

Business incubation hub

Guidebook



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Introduction

Entrepreneurship plays an increasingly important role in Africa for several reasons. Among other things, its burgeoning population and youth bulge necessitate the creation of jobs and work opportunities. This can be achieved through entrepreneurial activity or jobs created by young entrepreneurs.

Given this drive for youth entrepreneurship, higher learning institutions are at the center of this strategy as education seeks to play an increasingly important role in preparing young people for the future. To deliver entrepreneurship capacity sufficiently and effectively, institutions cannot think about such programs as in-class experiences alone; instead, they must create practical applications through a connected ecosystem approach to develop a critical mass of needed entrepreneurs. This has further led to the need for functional entrepreneurship spaces, called entrepreneurship incubation and innovation hubs and spaces in universities.

This guidebook/toolkit provides a pathway for institutions looking to build such spaces and programs, leveraging examples from the pilot of iLab at Africa Development University and other practices from universities in Africa. While there is no one-size-fits-all approach to building out such a complex undertaking as a university entrepreneurship incubation hub, this guidebook does its best to provide the different steps and considerations to be made, providing examples and recommendations for application. We encourage you to continually be inspired by a breadth of examples and your peculiar content as you shape an entrepreneurship incubation program customized for your stakeholders and institutional context.

Purpose of the Incubation Hub Guidebook

This document presents practical information in three parts, with chapters dealing with specific components for application or consideration. Each chapter deals with a topical issue or component, providing a definition, purpose, examples, and questions or application templates to help you render the lesson in your unique example or context.

As you read through the chapters, explore how best their content fits within your context by using the worksheets in different sections to create a plan for your institution. These worksheets will feed into the bigger plan for your incubation hub and can be combined to refine your composite strategy. In addition, you can add or remove sections that you deem most appropriate for your immediate realities and circumstances.



Definition of Terms



Innovation hubs, design labs, or university-based incubators (UBIs), as they are popularly known, are increasingly considered one of the most effective types of incubators that enable student entrepreneurs to create industry links, improve their research capacity, start businesses, and develop entrepreneurial mindsets. As defined by Barbero et al. (2012) and Grimaldi and Grandi (2005), incubators provide support for young business startups through tangible and intangible services. These services include but are not limited to workspaces, entrepreneurial training programs, funding, networking opportunities, technology and prototyping support, human resources (trainers, mentors, coaches, etc.), team building, etc. Also, Guerrero M. et al. (2020) provide insights into how entrepreneurial university infrastructure (business incubators) reinforced risk tolerance during graduates' career decisions. Structures such as university incubators and incubation programs increase the chances and success of entrepreneurial activity.

Given the plethora of terms used across different contexts to define the spaces for cultivating entrepreneurial competence and activity, it is essential to differentiate these terms and settle on a central definition to guide the outcomes of this document. Some common terms that have been used include:

Entrepreneurship program: This learning program teaches entrepreneurship principles and strategies for starting and operating a business. This can be an academic program or course offered in an institution, usually with a curriculum and delivered within a classroom context.

Entrepreneurship ecosystem: This refers to a broader mix of factors within and outside an institution that impact its development of entrepreneurs. Factors in the ecosystem include the programs, people, and resources present in the institution and external factors such as the market/industry, relevant agencies, funders, programs, policies, and more. Regardless of the approach, it is always important to consider building an ecosystem in developing entrepreneurs within an institution. As the African saying goes, "It takes a village to raise a child." Similarly, it takes an ecosystem to develop a stable and sustainable entrepreneur.

Entrepreneurship incubation hubs [or incubators]: Incubation hubs refer to spaces where ideas are developed into stable businesses with the potential for survival. Usually, incubators provide resources to help early-stage ideas build their business models and products to be ready for the market or pitch to investors to move these business ideas to the implementation stage.

Accelerators: These are spaces similar to incubators but take the work of incubators to the next level. Accelerators take operational businesses with proven product-market fit that are making traction to help

them grow even faster and scale their operations and offerings. Accelerators focus on the growth of already-existing businesses by improving capacity.

Innovation hubs or labs: Innovation labs and hubs are broadly defined as spaces that foster innovation by bringing together different resources and stakeholders to interact and intersect, leading to new solutions and innovations. Innovation hubs can contain various services, including incubation and acceleration facilities and other facilities for collaborative experimentation, prototyping, and testing new ideas.

Makerspace: A makerspace, as the name implies, is a space where things are made. Usually, a makerspace will contain tools, materials, and components where potential innovators can go with ideas of what they want to create and actualize their vision with the available resources. In makerspaces, people can co-create, share ideas, network, and build new things by default. Makerspaces generally focus on STEAM applications, i.e., creating technologically focused products.

Prototype labs: A prototype lab is similar to a makerspace but is defined more in function or output. A prototype is a testable version of an intended new product or service. Like a makerspace, the prototyping lab gives an entrepreneur/incubator the resources they need to create a version of their product or service that can be tested with users and used to gather feedback. These may or may not be technological outputs.

Hubs Vs. Programs

A hub is a space that combines different resources, such as entrepreneurial ones. It is a meeting point for people, projects, ideas, resources, and more, creating opportunities for innovation. Conversely, a program is an intentionally designed experience with clear outcomes and set components, inputs, and activities. A hub might exist without programs or with programs occurring in it. This guidebook provides for a hub with programs comprising its operations and impact.

Entrepreneurship Incubation Hubs

This manual focuses on entrepreneurship incubation hubs with a view that most institutions run or will prefer to run a dedicated space along with programs that channel the benefits and outcomes for which their hubs were created. Please note that ‘incubation hub’ will be used interchangeably with ‘incubator’ in this guidebook. They are intended to mean the same thing as defined here.

How This Guidebook Is Organized and How to Use It

Part 01

This focuses on the big picture, vision, and direction for your incubation program. To design and execute a genuinely effective incubation hub for your institution, there needs to be a clear picture and scoping of what is expected and what it will take to get these results, employing a stakeholder-consulted, research-driven, and ecosystem-compliant approach. Part 01 helps you think about the end from the beginning of the process to shape a strategy or plan that delivers the most relevant outcomes for your users and institutional stakeholders.

Part 02

This part dives into the components that should come together as you shape the vision you crafted in Part 01. As you work through this part of the resource,

you will gather and shape the pieces that will make up your unique entrepreneurship incubation hub. Some of these components may be more relevant to your current stage than others. You may also need to bring on additional elements not captured in this guidebook. In addition to gathering components of your incubation hub, you will also find guidelines on executing or implementing your plan. Part 02 focuses on setting up and running your incubation hub.

Part 03

In Part 03, we explore considerations you should make beyond setting up and running an incubator. Ideally, these refer to post-incubation activities, including measuring the effectiveness and success of your programs or hub, as well as the transition of the entrepreneurs and startups incubated in your program.

The Inno Lab Case Study

As mentioned, this guidebook is primarily inspired by the iLab pilot program run at the African Development University in collaboration with The Education Collaborative at Ashesi University, Ghana. You will, therefore, find specific references to the components and process of that pilot. The pilot provides an illustrative example of the different steps for building an incubator, which are detailed in this document. Some other institutional examples will also be included for reference and to demonstrate different approaches in varied contexts. The goal is for you to apply these to your current institutional reality and context in building your incubator or incubation program.

Additional Institutional References

In pulling together this resource, we spoke with colleagues from different institutions across the continent who also run incubator hubs or programs to provide additional perspectives on the approaches captured in the document.

African Leadership University Entrepreneurship Program

Learn more at this link: <https://www.alueducation.com/>

Carnegie Mellon University Incubator Program

Learn more at this link: <https://www.africa.engineering.cmu.edu/impact/industry-innovation-lab/index.html>

University of Rwanda Data-Driven Incubation Hub

Learn more at this link: <https://aceds.ur.ac.rw/data-driven-incubation-hub>

Stellenbosch University Launch Lab

Learn more at this link: <https://www.launchlab.africa/>

Covenant University Hebron Start-up Lab

Learn more at this link: <https://startup.covenantuniversity.edu.ng/>



Part 1

Planning for Your Incubation Hub

- | **Setting Up Your Steering Team**
- | **Setting Your Vision**
- | **Setting SMART Goals for Your Incubator**
- | **Defining Your Users and Stakeholders**
- | **Establishing Incubation Hub Fit Within Your Institution's Entrepreneurship Framework**
- | **Defining Your Outcomes and Impact**
- | **Conducting Research**
- | **Planning for Sustainability**

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As you start planning and defining your incubation hub, here are initial considerations to make.

► Setting Up Your Steering Team

To initiate the process of setting up your institution's incubation hub, there will need to be a project or steering team that may or may not go on to play critical roles in its operation and management. It is crucial to bring together a team that, while representing the interests of different parts of your stakeholder community, equally shares a passion for and commitment to developing students into entrepreneurs and innovative, entrepreneurial professionals through a fit-for-purpose entrepreneurship incubation hub.

This initial team can comprise existing institution staff, mainly concerned with entrepreneurship learning and programming, representatives from career services, external stakeholder engagement team members, and, where necessary, entrepreneurship development consultants.



Tool: Team Competency Matrix

How to use: First, determine and outline the competencies you need on your incubator’s steering team. Then, identify the appropriate persons within and outside the institution who can contribute to those competencies or bring the required perspective. You may have more than one person in certain vital areas. Having as many people and options on this list as possible will help you narrow down the key people to prioritize having on your team.

Expertise / Competencies	Paper 1	Paper 2	Paper 3	Paper 4	Paper 5
Entrepreneurship Education And Programming					
Entrepreneurship ecosystem - networks, investors, etc					
External stakeholder relationships including government relations					
Students’ career services and employer relations					
Project management; research/M&E					
Operations and logistics					
Student					
Additional Expertise					
Additional Expertise					

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The steering team might include the following members, which will bring some much-needed perspective to developing the incubator's blueprint.

- Project manager/Incubator lead
- Head of entrepreneurship
- Industry/External relations lead/officer
- Student development lead
- Facility manager
- Career services lead
- Other persons employed in an administrative or management role for the incubator



Setting Your Vision

At the macro level, it is important to articulate the future end point of your incubator. It is important to define your incubation hub's role in the larger entrepreneurship and education landscape, what it will look like, what gaps it will fill, and how it will stand out and make an impact. This visioning exercise is further broken down into different components below that will describe the peculiarity of your program. Regardless, it is helpful for the team to begin with loose ideas that can further guide the scope of detailed articulation.

The 'Why' of Your Incubation Hub

Complementing your incubation hub's bigger vision should be its purpose, the 'why' for undertaking and seeking to sustain this project. This will differ from institution to institution based on strategic institutional priorities and institutional positioning. Some purposes for setting incubation include but are not limited to:

Academic and learning purposes:

An incubation hub can be set up to support ongoing education within an institution's programs. It becomes a laboratory for testing concepts taught in class and making them practical to deepen student learning.

Launching entrepreneurial ideas and startups:

An incubation hub can be set up to develop entrepreneurs, thus going over and above in-class programming. In this scenario, an institution prioritizes developing student entrepreneurs and creating innovative startups.

Income-generation purposes:

Incubation hubs can be set up to generate revenue

by offering resources, spaces, and services to users who can pay. It is unlikely, though, that students of the institution will be such targets. In some circumstances where the facility is available, incubation programs can be open to external innovators and users to earn revenue.

Technology transfer/Industry engagement:

An incubation program can be essential to an institution's market and industry connections. Beyond engaging industry experts towards practical student learning, the incubator can co-design programs and challenges with the industry and develop solutions for defined problem statements within universities.

The 'whys' for your institution can include some of these, all of these, or more than these. What is important is that there is a clear purpose at an institutional level for setting up the incubation hub. Later, we will explore fit within an institution's entrepreneurship framework to appreciate the rationale for establishing its incubator. The purpose of an incubation program will, in large part, guide its design as well as how it is prioritized and run. It also defines which stakeholders are most responsible and most connected to it.

Tool: Shared Vision Worksheet

How to use: A facilitator will take some time to lead the steering team through this worksheet’s different steps/ components, allowing members to share their unique perspectives and bring those together in a balanced yet effective way. While a vision is articulated at this point, it is not set in stone but gives initial ideas and alignment on what will be built. Later on, with further user/stakeholder research (especially institutional stakeholders), this can be updated and upgraded.

Mission/Purpose	Values	Vision	Strategy	Scorecard
<p>What is the ‘why’ of the incubator. and how does this tie into the ‘why’ of the institution?</p>	<p>What values will guide how things are done in the incubator (alignment with the institution)?</p>	<p>Personal Visions: Each person comes up with a vision for the incubator program.</p> <p>Shared Vision: The team collaborates to align the vision into a composite, compelling one.</p>	<p>How will we be different? How will we position ourselves as an incubator? What approach will we take to accomplish our mission?</p>	<p>How will we implement and monitor the progress of our strategies?</p>

➡ Setting SMART Goals for Your Incubator

Goal setting is a guiding stage in understanding the focus of your incubator and rightly aligning it with the services that would most benefit your institution's vision and stakeholders' needs (primarily student businesses). General goals for an incubator include venture creation, local economic development, creation of new and sustainable jobs, reduction in the failure rate of new enterprises, prototype and testing support, development of an entrepreneurial culture, etc.

