hypothesis testing, based on a short list of important indicators, is likely to be more helpful in maneuvering innovation ecosystems and improving a tech hub’s value proposition.

“Get Out of the Building” to test hypotheses in interactions with your clients. Ultimately, you provide value to your clients—early-stage, growth-oriented mobile app entrepreneurs. This means that they are the main source of information that can help you understand what you are doing well, what you could do better, or what you should not do at all. Setting up a performance measurement system thus does not replace direct contact with your clients; instead the two are complementary: the information you get from your clients will feed into the indicators in your system, and the system, by providing you with documentation and an overview of all measures over time, will give you ideas for new hypothesis tests that you can bring into conversations with your clients. In other words, you need to continue to “get out of the building” to engage with your clients and understand and sense their demands and concerns. This is another key pillar of the Lean Start-up methodology (usually referred to as customer development).

### 8.3. Budgeting, Planning, and Staffing for Continuous Analytics
You will have to plan for resources and time for business analytics and maintaining your performance measurement system; usually a monthly in-depth analytics session is helpful. As you have seen from this toolkit, business analytics is an ongoing process and not a one-off, ad hoc initiative. This implies that you need to plan for resources and not underestimate the effort that this will take. You will develop a routine and rhythm when to delve deeper into the analytics. A monthly in-depth session that can, for example, precede strategy meetings with your advisory board or consortium is a good rule of thumb. In the hectic day-to-day schedule of an mLab or mHub manager, it will be tempting to skip these regular sessions.
However, mLab managers have reported that regularity is vital to consistently observing changes and progress and not getting lost in “putting out fires” and running from one urgent but overall minor implementation issue to the next. Your performance measurement system should also be set up to blend in with your daily work. You should frequently look up data and document notes and findings.

As a rule of thumb, you as the manager should work with one staff member who spends a significant amount of time on measurement, evaluation, and analytics tasks. It is usually a good idea to dedicate business analytics tasks to one person on your team to guarantee consistency and coherence. Business analytics functions usually go hand in hand with knowledge management, strategic advisory, and multi-stakeholder feedback management, so you might think about charting out the terms of references for this person so there are synergies with such tasks.

8.4. Involve Outside Help
Research and consultancy organizations can help you with in-depth evaluations, in particular, in the context of inflection points for your business model and strategy. Once you developed a performance measurement system that works for you, you should be able to stay on top of your regular tracking and learning exercises. However, tech hubs have many indirect effects on the innovation ecosystem that are difficult to find and assess without a team of research and evaluation experts. In fact, the unexpected and initially unmeasured effects of tech hubs can be just as important as, or even more important than, the effects that are commonly anticipated and tracked (see box 13). For such broader evaluations that aim to get at the systemic and far-flung impact that your tech hub has, it is recommended that you engage an outside agency that has the required expertise. Measurement of more complicated (for example, systemic) value creation and impacts is usually not something that you can do in-house. You should set the incentives in a way that the agency will give you a neutral and honest but constructive assessment.

It might help you to develop informal feedback channels to critical, informed outsiders, as they will help you to see new pathways and missing pieces in your business model. Just like start-ups benefit from having mentors, a tech hub manager is can also benefit from getting constructive but critical feedback from someone who is not on the team. It is natural that a manager or leader of an organization is not well-positioned to see certain issues in the organization, as it is easy to lose the distance that is necessary to reflect on the “bigger picture,” that is, the broad strokes of strategic direction in the context of a given market and ecosystem. It would be advisable to identify someone on the fringes of the ecosystem as this will make it more likely that the feedback is relevant but still includes fresh ideas that are not already circulating in the ecosystem. Such inputs will help you to avoid complacency and biases.

Box 13: mLab East Africa Learning and Improving from Evaluation
mLab East Africa was the first mLab to get off the ground and also the first to conduct a comprehensive evaluation conducted by the University of Nairobi. While some findings were expected, others were surprising and shaped the mLab’s future decisions. For instance, incubatees clearly demanded more personalized mentorship and Pivot East participants called for better follow-on support for finalists, which later became key factors for the design of the mLab’s virtual incubation program.