To begin your incubation journey, just as with any project or mission that intends to have a high probability of success, goals and objectives must be set in a SMART manner. They must be Specific, Measurable, Achievable, Relevant, and Time-bound (cite). An incubation journey must always have SMART goals that drive processes and influence support services delivered to incubate. These goals should be tailored to the operating environment and respective stakeholders that will affect or be affected by the incubator's activities.

Objectives are shorter-time outcomes for the establishment phase of the incubation program and should be set to guide planning and implementation. When setting SMART objectives, these have to be tailored to the needs of the ecosystem the incubator is in and align with institutional priorities, resources available, and the time constraints for achieving the intended objectives.

Specific

The objectives should be as clear and direct as possible. They should communicate what needs to be accomplished by whom and share the steps in that process.

Measurable

Objectives for the incubator's programs/activities should be quantifiable. There should be a reasonable measure of what success will look like. This allows objectives to be more tangible and motivating to the team as there are assessable endpoints to work towards. Measurable objectives do not have to be seen as only quantitative, as qualitative data can provide deeper insights. Knowing this should inform your perspective.

Achievable

Here is where resource consideration plays an important factor. To set achievable objectives, the outcomes of your incubator should coincide with the resources available to achieve them. This capacity

determines the potential scale and how effectively the incubator can deliver on programs.

Relevant

Relevance can be viewed in two ways. First, the set objectives must be relevant to the needs of the stakeholders in the ecosystem the incubator is serving. Second, the objectives must align with the overarching institutional goals of the institution the incubator serves. Both considerations should be made to ensure the objectives align with the needs of the incubator's beneficiaries and ecosystem while also suiting the institution's vision.

Time-bound

All objectives should be within timeframes, providing actionable timelines for completing tasks. Without time constraints, there is no urgency to get work done. The periods set in accordance with objectives should be tight and broad enough not to overstate or play down the work to be done.

In all, setting SMART objectives should be collaborative with the input of the incubation team guiding the process.

Tool: SMART Objectives Framework

How to use: A facilitator should work with the team to further break down the strategic approach into measurable goals for the incubator setup (Note: this process is for setting up the incubator, not the incubator program or operations). The objectives should align with the SMART framework and answer critical questions to ensure the team's alignment.

SMART Objectives Template	
SMART Objective	
<p>S Specific The objectives should be clear and direct. What needs to be accomplished? Who is responsible? What steps are to be taken?</p>	
<p>M Measurable The objectives should be quantifiable. How will progress be measured? How will we know that a set goal has been achieved?</p>	
<p>A Achievable Objectives should be realistic and match the resources and time available. Is it possible to reach the goal within the allotted resources and time?</p>	
<p>R Relevant Objectives should be pertinent to the needs of stakeholders (particularly entrepreneurs) and align with the larger institutional vision. How do the objectives meet stakeholder needs? How do the objectives match the overarching institutional vision for the incubator?</p>	
<p>T Time-bound Objectives should be accompanied by actionable timelines. How long should it take to achieve the objectives?</p>	

Institution Highlights and Examples

As highlighted above, institutions craft the vision and goals of their incubator or incubator programs based on a broader vision, stakeholders, or other critical priorities.

The African Leadership University seeks to deliver incubation programs that allow student entrepreneurs to learn from each other in a way that builds on and aligns with the institution's strategy and operational model. Given this distributed university strategy and lead operations model, the focus is on providing students with the resources and creating the space/platforms for collaboration.

On the other hand, the Launch Lab at Stellenbosch University strongly focuses on using universities as centres for innovation. This is a popular idea and a tried-and-tested model in the Global North, but it has yet to be fully harnessed in the Global South. Stellenbosch sees the need to apply and contextualize a proven method of making universities innovation centers in Africa as one of the driving factors for its incubator.

The data-driven incubation hub at the University of Rwanda focuses on data-driven products and is committed to turning such ideas into commercial products and services.

➡ Defining Your Users and Stakeholders

Nothing else is more important than the people whose interests your incubation hub will serve. Here, we categorize these into core users and stakeholders. Core users directly benefit from the incubation hub by participating in programs and utilizing materials and resources. On the other hand, stakeholders are parties who might have a say in and can impact the operation and outcomes of the incubation program.

Defining the User

An institution might be tempted to categorize all students as the primary users of its incubator. However, similar to targeting users for a business solution, an incubation hub should also have a disciplined target segmentation of its users. This helps an incubator refine its value proposition and be more effective with its outcomes, outputs, and impact while prioritizing resources.

Primary user

This user is a vital representative of the target audience for which the incubator hub has been set up. Suppose the incubation hub aims to develop entrepreneurial innovations; in that case, the primary user will be represented by students with innovative ideas they are passionate about and want to expand into stable business solutions. Some incubators also consider researchers and alumni as primary users.

Secondary user

This user will also benefit from the incubator but might not be as committed as the primary user in turning a solution into a stable business. Students more inclined towards working within established systems commonly fall under this category. What they benefit most from an incubator's services is the development of an entrepreneurial approach and an entrepreneurial mindset.

Personas can be created to explore the users within your institution's community who will find value in an incubator program. These personas will further guide the design and services offered by the incubator.

Tool: User Persona Worksheet

How to use: This worksheet will help you better understand the needs of your incubator’s planned users, tailor your services accordingly, and communicate with them effectively. Work with your steering team to identify the attributes of the users/students you look to serve. You can have one to three personas representing entrepreneurial diversity in your institution.

Avatars What do they look like?	Demographics Who are they? Where do they come from? What is their background?	Influences and Motivations What impacts them? Who do they listen to? What motivates them?
Needs What do they need to be able to do?	Challenges and Frustrations What are they trying to overcome?	Aspirations and Goals Who do they want to be? What do they want to accomplish?

Your Stakeholder Strategy

Your institutional stakeholders [internal and external] are important when setting up an incubator. These stakeholders will not only provide components for a compelling and far-reaching vision for your incubator, but they will also be instrumental to its success through their contributions and connection to the needed resources.



Internal stakeholders may include:

- Institutional leadership
- Student development
- Career services
- Learning department [entrepreneurship and business-related]
- Industry engagement/Extension services

External stakeholders may include:

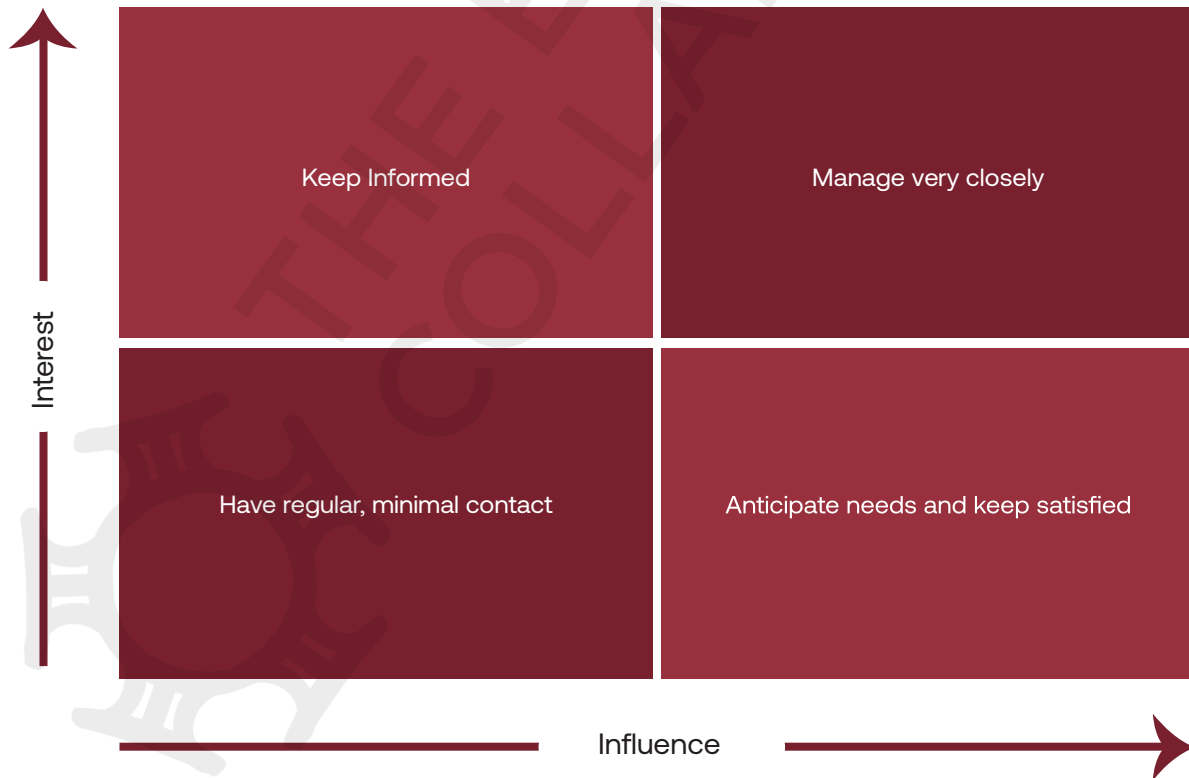
- Industry experts and companies
- Institution regulatory partners
- Business regulatory bodies
- Potential investors

It is essential to map your stakeholders, understand their impact on your incubation hub, and create an appropriate management or communications plan.

Tool: Stakeholder Mapping Worksheets.....

How to use: There are two parts to the stakeholder mapping process. The first is to identify all the potential stakeholders internally and externally (it might be beneficial to do this separately for internal and external stakeholders). Then, capture their possible influence, interest, or impact on the planned incubator. In the second stage, you can use this to identify what part of the quadrant they fall into based on influence and interest. This will help determine the appropriate engagement strategies.

Stakeholders	
Stakeholders 1	
Stakeholders 2	
Stakeholders 3	
Stakeholders ... x	



Institution Highlights and Examples

As with most factors, the types of stakeholders will greatly depend on the goals and strategy of an incubator. It is not unusual, however, to have the university as a key stakeholder in an incubator's stakeholder map.

The Carnegie Mellon University in Rwanda has its sister institution in Pittsburgh. The latter institution has existed for much longer and has established its roots in the incubation space. This makes them a key stakeholder who can provide much-needed support and insights to its Rwandan counterpart.

The Launch Lab at Stellenbosch University is set up as a commercial entity that generates revenue to cover some of its running costs. Therefore, it has a suite of clients including foundations, government, and other private entities. These are important relations that need to be managed toward succeeding as an incubator.

The Hebron Start-up Lab at Covenant University considers the following stakeholders: university management, students, graduates/alumni, internal teams, external investors, employer partners, and industry.

Establishing Incubation Hub Fit Within Your Institution's Entrepreneurship Framework

An incubator's alignment with its institution's entrepreneurship framework is paramount to its mission. An incubator cannot work in a vacuum. More and more institutions today are moving toward entrepreneurship-driven cultures and programs, with clubs and external support services provided to assist student entrepreneurs. This surge is related to an increased number of universities that have taken on new missions and relationships to contribute to economic growth and social development (Schmitz et al., 2017). This, in turn, has led to an increase in university-based incubators (UBIs) or design labs, whose activities are targeted at cultivating an entrepreneurial culture, providing innovation and research spaces, and training programs and resources to launch student business startups or small enterprises.

Here are areas to consider in the alignment processes of an incubator's fit in your institution's entrepreneurship framework:

a. What is the current entrepreneurial dynamic in the institution? All institutions have missions. At times, these evolve as the needs of their communities change. This might be the case with your institution's interest in setting up an incubator. It is important to know your institution's take on producing student entrepreneurs and whether programs, services, and courses currently exist to support this.

b. How accessible are business courses to students not enrolled in business-centered or entrepreneurship-related courses? Setting up an institution in an incubator should not only benefit business students but can have more impact and facilitate more knowledge-sharing by cutting across disciplines and subject areas. This also allows the incubator to build interdisciplinary trends that foster collaboration and combine many skill sets to produce better, more innovative, well-rounded solutions. Thus, in the alignment process, knowing your institution's current programs and majors allows for more planning in facilitating collaboration and building robust student teams. Tech-focused institutional incubators, for example, strongly collaborate with an institution's technology departments.



What is the budget and resource availability? This is based on your institution's budget, existing entrepreneurial culture, and commitment to producing student entrepreneurs. There is most likely a budget consideration to match the institution's expectations for the incubator and its outcomes.

c.

Where would the human resource team be pulled from? In most instances, even though experts are hired to occupy incubator roles, with roles such as training and coaching, there tends to be a crossover between faculty and staff currently employed by the institution. Knowing who does what in the institution allows for better HR planning. Additionally, it enables the institution to leverage specific training roles and skills needed to run an incubator that might already be in-house. This can also be a strategy for smaller institutions that do not have the resources to hire an entire incubation team outright.

d.

Completing the questions in this alignment process provides clarity, openness, and alignment between an incubator's operations and its institution's expectations and capacity. Enabling the right fit for the incubator to work successfully within the resources allocated achieves the following:

1. It allows the incubator to understand present resources and the gaps that exist.
2. It provides a starting point for curriculum development through referencing course material.
3. It enables a needs assessment to see how far off the institution is in meeting its entrepreneurial goals for students.
4. It facilitates the development of multidisciplinary entrepreneurial programs.
5. It enables the incubator to connect more easily to institutional resources and support as it operates and seeks to scale.



Without a well-developed link between an incubator and its institution's entrepreneurship framework, success is unattainable. Nonetheless, where that linkage is present, this facilitates an environment where innovation is rampant, students are more resourceful, new skills are developed, and the mindset of students is not just focused on being employees upon exit but on how they can create value and be better problem solvers, either as entrepreneurs or intrapreneurs.

Tool: User Persona Worksheet

How to use: In addition to the factors mentioned below, identify other factors that characterize your institution's entrepreneurship vision and approach. Identify the current state or reality, then consider the potential impact on your planned incubator. This should also help identify any adjustments or alignments that need to be made.

Institutional Factors to Consider	Current Realities at the Institutional Level	Impact on the Incubator and Adjustments
The institution's entrepreneurship vision and priority		
Existing entrepreneurship/business studies programs		
Budget and resource availability internally and externally		
Human resource availability and alignment		
Other factors		



➡ Defining Your Outcomes and Impact

This is further along the lines of defining the purpose of your incubation hub, and the vision is crystallizing the impact and outcomes of the incubator.

Designing Your Theory of Change (ToC)

Your theory of change helps you map out the impact journey for your incubator. Using a backward design approach, you can work out the components preceding the impact you want to make through the incubator program. Considering your university’s vision for entrepreneurship, the next thing will be to situate the vision for your incubator within that broader vision and then map out the theory of change to articulate how the incubator seeks to make its intended impact. This is done during the planning stage to understand elements of the project, such as the objectives, activities, indicators, and expected outcomes.

A theory of change explains how the activities undertaken by a project, program, or policy contribute to a chain of results that lead to the intended or observed impacts (BetterEvaluation, 2022), thus illustrating the links between project activities and impacts. Other terms to describe this process include logic model, program theory, results chain, outcome mapping, impact pathway, and investment logic. A well-developed theory of change can provide direction in developing (1) better key evaluation questions, (2) identifying critical indicators for monitoring, (3) notifying gaps in available data, (4) prioritizing additional data collection, and (5) providing a structure for data analysis and reporting.

In developing a theory of change or reviewing an existing one, there are steps to follow to ensure it reflects an institution’s needs, matches time frames, and considers relevant research, stakeholders, and impact metrics.

Situational analysis

The objectives should be as clear and direct as possible. They should communicate what needs to be accomplished by whom and share the steps in that process.

Review existing documentation and conduct relevant research

This allows you to reflect on the initial motivation for starting an incubator and consider the current support avenues or gaps your services and activities intend to address.

Engaging with stakeholders

Collaboration is paramount in successfully mapping out a ToC, as it provides a holistic view of how the incubator and its functions are understood by both the implementing team and those who would be involved in other ways. This allows roles to be more clearly defined while the implementation team assesses how clearly stakeholders understand the incubator’s offerings.

Representation of the theory of change

Typically, a ToC is represented in a diagram with a supporting narrative. Although different types of diagrams can be used, whichever is selected has to clearly show the direction of change (usually through arrows). Based on whom the theory of change is being communicated, more than one diagram can be developed with varying degrees of detail. The diagrams are usually drawn from left to right, top to bottom, or bottom to top (BetterEvaluation, 2022). Options available for diagrams include but are not limited to the results chain, outcomes hierarchy, triple column/row, and a set of principles.

This guidebook will focus on the results chain, which is widely adopted and simpler to develop.

Results chain

A results chain has a series of boxes. These follow sequentially: inputs, activities, outputs, outcomes, and impacts. It is most appropriate for simple interventions, where activities are undertaken at the start, and their consequences flow linearly.



As much as a ToC can inform the development of the MEL process by anticipating what will happen and establishing data collection processes to track changes in the future, it can also be used to make sense of already collected data.

Tool: Theory of Change Framework

How to use: This framework is ideally best used walking backward, i.e., you go from Impact > Outcomes > Outputs > Activities > Inputs. Revisit your vision and purpose to articulate the impact you want to make. This impact can be defined based on the broader effect that your incubator has on the community and the continent, for example. Progressively, you walk backward until you recognize the necessary inputs to actualize this.

Inputs	<< Activities	<< Outputs	<< Outcomes	<< Impact
What inputs and resources will be needed for the activities?	What activities do we need to deliver on the outputs?	What tangible outputs will be created through the incubator?	What measurable outcomes will we accomplish?	What will be the result of the incubator's success?

Your Stakeholder Strategy

These three questions can help guide the identification process:

1. What problem/need is the incubator focused on tackling?
2. What are the steps being taken toward the solution?
3. How will the team know if the program has successfully solved the problem?

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This is further along the lines of defining the purpose of your incubation hub, and the vision is crystallizing the impact and outcomes of the incubator.

Defining Outcomes and Impact Measures

By creating your theory of change, you can better articulate the impact and outcomes of your incubation hub. Again, these depend on your incubator's purpose and strategic institutional priorities.

Defining Your Value Proposition

We might not always consider value propositions when creating institutional components and departments. However, a solid value proposition is an important communication component and tool for stakeholders and users.

Your incubator's value proposition will not only differentiate it in the minds of stakeholders but will ensure that the impact you are set up to make is easily understood and communicated.

Tool: Value Proposition Worksheet [Courtesy: Geoff Moore]

How to use: Consider what your incubator will offer uniquely, to whom, and what results it will help them achieve. You can develop a statement articulating your different cen value promise by answering the questions below.

FOR	[Your target user]
WHO	[Problem or opportunity]
OUR	[Product or service]
IS	[Product or service category]
THAT	[Benefit]

Value proposition example: For African students who want to make an impact by solving some of the continent's biggest problems, our incubator provides the contextualized tools, resources, and networks to help them investigate their ideas and develop fundable and scalable prototypes

■ Conducting Research

To build an evidence-based case for your incubator setup, you will need research to improve your understanding of your users' needs, your stakeholders' priorities, and the different setup options available. Most of this research will be qualitative. However, quantitative data might help make calculations and projections, especially through secondary sources. In the case of primary quantitative research, for example, you can establish the percentage of the student population that might best benefit from the incubator.

Primary Research and Approach

Choosing the Right Approach to Research

Choosing the right research approach can be crucial to the data obtained and, in translation, the overall objective setting and program development components of incubation. As advocates of the design thinking methodology, we promote the practice of ethnographic research methods to gain deeper insights into user needs, interests, and how they are affected by their environments. Qualitative research methods under ethnographic research include participation observation, immersion, and in-depth interviews.

Participation Observation

This is a qualitative research method in which a researcher observes research participants and actively engages in their activities. This requires the researcher to integrate into the participants' environment while taking objective notes about what is happening (Study, 2016). Most researchers who conduct participant observations take on the role they are interested in studying.

Immersion

This ethnographic research method involves a deep-level personal involvement of an individual with an object of study and can take a researcher months to years. Two other forms of immersion include language immersion, in which students speak only in their non-native language, and video game immersion, which involves experiences in virtual realities (Crossman, 2018).

In-depth Interviews

These loosely structured interviews allow an interviewer and interviewee to explore additional points and change direction if necessary. In-depth interviews allow for capturing rich, descriptive data about how people think and behave and unfolding complex processes. Depending on the research needs, they can be used as a standalone research method or as part of a multi-method design.

Further Methods of Ethnographic Research

These include shopping diaries, lifestyle diaries, photographic collages and documentation, audio and video recordings, product usage diaries, and reflective psychological techniques.

To choose the best method for ethnographic research, here are questions to consider cover:

1. What is the objective of the research?
2. What method of research is being considered?
3. How much time is available for the research?
4. How accessible are the subjects?
5. What assumptions does the research seek to validate?

These questions are significant because, with time, resource, and capacity restrictions, they ensure we make the most out of our customer safari research.



Research Protocol

Research protocols are an equally valuable tool in planning for an ethnographic research study. They allow you to map out crucial elements related to focus areas of questions, relevant subjects to be spoken to, the sampling method to be applied, formats for research, anticipated data types, who in the team is responsible, and a space to document insights from the field.

Field Re-sponses and Insights		
Team Member Assigned		
Anticipated Data Type [Audios, photos, videos, written notes of observations]		
Ethno-graphic Research Method [In-depth interviews, observational shadowing, immersion]		
Sampling Method [How will you pick users - random or referral?]		
User [Type of user. Provide short description. Also, any provides?]		
Reframed Questions [Begin with the word 'How']		
General Questions		

Post Research

Post research, card sorting can synthesize data and pull out insights that aid in designing programs and tailoring services to your users. This low-tech approach to user experience design allows you to generate a dendrogram or folksonomy in designing information architecture with research insights.

Here is a way to go about card sorting: present all your data on index cards or post-it notes (make sure each note focuses on a single point), then arrange or group the cards under thematic areas to show the relationships of the information. This should help you identify insights into objectives, student business needs, program designs, and services that best match the needs of your target audience.

Secondary Research

Secondary research is also vital in exploring and comparing other incubator program models, offerings, and possibilities. This can give you data and valuable lessons as you design and implement your incubator.

Benchmarking and Exemplar Analysis

A benchmark and exemplar analysis involves comparing similar incubators to see their value proposition, indicative components, and positioning that inform some of the characteristics you will adopt for your incubation hub. Significantly, this helps refine your incubator's value proposition.



Tool: Program Benchmark and Analysis Framework

How to use: Having conducted secondary research and some primary research on other institutions with incubator programs, you can categorize them based on relevant factors or incubator components/goals to see the qualities (strengths and weaknesses) of specific components of their programs. Importantly, you can learn areas to incorporate and/or strengthen in your plan.

	Institution 1	Institution 2	Institution 3	Institution 4
Incubator programming				
Incubator facilities				
Incubator resources/audience				
Types of entrepreneurs supported				
Level of support provided				
Outcomes and impact				
Other factors				

▶ Planning for Sustainability

Early in your planning process, it is important to identify the source of your resources for setting up and running an incubator program. In this case, resources specifically refer to the funds that will be used to acquire setup materials, hire people, deliver programs, and provide services to participants and users of the incubator. Some sources of funding might include:

University funding

In this case, the university might have chosen to commit a portion of its budget to setting up and operating the incubation hub due to its strategic priorities.

Corporate sponsors

Corporate sponsors can be a source of funding for incubation hubs. Sponsors can get value when there is a strong return, such as developing innovative outputs.

Individual donors

Individuals with special interests in the institution or the development of entrepreneurs can provide resources. You can also proactively create or reach out to donor funds that aggregate funding for such purposes.

Public funds

Public or government funds might be available to develop economic activity within institutions. Exploring this within your context might provide resources that you can leverage.

Economic development agencies

These organizations are set up to support and promote economic activities. They provide funding through grants to activities that foster entrepreneurial development.

Alumni

Depending on the age of the institution, alumni can be a source of funding in setting up such projects.

This is not an exhaustive list, and you can find other sources. What is essential, however, is to be creative in identifying the most appropriate funding sources and building a value proposition that demonstrates mutual interest and value for you and the funding sources. There should be an alignment of values with the institution when seeking such resources.

Institution Highlights and Examples

Financial sustainability is an essential aspect of planning for your institution's incubator.

The Hebron Start-up Lab at Covenant University receives support from the university, investors, external foundations, and relationships/networks of the Startup Lab. Notably, the institution wants to implement a program for its alumni to give back and support current student entrepreneurs.

The Launch Lab at Stellenbosch University has a commercial drive to it. In addition to any funding it receives from the university, the incubator has to generate funds to stay successful and profitable. Some of the ways this is done include:

- Investing in companies that pass through the incubator and acquiring equity.
- Offering startup/project consulting services to governments, foundations, and other private entities. These services are similar to those provided to entrepreneurs at the incubator, thereby maintaining high quality across the board.
- Offering offices and facilities for use at a cost.