9. How do mLabs and mHubs Work with infoDev?

If you have a performance measurement system in place, you stand to benefit from informally keeping infoDev in the loop and accessing its expertise and feedback. While infoDev cannot and should not micromanage your mLab or mHub, it will be better able to support you if it is aware of your current progress and problems. Sharing reports and overviews pulled from your performance measurement system with infoDev, or even giving an infoDev colleague access to the system, is an easy way to facilitate a continuous knowledge exchange. The more you share, the easier it will be for your infoDev counterpart to give you advice and understand your local context. infoDev will use the insights that you share to give you feedback, introduce you to contacts from across its network, and give you additional support suited to your situation.

You should plan far ahead of deadlines for the agreed formal reporting rounds with infoDev. Similar to informal regular exchanges, the regular reporting that you will be expected to conduct should be seamless if your performance measurement system is set up in line with what you agreed with infoDev early on. Formal reporting will include both results reporting (implementation quality/output indicators and value proposition/outcome indicators) as well as other grant reporting requirements such as financial and fiduciary reporting. It takes time for infoDev as your interface to coordinate the World Bank-internal grant reporting process, and so it is good advice to start working towards your reporting deadlines early to accommodate potential follow-up requests and clarifications. infoDev will engage and collaborate with you in this process, and will help you to proactively seek guidance and clear out any uncertainties about the reporting. In other words, you can see the performance measurement system also as an investment to minimize the extra effort for your reporting duties and make it as seamless and smooth as possible.

infoDev will allocate additional resources and time to support the effort whenever performance measurement and evaluation is geared towards infoDev’s broader goals rather than the immediate goals specified in your business model. When a given indicator is immediately relevant for you to assess the value you provide for your clients (for instance, if you suggested the indicator), infoDev will expect you to budget for business analytics and take care of performance measurement and the evaluation process. This is based on infoDev’s belief that in the long-run you need to take full responsibility for your mLab or mHub to make it sustainable. However, there will be instances where infoDev will have a broader evaluation interest, beyond your business model. For instance, infoDev might be interested in indirect effects of your activities on certain components of the local innovation ecosystem, or infoDev might have a separate reporting duty towards its donors relating to inclusive and social innovation goals. If this effect type is not instrumental to your business model and therefore not immediately relevant for you, it is understood that infoDev will support you with the data collection and evaluation. For instance, in these cases, infoDev could send its own evaluators, hire outside help, or make additional budget resources available to you.
RESOURCES:

Business Model Toolkit for mLabs and mHubs

Resources Including Assessments of Tech hubs
The Business Models of mLabs and mHubs – An Evaluation of infoDev’s Mobile Innovation Support Pilots: http://www.infodev.org/mobilebusinessmodels
Do mLabs Make a Difference? A Holistic Outcome Assessment of infoDev’s Mobile Entrepreneurship Enablers: http://www.infodev.org/mobile/mLaboutcomes
Infographic - Do mLabs Make a Difference: http://www.infodev.org/infodev-files/do_mlabs_make_a_difference_infographic.pdf
ANDE Bridging the Pioneer Gap: http://www.aspeninstitute.org/sites/default/files/content/docs/ande/Bridging%20the%20Pioneer%20Gap20The%20Role%20of%20Accelerators%20in%20Launching%20High%20Impact%20Enterprises%20.pdf
GSMA report on Kenya: http://www.gsmaentrepreneurshipkenya.com/

Resources Including Market and Mobile Innovation Ecosystem Assessments
Ghana Entrepreneurship Ecosystem Analysis by KolCo: http://fletcher.tufts.edu/~media/D6F84A0F3F474166B5CD3CDFC6235B9E.pdf
Startup Compass, by Startup Genome: https://www.compass.co/

Other Toolkits
ANDE’s Ecosystem Assessment Toolkit: http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/FINAL%20Ecosystem%20Toolkit%2ODraft_print%20version.pdf

APPENDICES: Examples of Indicators and Definitions by mLab/mHub Approach

Appendix 1: Implementation Quality Indicators
Appendix 2: Value Proposition/Outcome Indicators
## Appendix 1: Implementation Quality Indicators