Resources

Envisioning workshop: Co-create shared vision and strategies -
<https://latchana.co.uk/leadership/envisioning-workshop/>

University business incubators as a tool for accelerating entrepreneurship: Theoretical perspective
<https://www.emerald.com/insight/content/doi/10.1108/REPS-10-2019-0142/full/html>

Exploring the business incubator models: A comprehensive guide
<https://www.onestopdevshop.io/incubator-development/business-incubator-models/>



Part 2

Setting up and Operating Your Incubation Hub

- | **Building the Team and Staffing**
- | **Defining Incubator Services**
- | **Creating and Deploying Programs**
- | **Designing Curriculum and Learning Content**
- | **Articulating Your Value Fulfillment Blueprint**
- | **Defining Your Communications Strategy**
- | **Establishing Partnerships**
- | **Establishing Funding Sources for Startups**
- | **Setting up Incubator Hub Facilities and Makerspace**
- | **Drawing Up Your Budget**

Building the Team and Staffing

At the beginning of the planning stage, we emphasized the importance of setting up a steering team for your incubation hub setup. The assumption at this stage is that this team has been created and is continuing to build out the remaining components of your incubator. Now, we shall explore setting up the team that will run the incubation hub.

Like any other entity, this operational team is a critical piece in delivering the value proposition of your incubator program. Incubators are only as effective as the team that runs its programming (human capital). This human capital represents the team's skills, knowledge, and experiences and how these come together to deliver effective support services to incubatees.

Team Building Approaches

For an incubator program that is being set up, it is essential to start lean to ensure the maximal and efficient use of resources. You can better appreciate the required human resources as you develop your programs.

Standard Team Roles and Functions

Director

This learning program teaches entrepreneurship principles and strategies for starting and operating a business. This can be an academic program or course offered in an institution, usually with a curriculum and delivered within a classroom context.

Manager

The manager plays a more intimate role in the incubator and follows and reports to the director in the leadership hierarchy. He/She works more closely with the different incubator departments towards research, planning, partnership building, evaluation, and execution of the incubator's programs and other services. The manager closely interacts with the incubator's daily happenings and its entrepreneurs' experiences.

Trainers

Trainers serve as topic leads for incubatees and educate them towards developing expertise in particular areas, including management skills, customer creation strategies, and financial planning. It is paramount to delineate the topics trainers follow according to the incubator's curriculum to ensure alignment with program objectives and expected outcomes. Trainers tend to engage with participants on the basis and within the time frame of the content being taught.

Coaches

Coaches play the role of a counselor in the journey of incubatees. This role covers support in the following regard: identifying and aiding in developing clear business goals, planning and prioritizing goals and strategies, providing analytical, business scaling guidance, and being an accountability partner.

Mentors

Mentors are industry-relevant role models that provide guidance and support. They come in at a more expert and personal level to provide clarity to incubatees in identifying the big picture for their startups. They offer enlightened guidance based on personal experiences and challenges they have overcome, as may be relevant to those of incubatees (Tripathi & Oivo, 2020). They also offer essential expertise, network access, and strategic insights..

Research lead

The research lead conducts relevant research that validates the incubator's goal, target audience, stakeholders, timelines, methodology to be used, and the project's expected outcome. This position can be either an individual or expanded into a team, which will then provide direction to the incubator's programs.

Standard Team Roles and Functions

Partnership lead

The partnership lead establishes requisite partnerships and networks to accelerate the project's success. This individual or team identifies, tracks, and secures partnerships with relevant stakeholders that can support the incubator in several capacities. These capabilities include monetary, tangible, and intangible resources, access, logistics, etc.

Communications team

The communications team handles all communication-related work, such as publicity and updates related to the program, and shares this information with the public and specific stakeholders through various mediums (social media, traditional channels, reports, etc.). This team also plays a crucial role in recruiting program participants by disseminating details about application processes for programs being run.

Programs team

The programs team oversees and manages the overall program and ensures the alignment of objectives is met per the set timelines and expected outcomes. It coordinates internal and external program roles to ensure successful implementation from inception to conclusion. At each stage of the program, under the leadership of the program manager, this team plays an active role in the incubation or acceleration process.

Monitoring, Evaluation, and Learning (MEL) specialist/team

The MEL specialist or team is responsible for establishing and leading the monitoring of critical objectives, performance indicators, outputs, and outcomes of the incubator and its programs. This team or individual develops the overarching theory of change to show what is expected to happen in line with the program's objectives based on the activities, outputs, and outcomes described in the MEL plan. The data gathered, analyzed, and disseminated by the MEL specialist or team is crucial in measuring the program's impact and frequently determines its continuity.



Engaging External Team Members [EiRs, Experts, Mentors, Coaches]

The first point of starting lean is leveraging external resources for your incubation hub. Some of these ‘external team members’ do not usually need to be on the ground for an extended period. They might be occasional resources that support participants and users of the incubation hub. Many of them are also usually available on a volunteer basis. Some of such persons include:

- | Entrepreneurs in residence
- | Guest speakers
- | Expert mentors and coaches

Institution Highlights and Examples

Many new incubators or incubator programs in universities run small teams to cater to the operational needs of the incubator while leveraging external human resources for occasional programs and other admin needs. Incubator teams also evolve with an incubator and its ability to continue to run successful operations.

A core team of two persons runs the incubator program at Carnegie Mellon. However, the program leverages support from university faculty to coach students and from the administration and finance teams for operational needs. It has also launched a strategy to engage external mentors, experts, and coaches to support students with the needed experience and skill set that might not be readily available in the institution.

As a more commercial organization, the Launch Lab at Stellenbosch University has a global team structure that mimics how a company would run but with the incubator’s operations at the center. You can see a list of current roles here: <https://www.launchlab.africa/our-team>. This, of course, considers that the incubator has matured over time and was set up for a distinct purpose.

Covenant University’s Hebron Start-up Lab has also matured its team over time. It has a board chairman, curator, chief operating officer, head of venture support, head of venture acceleration, facility and space manager, studio manager, community lead, head of tech, program manager, and research lead serving at the management level.

➔ Defining Incubator Services

An incubation hub has the primary goal of helping students turn their innovative and exciting ideas into stable businesses. To do this, a mix of services is required. These can be broadly grouped into self-directed and customized support services.

Self-directed [open-use incubation hub]

These services include facilities, equipment, and materials students can access independently without additional assistance. These include resources, databases, libraries [case studies, books], internet connection, working and meeting spaces, and more. In addition, participants can be provided with re

Customized support [facilitated services]

This involves bespoke consultation and support for startups. Examples include one-on-one mentoring and coaching, business consultation with legal practitioners and accountants, and workshops.

A mix of these might be present in your incubator program to produce your desired outcomes.

Selecting the Right Services

Studies examining an incubator's effects on new firms' successful development and growth performance have emphasized the incubator's support services (Phan et al. 2005; Ratinbo and Henriques 2010; Lundqvist 2014).

Business incubation programs provide startups with a plethora of support services through their business journey (primarily in the earlier stages). The most common incubator services provided cover, but are not limited to, the following (Bucciarelli, 2020):

1. Free to low-cost workspaces that allow startups to keep their overhead cost low during their early years
2. Guidelines for developing and deploying a successful go-to-market strategy
3. Seed funding
4. Administrative support, internet services, and access to essential tools (printers, scanners, etc.)
5. Counseling in financial management
6. Training programs and networking opportunities required for startup growth
7. Technology and prototyping support
8. Access to funding instruments and support in facilitating the deal-making process
9. Coaching, mentoring, training, and advisory support
10. Aid towards regulatory compliance services

In the process of developing your incubator and deciding the services to offer, the MEIA Study summarizes the added value brought by incubators as follows (O1 Business Incubation Definitions and Principles, 2009):

1. Business Incubation Creates Economic and Social Impact;
2. Business Incubation Fosters Change Through a Range of Models;
3. Business Incubation Develops Leaders in Innovation and Entrepreneurship;
4. Business Incubation Aligns Stakeholders in the Public, Private, and Not-for-Profit Sectors and
5. Business Incubation Helps to Reduce Barriers to Innovation and Entrepreneurship in the Broader Business Environment.

Here are notable questions to consider before setting objectives and the complimentary services that the incubator will promote:

- 1) What are my institution's entrepreneurial goals, and what do they mean for an incubator?
- 2) What are the needs/interests of the student body and ecosystem (leadership, stakeholders, accelerators, government, etc.), and what does that mean for an incubator?
- 3) What resources do we have to start, and how can we maximize their use?
- 4) What areas do we need support in starting our journey of setting up an incubator?
- 5) What timelines are we considering to set up an incubator and achieve our set objectives?
- 6) What is the first step we want to take on this journey?

As we consider goal setting and mapping out a sense of direction, we must acknowledge the need for flexibility in establishing an incubator. This is particularly true in developing countries where macro factors such as technological, cultural, demographic, and political forces can substantially impact how business is done.



Tool: Incubator Services Planning Worksheet

How to use: It is crucial to prioritize the services your incubator will offer by selecting those that best align with institutional priorities and the incubator’s purpose and value proposition while considering the overall value added by these services. Use this worksheet to evaluate the different services you are looking to offer as an incubator.

Services we will offer	Service 1	Service 2	Service 3	Service...x
Impact and value-add of services on incubator value proposition?				
Who is the target or sub-target that will benefit?				
What is the frequency of use/offer of this service?				
Is this a core or complementary service?				
Will this be delivered purely in-house, by a partner, or with a partner?				
What are the costs and resources required?				

➔ Creating and Deploying Programs

In addition to the incubator’s services, structured programs usually help deliver its sub-level outcomes. These programs can target different types of students at various stages of their journeys. They also drive engagement and allow participants and users to demonstrate progress with their ventures. Some program considerations for your incubator hub include:

Core cohort-based incubation programs

Most incubator hubs will have core programs or tracks that run over a specific period. Cohort-based incubator programs can run anywhere from three months to one year. Participants undergo a defined curriculum in these programs and an iterative journey of refining and pitching their ideas. At the end of a program, participants can demonstrate or showcase the output of their work to external audiences, including users and potential investors.

Programs like this typically involve pitching, mentor matching, learning sessions, prototyping, and more. They usually recruit participants through a selective process and then enroll the most qualified candidates for the experience.

Hackathons

A hackathon is usually a short-term event centered around problem-solving and might extend to solution demonstration and prototyping. Usually, a hackathon will be set up around a problem or an area of opportunity to generate potential solutions and new innovative ideas. Outputs of hackathons like this would become ideas that need further incubation. Hackathons can be a pipeline for incubators to grow their participant pipeline.

This section of the document works in two parts, showing what happens in the background of creating a challenge and the best ways for a trainee to participate at each stage successfully.

Creating a Challenge: The Perspective of the Trainer

Developing an innovation challenge/program can be tasking, but success is attainable with the proper framework, timelines, team, and support services. Below are the steps to getting started in creating an innovation challenge.

Challenges

Challenges serve as kick-off points for the innovation process. They are usually designed to motivate participants to generate solutions to defined problems. Usually, a challenge will result in new ideas and/or prototypes and a level of business planning that can be further developed and incubated. Also, a challenge might incorporate an incubation process that helps teams build out their solutions in an organized, disciplined manner toward eventual outcomes. Therefore, a challenge is a time-based activity run as a part of the incubation hub’s programs. It will usually have a defined scope, such as expected outcomes, timelines, and constraints that participants have to work with. A challenge can be sponsored or co-designed by an external partner or stakeholders seeking outcomes from the innovation process.

A challenge can be a simple-stage or multi-stage program. It can comprise hackathons as well. Depending on its design, its goal might be accelerating toward a solution or improving existing solutions. Challenges can take on idea-stage projects towards incubation or take on operating ventures toward acceleration.

Pre Challenge

Before kick-off, essential questions, frameworks, human resource capital, and program development actions must be completed. This background work covers all necessary preparation before the challenge and should start with identifying the challenge's objective. The next step is to develop a competent team to handle its various components from inception to conclusion.

Reliable goals and timelines build trust in the collaboration. In practice, having clear goals means that you can answer the following questions (Morikawa, 2016):

1. What are the objectives?
2. Who owns the results of the project?
3. What are the problems that open innovation should solve?
4. What are the timelines and milestones for the project?

After identifying the objectives(s) of the challenge, the next important step is building several team capacities to support the program's tenure. This includes developing various project wings to tie the project together. These are as follows:

- 1. Research team:** It conducts relevant research that validates the goal, target audience, stakeholders, timelines, methodology to be used, and expected project outcome.
- 2. Partnership team:** It establishes requisite partnerships and networks to accelerate the project's success.
- 3. Communications team:** It handles all communication-related work, such as publicity and updates related to the challenge.
- 4. Incubation team:** It is focused on the methodology and facilitation of the actual incubation experience.
- 5. Programs team:** It oversees the overall project and ensures objectives are aligned according to set timelines.
- 6. Monitoring, Evaluation, and Learning (MEL) team/specialist:** The MEL team/specialist supports the project team by establishing and monitoring key performance indicators, project outputs, and the theory of change.

Additional roles that can support the delivery of a successful incubation program include legal consultant, design consultant, investment consultant, and others based on the program objective(s).

During Challenge

These are the main adapted steps:

Kick-off: Initiating an innovation competition entails activities such as a launch event, a call to action, and campaigns to raise visibility for the competition and drive applications (Yohan, 2020).