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of businesses applying for a grant</td>
<td>These are the mLab businesses/entrepreneurs who applied for a proof of concept and/or any other grant, participated in competitions with monetary prizes (hackathons, app challenges, etc.). These could be internal (provided by the mLab) and/or external grants.</td>
</tr>
<tr>
<td>Number of businesses receiving grants</td>
<td>These are the mLab businesses/entrepreneurs who received grants and/or monetary prizes. Results should be only captured when a grant is fully disbursed to and received by a business/entrepreneur.</td>
</tr>
<tr>
<td>Amount of grants received by businesses (USD)</td>
<td>This is the amount of grants and/or monetary prizes received by mLab businesses/entrepreneurs. Results should be only captured when a grant is fully received by a business/entrepreneur.</td>
</tr>
<tr>
<td>Number of businesses who registered their invention with Intellectual Property (IP) office</td>
<td>Number of mLab businesses/entrepreneurs who registered their product/service/application prototype with Intellectual Property (IP) office.</td>
</tr>
<tr>
<td>Number of businesses who release their invention to the community</td>
<td>Number of mLab businesses/entrepreneurs who use appropriate statements or licenses to release their product/service/application prototype as free software, permissive open source, or contribute it to the public domain. Further commercial and proprietary use should be allowed.</td>
</tr>
<tr>
<td>Number of businesses who raised early stage finance</td>
<td>Number of mLab businesses/entrepreneurs who managed to raise product development/testing seed/early stage finance through venture capitals/crowd funding/angel investors/other sources. These are businesses/entrepreneurs who received non-financial/financial services and/or grants from the mLab.</td>
</tr>
<tr>
<td>Amount of early stage finance raised by businesses (USD)</td>
<td>The amount of product development/testing seed/early stage finance raised by mLab businesses/entrepreneurs.</td>
</tr>
<tr>
<td>Number of businesses who raised growth stage finance</td>
<td>Number of mLab businesses/entrepreneurs who managed to raise growth stage (commercialization) finance through venture capitals/crowd funding/angel investors/other financial institutions. These are businesses who received non-financial/financial services and/or grants from the mLab or other sources.</td>
</tr>
<tr>
<td>Amount of growth stage finance raised by businesses (USD)</td>
<td>The amount of growth stage (commercialization) finance raised by the mLab businesses/entrepreneurs.</td>
</tr>
<tr>
<td>Number of new direct jobs created</td>
<td>Number of additional new direct fulltime jobs created by mLab businesses/entrepreneurs as a result of growth. These includes also fulltime direct additional jobs created by the business in other countries as a result of business expansion.</td>
</tr>
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</table>
### Indicator Definitions