Ideation: Submission of projects/ideas by the participants. This may be done in various forms.

Pre-selection process: Selecting the most promising projects. Background checks are also required to verify and validate the information applicants provide.

Prototyping: Successful teams will develop their projects and put forward their solutions by making prototypes. When teams are more advanced, they present further information, such as their product specifications, business models, financials, and market trend statistics.

Selection process: The most promising projects/ventures are selected by a second jury for the final round. The selection process also requires creating scoresheets to assess and allocate scores to each applicant. This scoresheet is made available to the jury with clear explanations of each criterion used to evaluate applicants. The scoresheet must have a section for remarks/notes to allow jury members or the selection panel to provide additional details for any decisions or reservations they may have regarding a particular applicant.

Mentoring: Participants benefit from personalized training and, in some cases, acceleration services such as funding and scaling support.

Post Challenge

Following the challenge, participants complete an online survey to assess the program. This informs the iterations and improvements made in future challenges.

Creating a Challenge: The Perspective of the Trainee

This section serves as a blueprint of how an incubatee/trainee can excel in an innovation challenge. Before entering a challenge, having a fair idea of your needs as a trainee is vital. This set of questions can get you there:

1. What are the objectives of this challenge?
2. Does this challenge align with the stage my venture is at?
3. What support avenues does this challenge provide?
4. How will this challenge impact the growth trajectory of my venture?

Applying for a challenge is the next step after finding positive responses to these questions. Most challenges have similar questions and requisite documents to assess ventures of interest.

However, there are supplementary documents that can maximize your success rate and improve the value of your experience. These are:

Business Model Canvas (BMC): A Business Model Canvas can be one of the simplest ways to map out your entire business model. In 2008, Alexander Osterwalder, a Swiss business theorist and Ph.D. in management information systems, published a breakthrough single-page update to creating a business plan and called it the “Business Model Canvas” (Neilson, 2015). This document dramatically simplifies creating a business plan by documenting nine essential elements on a single page/slide. These elements are value proposition, customers, channels, relationships, partnerships, activities, resources, costs, and revenues. A detailed business plan can still provide value, but a BMC contains concise information that captures attention in an innovation challenge.

Pitch deck: A pitch deck is another crucial tool in your arsenal for innovation challenges. It is a brief presentation that can be created using PowerPoint, Keynote, or Prezi to give your audience a quick overview of your business plan (ImprovePresentation.com, 2020). You usually use a pitch deck during face-to-face or online meetings with potential investors, customers, partners, and co-founders. In every pitch deck, 11 notable elements to capture are problem definition, target market and opportunity, solution, revenue or business model, traction and validation/roadmap, marketing and sales strategy, team, financials, competition, investment, and use of funds (Parsons, 2020).

Financial plan: This is an overview of your current business financials and projections for growth. Think of any documents that represent your current monetary situation as a snapshot of the health of your business and the projections being your future expectations (Betenson, 2020). Components of a successful financial plan include a profit and loss statement, cash flow statement, balance sheet, sales forecast, personnel plan, business ratios, and break-even analysis.

CV/Portfolio: This also matters in entering a challenge, as it concerns the business and its founder(s)/leader(s). A CV/portfolio overviews your career journey, achievements, and interests. This document can play a crucial role in swaying interest toward selection. It should focus on your skills, business success, interests, and background. Resumenerd.com, Resume-now.com, and Zety.com are all excellent starting points for developing or revising your CV or resumé.

Lastly, maximizing the services according to your objectives should be the priority after getting into an innovation challenge. A checklist is always helpful for accountability.

Showcase and Demo Days

Demo days are usually held at the end of cohort-based programs and challenges. They allow participants to showcase their work to a larger public audience and potential investors.

Recurring Events

Other regular programs that can be scheduled on the calendar and made open to the general student body include fireside and guest speaker chats, networking sessions, and pitches.

► Designing Curriculum and Learning Content

Suppose your incubator runs programs, especially cohort-based programs. In that case, there will be a need to design learning content, journeys, and experiences to help participants reach the outcomes intended for the program. These learning components are the curriculum of the incubator program, and as mentioned earlier, they should be outcomes-driven.

Incubator Curriculum [The iiLab at African Development University Approach]

Here, we discuss the various project-based pedagogies used to teach entrepreneurial management strategies, encourage entrepreneurial thinking, use human-centered design, and inform entrepreneurs' decision-making in an incubator. The underbelly of this approach rests in the methodologies implored by entrepreneurial thought leaders and academics. However, it includes lessons from applying the course designed for the pilot Kagame Cohort at African Development University (A.D.U). Therefore, probing more intently into what other African universities should consider before developing their entrepreneurial/innovation programs is beneficial.

a. Creating a Curriculum: From Classroom to Market

When developing an entrepreneurship/innovation curriculum that aligns with the learning objectives of a university, there must be a link between theory and practice. The theoretical aspects underpin the 'why,' the root, the progression/nuance, and critical learnings or outcomes of a study, whereas the practicality involves the application of knowledge or skills. The connection between practice and theory is essential as it demonstrates [a student's] ability to use evidence to increase [their] understanding of critical concepts, justify [their] decision-making, and inform future practice. The strength of this theory-practice connection also contributes to the evidence of [their] critical thinking and growth. (Linking Theory, 2021) Moreover, extending this approach to learning outside of the classroom becomes the cornerstone for entrepreneurial and enterprise development. Considering these limitations, students with little to no company-building experience, management, and financial literacy can continue to learn with approaches and strategic methods that enable them to build stable businesses.

In the case of an institution like African Development University, its mission was rooted in developing the talent of young Francophone students towards endeavors like entrepreneurship as an aspect of nation-building. As such, their academic curriculum focused on eight key learning provisions, which included:

- 1. Excellent teaching*
- 2. Teaching in English*
- 3. Focus on ethics*
- 4. 21st-century skills*
- 5. Technology*
- 6. Workplace experience*
- 7. Career services*
- 8. International faculty*

The university's core programming also incorporated a slant toward entrepreneurship, which is not typical for most African universities.

"The bachelor's program focuses on academic and professional preparation through an innovative design. The A.D.U. BBA comprises four main components: Bridge to Bachelor, General Education Program, Major, and Experiential Learning: Bridge to Bachelor –

required for all A.D.U. undergraduate students General Education Program (GEP) – GEP is A.D.U.'s liberal arts requirement major – a student's primary field of study experiential learning – a student will gain valuable practical skills via internship in business or through a senior project.” (A.D.U website, 2022).

Specialized courses are becoming increasingly popular in tertiary institutions to promote entrepreneurship (Solomon & Fernald, 1991), and enterprise education is being used to foster entrepreneurial behavior (Donckels, 1991; Gasse, 1985). It has been suggested that not only does the content need to be changed, but a culture that encourages teamwork, lateral thinking, reflective learning, and builds enterprising teachers needs to be developed (Itao, 97). Therefore, entrepreneurial education needs to focus on knowledge of small business ownership and self-employment, as well as entrepreneurial skills and attributes that cannot be fostered through traditional teaching methods (Kee, Rodrigues, Kundu, and Racine, 2006).

Researchers indicate that using learning style preferences that include active experimentation, balanced with concrete experience and abstract conceptualization, can enhance entrepreneurial propensity (Gorman, 1997). Behavioral simulations have also been used in teaching entrepreneurship (Stumpf, Dunbar, and Mullen (991); Kee, Rodrigues, Kundu, and Racine, 2006).

However, the challenge for many developing countries is the environment in which these young enterprises are expected to develop. Political instability, limited access to funding, poor infrastructure, inadequate policies, and access to markets are some challenges that aspirational businesses face when simply attempting to launch

With such conditions, it's important to contextualize the design of the entrepreneurship/innovation curriculum and make it adaptable to an ecosystem that will allow for rapid testing and feedback to move forward with product/enterprise development.

When preparing to develop your curriculum for your incubation program, you must consider the behavioral types of entrepreneurs you are designing for. Are they risk-takers? Have they launched, tested, or piloted ventures on campus before? Are these family entrepreneurs with some knowledge of enterprise development and, as such, curious about starting something on their own? Are they venture builders attempting to commercialize a passion or class project? These and other factors influence their ability to learn and apply what they have learned effectively without dismissing it as just another homework assignment, disconnecting from the incubation process. The delineation of entrepreneurship taught in class to the process of developing an entrepreneurial endeavor for the market must be clear. Thus, using both John Dewey's (1938) and David Allen Kolb's (1984) experiential learning models implores the need for student entrepreneurs to learn by doing.

In the case of the design of the A.D.U Ilimi Innovation Lab (iiLAB) curriculum, the concept of an experiential learning cycle was used alongside a project-based pedagogy to enable student entrepreneurs—in the ideation phase—the capacity to explore market challenges, determine a viable opportunity to enhance the skills development of entrepreneurs pursuing existing ideas.

Drawing from this cyclical approach enabled us to practicalize using what we termed the Learn, Apply, and Improve model. Entrepreneurs within the program will be taught vital concepts from the Lean Startup methodology, Design Thinking, Jobs to be Done, and the MIT 24 Steps. The process is further described below:

b. Components and Structure: The Process and Programming

A curriculum was designed to accommodate various student entrepreneurial types—those who were at an early stage with only proof of concept and those who had some traction but wanted to test more aspects of their model. Such specialized tracks were created to ensure these ventures would apply concepts relevant to their stage in business development. This is key for institutions with sector-agnostic innovation centers or support for all stages of ventures.

In the case of iiLab, student teams are at different levels with different focuses. Approximately four of the ventures skew more towards social enterprise, and there are two that have already moved beyond MVP and are trying new aspects of their business models, which would require an alternative track to maintain their interest and progress, hence Track 2 (T2).

Programming Activities

(Validated Learning) Learn- These are opportunities for participants to learn various entrepreneurship methodologies and frameworks to assist them in understanding their market and its opportunities. The ‘Learn’ sessions are meant to be boot camp style with introductions to content not exceeding 30 minutes and an hour spent workshopping and presenting.

(Rigorous Application) Apply- This is when participants enter the market and apply key learnings. For example, they must conduct interviews, engage with the market, and assess their progress.

(Continuous Improvement) Improve- This comprises office hours and coaching sessions where participants present completed frameworks, research insights, mini commercials, and current gaps within their business models to receive feedback to improve their weekly objective.

Weekly activities consist of three touchpoints: (1) a learning session where team members are introduced or reintroduced to various frameworks (2) application sessions where team members are expected to engage actively with the market and develop reports on findings; and (3) improve sessions, which offer coaching from industry experts and/or due diligence sessions with iiLab management team.

2.2 Module Focus Areas: Track 1 (T1) and Track 2 (T2)

T.1 Customer Rediscovery

T1. Validation, Testing, Traction ----- T2. Operations (Company Building)

T1. Sales + Financial Modelling/Impact ----- T2. Financial Reviews/Accounting Audit/Growth Planning

See the appendix for the developed curriculum for the eight-week pilot Kagme Cohort.

Expected outputs for each venture type by the program's close based on the activity and learning from the Learn, Apply, and Improve model.

By the end of the eight weeks, those completing Track 1 should have the following:

1. Complete presentation or investment deck + succinct company one-minute pitch (strong story)
2. High-quality photos of product or service
3. Company landing page
4. Company social media pages (updated to fit rebrand measures)
5. Developed and tested prototype
6. Participation in at least one conference/workshop/training/podcast/Twitter chat (to gain more regional visibility)
7. Financial projections + use of supporting accounting software
8. Strong business model
9. The first set of three customers in the sales pipeline
10. Preparation towards business registration/proper documentation
11. Pipeline into next opportunity to continue building (additional local or regional incubator or accelerator)

By the end of the eight weeks, those completing Track 2 should have the following:

1. Updated presentation or investment deck + succinct company one-minute pitch (strong story)
2. High-quality photos of product or service
3. Company website
4. Company social media pages (updated to fit rebranding)
5. Updated and audited company financials + investment model or financial growth plan (Will they grow by debt? Equity? Revenue generation from the current market?)
6. Participated in at least one conference/workshop/training/podcast/Twitter chat (to gain more regional visibility)
7. Sales plan and tracker to support at least 10 paying customers
8. Company infrastructure
9. Match to a business advisor to continue business development in preparation for growth
10. Plan for public relaunch

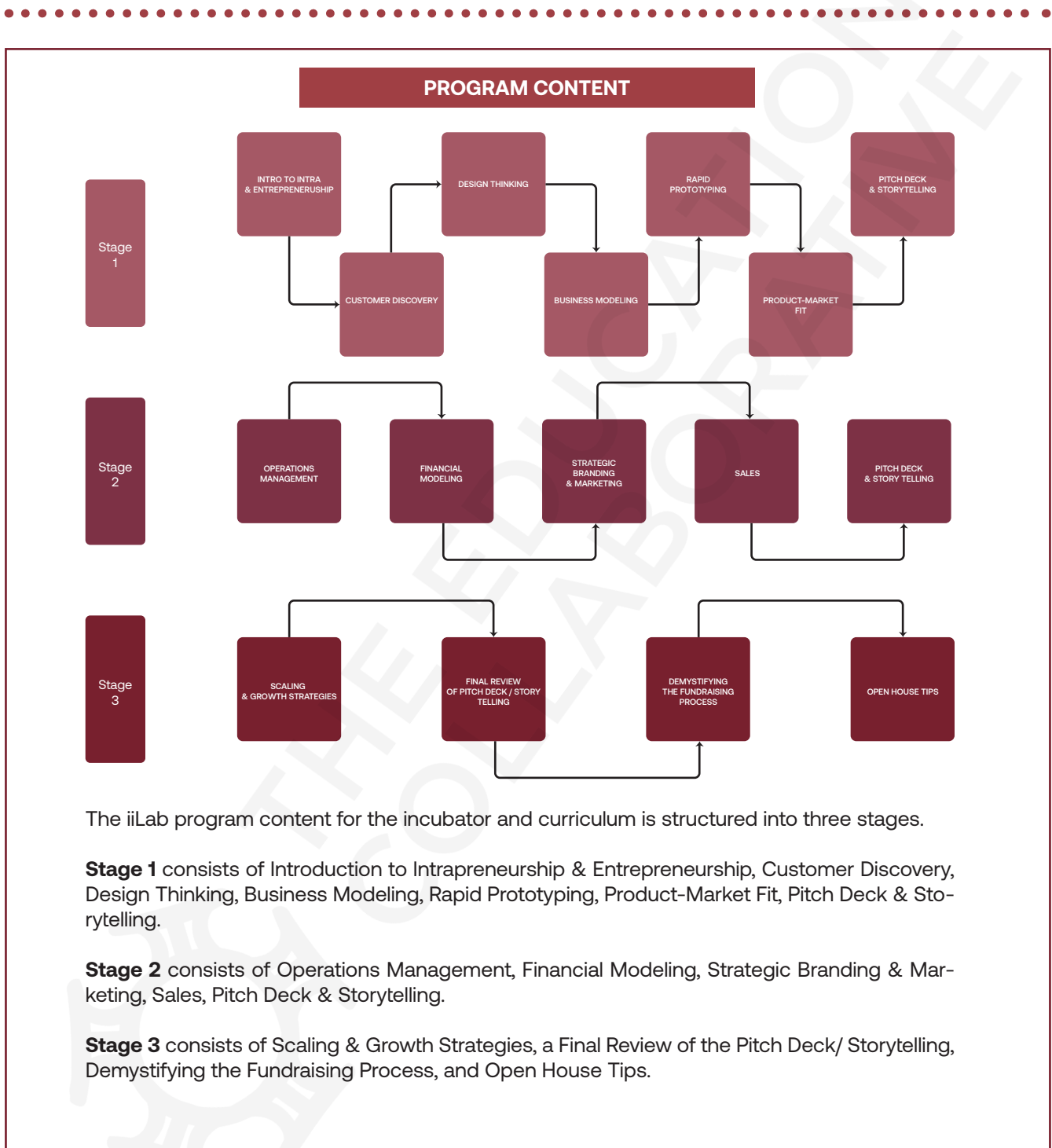
Curriculum Design Approach

If you are designing your curriculum from scratch, you will benefit from using the backward design method to create a curriculum that drives towards the outcomes participants must demonstrate. There are different cases in which this might be relevant. One example is when you are working with a partner to design a sponsored, co-sponsored, or co-delivered program.

Tool: Backward Design Program Design Worksheet

How to use: Start with the high-level goals of the program. This involves the goals for participants as well as the overall impact of the program. Then, consider what knowledge and skills participants need to gain from the program. Next, consider what outcomes learners must create to demonstrate these skills and learnings. Importantly, these outputs/outcomes should be the core items and deliverables they need in their businesses. Finally, structure what learning will happen and how it will happen.

Step 01: Identify Desired Results	
Program Goals What is the purpose of this program? Who is it targeted at? What should happen at the end of this program?	
Knowledge	Skills
What knowledge should students have about entrepreneurship after going through this program?	What entrepreneurship skills should students have acquired after this program?
Step 02: Determine Acceptable Evidence	
How will we know that students have acquired the desired knowledge and skills or are able to create the desired outcomes/results?	
Performance Tasks	Evidence
How should student entrepreneurs demonstrate their new knowledge and skills?(e.g., students can create financial projections)	What should students be able to produce to show the performance tasks accomplished? (e.g., two-year financial projections for their ventures)
Step 03: Design Your Learning Plan	
What learning approaches and strategies will you implement to achieve the above? e.g., case study discussions, presentations, consuming content such as videos, etc.	
Learning Activities	Learning Content
What activities will students engage in - field trips, pitch sessions, competitions, etc.?	What learning content will be utilized?



► Articulating Your Value Fulfillment Blueprint.....

While the operational plan for running an incubator has different components, having a clear map and visualization of how these components connect and interact can be valuable. This operation visualization can be referred to as your value fulfillment blueprint.

Your value fulfillment blueprint represents the operational model of your incubator program. Creating this blueprint or playbook allows your team and stakeholders to understand how value is created and delivered in your incubator. Using logic similar to your business model canvas, the value fulfillment blueprint helps you visualize the back end of the value you provide to users, who, in this case, are students.

The Study of the iiLab's Implementation as an Innovation and Design Lab Blueprint

This section is an overview that documents the experience of developing iiLab's frameworks, services, and programs to serve student businesses, with the pilot Kagame Cohort as a starting point. Here, we more vividly explore the structures and processes of the iiLab through illustrations and the use of the value fulfillment blueprint to provide insights into how varying departments work together to deliver a program.

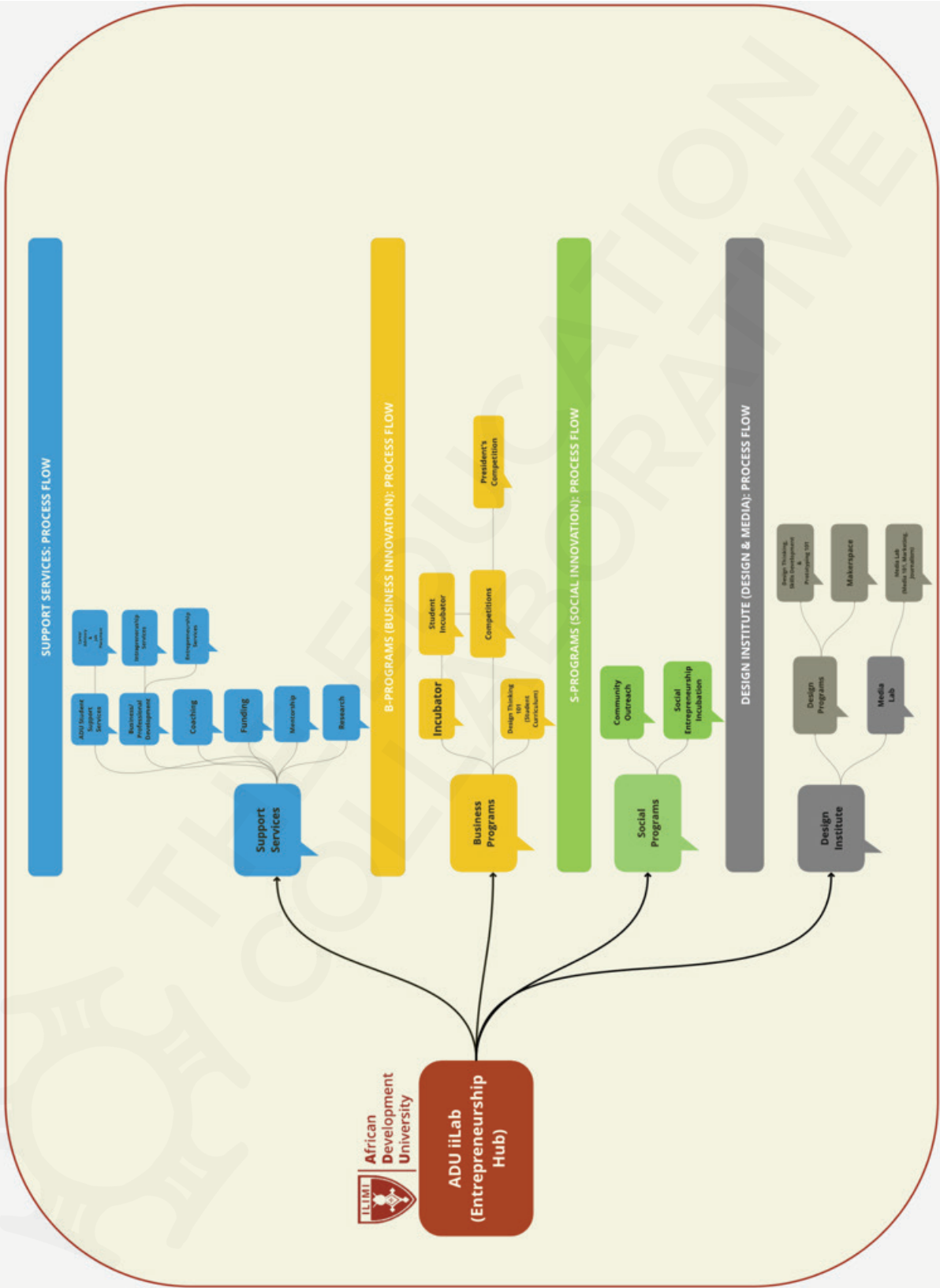
iLimi Innovation iLab (iiLab): Innovation and Design Lab Blueprint

The A.D.U iiLab Blueprint is an instructional framework that uses the case study of the cognitive processes that informed the A.D.U iiLab Design to build a transferable model that can be replicated and/or reworked by other incubators on the continent.

The blueprint outlines the four arms of the iiLab and their functions: Support Services, Business Innovation Programs, Social Innovation Programs, and the Design Institute.



ADU iiLab: BLUEPRINT



Support Services

iiLab's support services cover all facilities, resources, and assistance provided to student incubatees and startups within the ecosystem. These include student support (career advisory and job placement), business/professional development (intrapreneurship services), coaching, mentorship, funding, and research support.

Business Programs

Business programs mainly host the incubator and related functions covering business support services, infrastructure (makerspace, co-working space), human resources (mentors, coaches, programs team, etc.), and networks to accelerate and systemize the process of creating and further developing successful startups. It also delivers programs through the lens and steps of design thinking as the leading methodology for business creation. These include incubators (student incubators), competitions, and Design Thinking 101 (curriculum).

Social Programs

The social programs arm of the iiLab consists of programs and support services directed towards creating social impact. This is focused on incubation for social enterprises and supporting startups and student organizations toward community impact. These include community outreach and social entrepreneurship incubation.

Design Institute

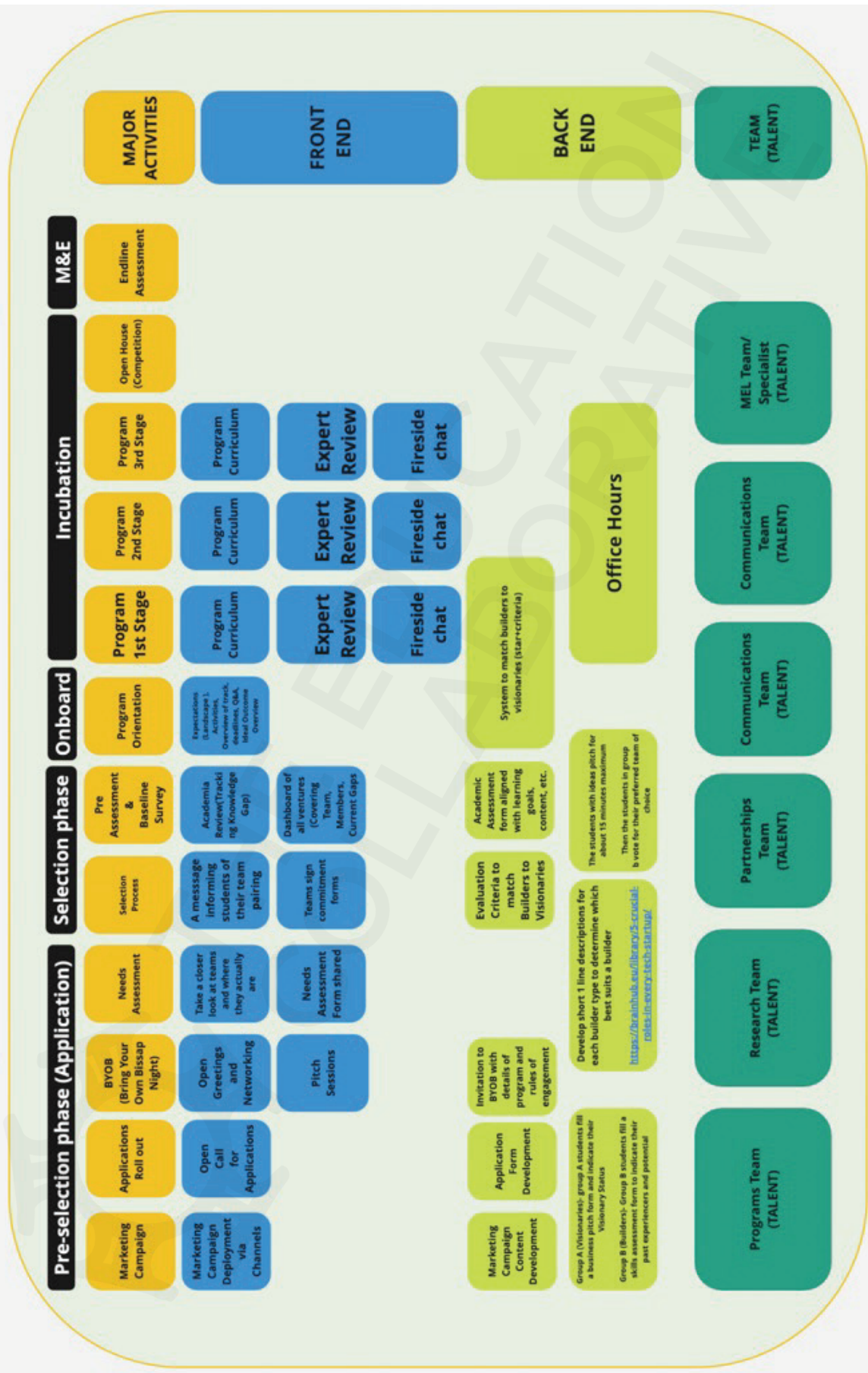
The Design Institute is the last facet of the iiLab, delivering design programs and comprising a media lab. The programs are hosted in the makerspace, a collaborative work facility within the university where startups and like-minded individuals and groups can gather to work on projects, build prototypes of their products, and share ideas, knowledge, and equipment.