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
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<tr>
<td>Additional sales revenue for targeted businesses (USD)</td>
<td>Additional sales revenue (USD) for the mLab businesses/entrepreneurs. For established businesses, result should be captured for the additional sales revenue above normal growth revenue achieved by the firm prior to joining the mLab.</td>
</tr>
<tr>
<td>Number of digital products/services developed/improved</td>
<td>Number of digital products/services developed and/or improved by mLab businesses who received services from the mLab and/or any of their non-financial/financial service providers. Only count digital products that were developed for commercialization.</td>
</tr>
<tr>
<td>Number of digital product/service prototypes developed/improved</td>
<td>Number of digital product/service prototypes developed and/or improved by mLab businesses/entrepreneurs who received services from the mLab and/or any of their non-financial/financial service providers. Prototypes could have been developed/improved during a hackathon, training program, or another activity where with emphasis on skills and capacity development.</td>
</tr>
<tr>
<td>Number of digital products/services developed/improved available in the market with a social and/or developmental impact</td>
<td>Number of digital applications/services developed/improved by mLab businesses/entrepreneurs who received services from the mLab and/or any of their non-financial/financial service providers that are available in the market for end users and do have a social/economical developmental impact. These are digital products/services linked to public services, health, education, agriculture, etc.</td>
</tr>
<tr>
<td>Number of users reached by developed/improved digital products/services</td>
<td>Number of users reached by additional digital products/services developed/improved by mLab businesses/entrepreneurs who received services from the mLab and/or any of their non-financial/financial service providers</td>
</tr>
<tr>
<td>Number of users reached by developed/improved digital products/services with social and/or developmental impact</td>
<td>Number of users reached by additional digital products/services with social/economical developmental impact developed/improved by mLab businesses/entrepreneurs who received services from the mLab and/or any of their non-financial/financial service providers</td>
</tr>
<tr>
<td>INDICATOR</td>
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<tr>
<td>Number of partnerships with non-financial services providers</td>
<td>Partnerships between the mLab and non-financial service providers (mentors/coaches/trainers) providing technical/legal/business management and operations advise to entrepreneurs/businesses. These could be partnerships with firms/individuals on a contract/voluntary basis</td>
</tr>
<tr>
<td>Number of partnerships with financial services providers</td>
<td>Partnerships between the mLab and financial service providers (banks/venture capitals/angel networks/crowdfunding) providing financial advise and/or seed/early stage/growth stage finance to entrepreneurs/businesses. These could be formal/semi-formal/informal partnerships</td>
</tr>
<tr>
<td>Number of mLab service sessions, including coaching and mentoring, bootcamps, etc.</td>
<td>These are any face to face and/or online workshops/training events/seminars/conferences/coaching/mentoring sessions for mLab businesses/entrepreneurs, organized/facilitated/sponsored/partnered by the mLab and/or their financial/non-financial service providers</td>
</tr>
<tr>
<td>Number of businesses/entrepreneurs receiving services</td>
<td>These are the mLab businesses/entrepreneurs participating in face to face and/or online workshops/training events/seminars/conferences/coaching/mentoring sessions linked to the mLab and their partner financial and non-financial service providers only+C23</td>
</tr>
<tr>
<td>Number of participants providing feedback on satisfaction</td>
<td>These are the mLab businesses/entrepreneurs providing feedback on face to face and/or online workshops/training events/seminars/conferences/coaching/mentoring sessions linked to the mLab and their financial and non-financial service providing partners. The feedback is mainly on the venue, service provider knowledge, materials used and relevancy to their need.</td>
</tr>
<tr>
<td>Number of businesses/entrepreneurs reporting satisfied or very satisfied with mLab services.</td>
<td>These are the mLab businesses/entrepreneurs reporting satisfied and/or very satisfied feedback on face to face and/or online workshops/training events/seminars/conferences/coaching/mentoring sessions linked to the mLab and their financial and non-financial service providing partners. The feedback is mainly on the venue, service provider knowledge, materials used and relevancy to their need.</td>
</tr>
<tr>
<td>Number of media appearances</td>
<td>Number of local/regional/international media appearances in TV/radio/press, for the mLab and/or their businesses/entrepreneurs</td>
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## Appendix 2: Value Proposition/Outcome Indicators

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>DEFINITION</th>
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<tbody>
<tr>
<td>Number of knowledge sharing events</td>
<td>Number of local/regional/international knowledge sharing/networking events/activities that mLab organized/facilitated. At the mLab level these could include operational learning, best practice, or the journey of a successful business/entrepreneur.</td>
</tr>
<tr>
<td>Number of knowledge products developed</td>
<td>Number of informative publications and/or visuals produced by the mLab on success stories and lessons learned. The knowledge pieces cover both business/entrepreneurs and internal mLab management/operational topics.</td>
</tr>
<tr>
<td>Enabler cost to sustainable revenue ratio</td>
<td>This is a ratio of mLab cost (both fixed and variable) to sustainable revenue. Sustainable revenue may include different sources (government, fees paid by businesses/entrepreneurs, royalties, even donor funding), depending on the mLab's business model. Seed funding (such as infoDev grants) should not be considered as a revenue. A ratio of 1 means that the mLab is at breakeven, less than 1 means that more revenue is generated than it costs to run the mLab, and more than 1 means that costs incurred are more than revenues generated.</td>
</tr>
</tbody>
</table>