The Media Lab promotes skills in media training, which young people are increasingly interested in. The media training courses cover Media 101 (Intro to Media Production and Roles), Marketing, Journalism, etc. They also include Design Programs (Design Thinking, Skills Development & Prototyping 101, Makerspace), Media Lab (Media 101, Marketing, Journalism)

Design Institute

The incubation process was captured using a value fulfillment blueprint to best represent the contributive mechanism, people, and activities involved in making the Incubator function. The value fulfillment blueprint (VFB) is a framework that captures both the users' experience (incubatees) and the requirements of the solution (incubation program), together with the firm's (iiLab) corresponding actions to deliver the solution. This version of the VFB highlights four primary aspects of the iiLab incubator: major activities, front-end actions, back-end actions, and the team.

INCUBATOR: VALUE FULFILMENT BLUEPRINT



Major Activities

The major activities row of the VFB is focused on all the processes that incubatees go through during the training. The timeline captures activities before, during, and after participants engage with the incubator's services. This allows for better planning and understanding by the team in grasping what happens at various program levels and prepares you to better respond to program needs.

Front-end Actions

The front-end actions capture all user-interfacing activities between the incubator and the incubatees.

Back-end Actions

The back-end actions comprise activities and systems the team executes in the background, enabling the incubation program to run smoothly.

Team

The team captures the roles, talents, and complimentary human resource-related responsibilities needed to deliver incubation programs. These roles may vary based on the programs, but ensuring that all front-end and back-end actions can be matched to a role along the timeline remains crucial.

Institution Highlights and Examples

Programs differ from incubator to incubator, with each one's program depending on its target market and objectives.

The African Leadership University has explored a number of program offerings and highlights two models of running and delivering incubation programs.

Bespoke support for students

This involves taking students on a case-by-case basis and providing support and resources to them depending on the type of venture they are looking to build. The incubation team assesses students' ideas and offers advice, recommendations, connections, opportunities, and resources to help students further develop their ideas and attract other support, including investment or grant funding.

Theme-focused incubation programs

These programs center around a specific problem/challenge area and are usually run in partnership with collaborators or stakeholders who are interested in supporting ventures in the challenge area. An example is the circular economy incubation program. These programs guide students to develop their ideas into tangible solutions with business models.

Carnegie Mellon University runs a cohort-based, year-long program for its master's level students and alumni. It runs an IT entrepreneurship course, making the incubator program a practical space for students to build and develop their ideas. Throughout the year-long program, students complete milestones that are attached to new levels and funding, further ensuring their commitment and motivation. Student entrepreneurs have different showcase and demo day sessions to present their work to internal and external stakeholders in order to receive feedback and iterate where needed as they progress.

As the program enters its second iteration, its managers have opted to operate a model that introduces business support from external expert consultants and mentors while providing technical support, given the institution's focus on technology.

The Launch Lab at Stellenbosch University approaches its programming a bit differently. It considers the combination of various programs as a funnel to identify high-potential and 'most likely to succeed' startups. The program flow below records a decreasing number of participants over time.

Community events

These events gather a wide range of persons within and outside the university community and are intended to be spaces where people can safely explore the concept and possibility of entrepreneurship without committing to start a business.

Workshops

This next stage of the funnel is for participants who are aware of the incubator's mission and services. They join workshops to start working on their business ideas and get engaged in the process of building a business.

Five-to-eight week programs

A smaller segment of startup ideas emerges from workshops with participants who commit to building their businesses. These go through five- and eight-week programs and enjoy support from the incubator team to build their business, focusing on viability. After this, startups can continue to build within the incubator or go out to continue building.

IGNITE

This program takes the previous one to another level by providing businesses with another layer of business services. At this stage, the incubator diagnoses the business, which might have been operational for a while, to uncover gaps and issues and to provide insights. Depending on the team's preference, the incubator works on the challenge areas on behalf of the startups, with the startups, or engages external consultants to help.

Needs-based and custom programs

Occasionally, startups will require additional support even after they are in operation. These are catered for by providing an intervention tailored to a business' needs.

➡ Aligning Your Incubator Program with the School Calendar

Universities, like most learning institutions, run on an academic calendar. This affects core learning and is an essential factor in other operational considerations. While this differs from one institution to another, it is crucial to consider when setting up an incubation program. The alignment of a university's incubation program with its calendar will be based on several factors, including its intake structure, operational calendar, resource availability, and curriculum learning content.

Run incubation programs as practicums for learning courses

In some institutions, the entrepreneurship incubation process is designed as part of a course or series of courses across students' yearly learning programs. Such experiences are designed as practicums where students apply practical entrepreneurship and venture-building skills as a learning requirement. Thus, learning content and assessments can be designed around the practical execution of business ideas. In such cases, grading or scoring is not based on the output quality as in other academic areas; instead, it is focused on the practice and execution of entrepreneurship strategies, thereby continuing to reinforce the practical nature of entrepreneurship, which provides excellent learning for students.

Run dedicated year-long programs

Programs such as the Carnegie Mellon University Incubation Program run a focused 12-month program, helping students and alumni succeed with their entrepreneurial programs. This is a dedicated program where accepted startups commit to working full-time on their innovations and participating in incubation activities. Such programs, especially in

advanced degree programs, form an alternative to dissertation and work placement pathways. Since the entrepreneurship journey is an exploratory and experiential learning experience, students learn from hands-on activities of building their businesses and can reflect on or write about their experiences. At the end of such programs, students can continue to run their ventures and leverage institutional resources and support.

Part-time participation in a venture program

When students have to commit significant time to schoolwork, the incubation program can be run as a part-time commitment where they can devote a reasonable number of hours weekly as long as they fulfill their academic requirements. In this case, incubation services are available all year round, with activities planned around the school calendar to avoid significant clashes with critical programs. Therefore, students can study while continuing to build their ventures. At the African Leadership University, the Student Ventures Program was run to support actively studying students, allowing them to plan their entrepreneurship activities and study requirements.

The above are options for building an incubation program alongside the university calendar. However, as mentioned earlier, these arrangements will be on a case-by-case basis, depending on an institution's priorities, resources, and entrepreneurship strategy.

➔ Defining Your Communications Strategy

Communicating with and engaging users, the institution/university community, and other stakeholders is important. Communication makes users aware of your programs and services, reaches potential users, keeps stakeholders up to date, and ensures that you effectively nurture the needed relationships. Your communication strategy can be primarily divided into two areas:

Internal communications

The audience for your internal communications will be your users and stakeholders, including students, your institution's leadership, other teams, and the wider institution community. You will need to share regular updates with university leadership and other relevant stakeholders based on their categorization in your stakeholder management analysis.

You must also advertise and create awareness to bring participants, volunteers, and other staff to support the incubator's work. It might be tempting to overlook the internal community by assuming that people will naturally gravitate towards the incubator as it is on campus. This might not be the case, so you or your team must act as champions and advocates for the incubator's activities, helping others benefit from what is available.

External communications

Stakeholders outside the institution will also need to be aware of programs and activities within the incubator. Some of these stakeholders include potential participants at events and activities but might also include industry partners, mentors and coaches, potential investors, and regulators, among others. Keeping the relevant partners informed through an intentional communications strategy will ensure access to your community's or stakeholders' support when necessary. Importantly, if your startups are mature enough to offer services and products to the community, it will help give them the marketing and visibility they need for growth.

The above are options for building an incubation program alongside the university calendar. However, as mentioned earlier, these arrangements will be on a case-by-case basis, depending on an institution's priorities, resources, and entrepreneurship strategy.



Tool: Communication Plan Template

How to use: Consider your users and internal and external stakeholders and categorize them into groups. Consider what programs and services are intended for them and what they need to know. Also, remember to identify the content to be shared, the channels, and the communication frequency. Building on the stakeholder management plan you worked on previously, structure how you communicate with stakeholders depending on where they fall on the influence-impact matrix. Your incubator will run programs, challenges, etc., so sharing that with the relevant target audience is crucial. Overall, it is important to keep putting out the word on what goes on at the incubator to ensure you can get the right collaboration, support, and partnerships when needed.

Stakeholders / Stakeholder Group	Goals and Objectives (Desired Actions)	Key Messages and Content	Communication Channel(s)	Communication Frequency
Users				
Stakeholder 1				
Stakeholder 2				
Stakeholder ...x				



Establishing Partnerships

Partnerships are crucial in ensuring your incubator program is well-connected with the broader ecosystem and can fulfill many of its goals and objectives. Usually, a partnership is necessary when you recognize gaps that your incubator program might have concerning specialties or competencies you do not have the capacity for or resources you do not possess. In this regard, you can work with partners who fulfill this need while offering them some form of desirable value in return, thus creating a win-win scenario. Partnerships can also be made in areas where you can scale or increase the reach and impact of an existing venture with a partner invested in a similar outcome.

VALUES-DRIVEN PARTNERSHIPS: WHAT TO KEEP IN MIND

Ultimately, raising money and creating partnerships is about building alliances. In the quest to build these alliances that lead to the resources you need, there is often a mixing of the DNA of your institution with that of another organization, which can often be challenging. At the start of every partnership, ensure to clearly identify the scope, duration, purpose, and effect on your profile. The key question should always be: what is the give and get of this partnership?

To avoid the friction that partnerships can create, always seek out alignment in values. Most affiliations are co-branded in a way that is time-bound, usually around an initiative that is co-created or has a limited time span. The best partnerships are with institutions with similar impact goals and are willing to co-create as equals.

In building partnerships, aligning with one party from a pool of multiple players within the same sector often tacitly implies their endorsement over their peers. Leave room for the possibility for outside parties to reach the conclusion that your partnership with any institution is your direct endorsement of their mission and values. If there is an opportunity to build partnerships that allow you the free hand to continue to engage other players in the same category, always pursue that option. Strive not to exclude other players from the same sector (e.g., don't limit your relationships with banks to just one bank). However, be honest about your interaction with (or the possibility of interacting with) others. This approach should allow you the advantage of acting as a convener for multiple players in the same industry and be an effective tool for building collaboration between them. Being in that position can provide more leverage for raising money for your initiatives from multiple partners.

Why Build Partnerships?

At the heart of all collaborative organizations is an admission that knowledge and capital should be pooled to create the most efficient way of solving problems. All collaborative institutions must, therefore, build internal capacity for partnerships, business development, and fundraising. Some of the simple reasons to partner with others include:

- | Fulfilling your value proposition to all key stakeholders
- | Maintaining relevance
- | Funding the institution's larger and more ambitious initiatives
- | Finding new revenue streams for long-term sustainability

Relevant Types of Partnerships

Partnerships can take many forms, but working within the scope of an operation within a higher education institution limits possibilities in some ways. Given that context, we can classify these options as:

- | Foundations
- | Corporations
- | Other educational institutions
- | Research institutions
- | Impact investors/Family offices
- | Government/Municipal
- | International development organizations

The subsequent sections will provide a step-by-step guide on the details to consider in collaborating with and attracting resources from these critical categories of potential partners. The section will dive into how to build a unique value proposition as an institution that increases your potential for raising external funding for your programs. It will also provide insights on what to consider in reaching a clear sense of what you're "selling," who you are selling to, and how to sell it.

WHAT ARE YOU SELLING?

Building partnerships requires a value exchange as established previously. The value you bring must, therefore, be clear. One of the clearest forms of value is the originality of your ideas, methods, and problem-solving approaches. Fundamentally, your partners' investment in your institution is based on this perceived value. This means you need to find ways of clearly defining that value through your programs. The nature of an innovation lab means that the core product you are selling is your programs and processes.

What Do Partners Get in Return?

It is vital to consider partnerships a two-way endeavor, i.e., a win-win arrangement. This ensures that when you embark on any search for partnership, you also have strategies to help partners achieve their goals as a part of your plan. This promotes satisfaction on both sides and can ensure a long-term sustainable partnership. It also increases your chances of success.

Here are several priorities partners might have based on the type of partner that they are:

Impact objectives: Some organizations are set up with the mission to support entrepreneurs, entrepreneurship, and economic activity. These organizations are naturally willing to partner because there is an opportunity to accomplish their core objectives.

Pipeline for impactful ventures: Some organizations, such as accelerators, entrepreneurship support organizations, investors, and holding companies, look out for entrepreneurs who are solving critical problems and demonstrate great potential. These organizations might partner with you to help discover and develop

new high-potential ventures they can invest in and further help build.

Corporate social responsibility: Some organizations allocate budgets to their corporate social responsibility activities, and entrepreneurship development and promotion might qualify.

Mission and brand association: Some organizations want to be associated with your organization's brand or mission, so they might also be willing to partner on initiatives or with the incubation program.

.....

These are several possible motivations and partner priorities. Each organization or potential partner will have different partner needs and priorities. It is essential to identify what these are and be able to connect with them.

Program Development Guide

A simple guide to developing “fundable” programs or initiatives

This section seeks to guide the process of defining an initiative to raise money for a program (service) to be sold to prospective partners and funders. When developing a program, the initial process must cover as much detail as needed for internal purposes. However, in external documents for potential partners/funders, the goal should be to keep it simple, clear, and concise and to tell a good/exciting story. Some of the key questions in this process include:

1. What is the context for the program/initiative?

Development and achievements so far - how did we arrive at the point of launching such an initiative?

What are the key strengths/unique positions to base the initiative/program on?

Existing partners supporting or leveraging the initiative.

A demonstration that the institution is uniquely qualified and the best partner to execute the vision.

2. What is the opportunity at hand or issue to be resolved?

What is the big opportunity/issue on the market, in society, or in the environment that the program might impact?

3. What is the proposed solution?

Brief overview of the proposed solution/program.

What is it? An extensive program, a one-time event or a series of events, R&D project, research project, fund, etc.

How does it tackle the issue defined above?



4. Who are the potential partners, customers, or funders?

For which sectors and organizations is the opportunity relevant? What are their needs/goals?

Which organizations are involved in tackling the issue or related issues, and what is the impact they aim to have?

Which organizations have been involved in similar initiatives in the past?

5. What are the main goals?

Key, measurable outcomes of the program/initiative (e.g., 10 investable ventures developed).

Make sure they correspond with the issue & solution defined.

Consider the wider, long-term effects of the initiative.

6. How does the program/initiative work on an operational level?

Activities to deliver the goals/benefits.

Implementation/delivery process and timeline.

Highlight positive features of the program/initiative (efficiency, innovation...).

How will the outcomes and impact be measured?

7. Budget and pricing

Having a detailed overview of how the program will be delivered is critical before you start budgeting. Each part of the process is likely to incur costs.

Typical budget items in services are HR costs (e.g., design, delivery, project management, and impact measurement/evaluation), marketing costs, space/event costs, external services (e.g., delivery, external validation if impact...), technology costs, travel costs, administration.

Always consider how the initiative relates to your running costs.

Clarify what your contribution will be outside of the funder's investment.

Finally, if you need to present the budget to your prospects, consider how it's structured and how budget lines are described vs. what the prospect is likely to fund.

8. How can partners get involved?

Level of financial support.

Defines other non-financial opportunities of involvement.

9. Call to action

Provide a clear lead on your side for interested partners to connect with.

How can funders learn more about the opportunity to collaborate? e.g., Learn more at...

Share clear timelines/deadlines.

Developing Unique Value Propositions for Partners

Partners differ in how they operate and deploy capital and other resources. Defining the critical value you bring to each partner category is important in building a strategy for partnerships. Based on the model of the innovation lab, here's a general list to guide the development of your USP:

Uniqueness of the approach and model.

Offering a more comprehensive/innovative package beyond what is usually available across most HEIs in Africa.

Locally embedded approach with a globally connected community of partners.

Serve as a source of insight and opportunity to co-create thought leadership around the subject of emerging new models of education in HEIs across Africa.

Good track record and traction.

Unique story of bottom-up growth over the past years.

Partnering With Corporates

What attracts corporates, and what can you do with corporates in a way that adds value?

Corporate partners are usually driven to support from two general angles:

1. Community investment/social responsibility.
2. A need to innovate, connect with the “new,” and link to trends that affect their business.

For corporate partners, there is always a need to present the “cool factor” of your work to increase their appetite for collaboration. By their nature, large companies can be very dominant partners. It is, therefore, essential to build internal systems for engaging them without being taken over by them.

Key value proposition elements to highlight: What can you offer?

1. Hosting - developing a community of work around a better world where their products/services/ approaches are focused on making an impact.
2. Access to and experience new working trends and new ways of working.
3. A funky, vibrant, and cool place for social change and innovation brimming with youthful energy.



Examples of Corporate Partnerships

1. Knowledge and experience exchange: Projects in which company employees connect to your community of young leaders.
2. Engagement in panels, conversations, and relevant programming for the innovation lab.
3. Part of the makerspace is pitched as a special project room/innovation lab that a company can rent out for a week at a time to plant a special project team, an innovation challenge - and can benefit from the diversity of talent and interaction with your students (possible add-on: facilitation by your team).

Partnering with Government

In your attempt to build a vibrant community around experimentation, you will find that government engagement will be valuable. Collaborating with the public sector at all levels further consolidates your convening powers as a strong force in your local innovation ecosystem.

SIMPLE RULES FOR GOVERNMENT PARTNERSHIPS

Do:

1. Be non-partisan (neutral to all political parties).
2. Cultivate links with all municipal departments.
3. Solicit waivers for all public fees and shoot for some public sector budget funding sources.
4. Lobby/advocate/endorse/campaign for development in the civic sector, such as recognition, licensing, and tax breaks for youth-led ventures.
5. Engage with your local departments of economic development.

Don't:

1. Use words in your pitches/collateral that can misconstrue your enablement of innovation as suggestive of catalyzing political innovation or affecting national security and social stability.
2. Expect the government to bail you out when you run into trouble.
3. Expect the government to actively help you open.
4. Expect the government to be fast-responding or broad-minded, even if they project such an image in their conversations.

Tool: Partnership Strategy Worksheet

How to use: As you begin to onboard partners to support different functions in your incubator, consider the value they bring and what value you can create for them in return. In addition, consider the process of partner engagement. This should cover getting partners on board, measuring the effectiveness of partnerships, and ending/adjourning partnerships.

Partner	Area/Program of Partnership	Partner Value-Add to the Incubator	Benefits to partner
Partner 1			
Partner 2			
Partner 3			
Partner ...x			

Partner	Area/Program of Partnership	Partner Value-Add to the Incubator	Benefits to partner	Benefits to partner
	How will you go about sourcing and onboarding partners?	How will you go about sourcing and onboarding partners?	How will you go about sourcing and onboarding partners?	How will you go about sourcing and onboarding partners?
Activities				
Methods				
Documentation Needed				
Timelines				

► Setting up Incubator Hub Facilities..... and Makerspace

Incubator hub facilities form the challenging component for its successful operations. An incubator usually comprises basic operational facilities such as office space, furniture, stationery, and other materials. However, incubators with a premium on physical product development and demonstrative practical learning will have a makerspace or prototyping lab.

Overview of Makerspace and Prototype Lab

As part of iLab’s work of creating a cooperative environment for learning and experimentation, a makerspace is proposed as a collaborative workshop where students gain practical hands-on experience with new technologies and innovative processes to design and build projects. The intention is to provide a flexible environment where learning is made physical by applying science, technology, math, and creativity to solve problems and build prototypes. The ultimate goal is to build students’ confidence in bringing ideas to life. The physical space proposed will support students focused on a particular activity, such as electronics, or offer a broad range of equipment and materials for prototyping, such as 3D printers, CNC, laser cutters, etc.

Given this range of possibilities, making a one-size-fits-all template for developing a makerspace would be impossible. Instead, this document is an outline providing an initial approach to selecting equipment, tools, and materials for a new makerspace, allowing it to serve the needs of the student community best. The broad strokes of this plan are meant to support the work of up to cohorts of 25 students at once in a space for a semester’s worth of projects. This section lists equipment, tools, and materials in an initial “starter pack.”

Context

There is a persistent and pervasive need across Africa today: emerging innovators want to make physical products but (a) do not know how and (b) lack the technology, technical knowledge, tools, skills, and support community to make what they want. The experiences of these young aspiring makers, plus countless others trying to bring new ideas from their imagination into reality, share a common theme: Young people need access to not only a collaborative community of makers, mentors, and technical experts but also a physical space in which to experiment and prototype using digital design and fabrication equipment.

There is an explosion of interest among young people in Africa to found mobile and web application-powered startups fueled by monumental legends of exceptional success and exit paydays. However, many of Africa’s challenges today demand hardware solutions built around new product development. Too many young people lack the skills, knowledge, and mindset to enter that space effectively.

Also, while the “maker movement” is gaining steam Africa-wide, too often, the focus is on all the “cool” things that can be done with expensive and/or imported gadgets and equipment. The downside to such an approach is that—even if inadvertently—it extends the problematic mentality that all amazing things come from “outside.” This perception that everything futuristic and high-tech must be imported from outside Africa is self-defeating. The belief that making world-class products in Africa is impossible discourages potential innovators before they even begin. At the same time, most youth in Africa today, as elsewhere—despite facing an ever-accelerating avalanche of global consumer culture—are ill-equipped to penetrate the technological “mystery” required as a prerequisite to manipulate the “black boxes” of their electronic devices. This is where makerspaces emerge as part of the solution to all the problems listed above.

A makerspace is a 21st-century digitally connected community workshop and lab open to entrepreneurs and anyone interested in learning, designing, and making together in a collaborative environment. Typical equipment ranges from low- to high-tech but spans 3D printers, laser cutters, CNC machines (e.g., routers, mills, lathes), sewing machines, soldering irons, and electronics tool kits.

Makerspaces help people gain new skills through learning by doing: using CAD/CAM software to apply 3D modeling, 3D printing, coding, robotics, carpentry, metalwork, and other tools to rapidly prototype of physical objects and hardware. Makerspaces complement Science, Technology, Engineering, Art, and Math (STEAM) fields to drive innovation and support entrepreneurship through new product development.

Building a makerspace as part of your HEI's innovation program should primarily support the design and development of new products using digital technology and prototyping a range of locally-made tools and equipment for digital fabrication. The focus of a makerspace is not to make generic 3D-printed plastic toys and trinkets, but rather to serve as a dynamic innovation engine, grounded in the existing design, arts and crafts, and manufacturing landscape of your country while leveraging indigenous interclass innovation to build a strong local maker community.

Makerspaces vary in outlook, reflecting the available resources and the needs of the makers who use them. It can be any physical space—a classroom, shed, storage room, or a freestanding building. It can support a handful of young makers to dozens of students focused on a particular activity, such as electronics.

Given this range of possibilities, making a one-size-fits-all template for developing a makerspace would be impossible. As mentioned, this document outlines what to consider when selecting equipment, tools, and materials for a new makerspace, allowing it best to serve its makers' needs. It covers outfitting a space, including space requirements, workbenches, storage, and maintenance materials.

For this “starter pack,” we chose tools and materials that are easy to use and useful on various projects. All suggestions on the number of tools/resources are based on the assumption that you will support the work of up to 25 students per class. As you grow, the quantities should be adjusted to match the number of makers and length of projects for your particular space.

The equipment is divided into modules for easy reference, with each component tied to the other. For example, combining metalworking with electronics makes robotics projects come alive.

Makerspace Programming

Proposed Approaches

Building a makerspace requires a strong program development component to create the best learning outcomes for students and tie that to a robust process for prototype product development. A good approach will be to combine the hardware tools with training and programming (software) that make the makerspace much more accessible and valuable to a broader group of student innovators. The program structure should have two main components: workshop series and design challenges.

Workshop Series

Maker Training Sessions: The makerspace should facilitate semester-based weekly training sessions to introduce critical maker skills, such as general introduction to making, making templates, 3D printing, laser cutting, use of CNC machines, product design, etc. These sessions will build a community around design, making, and prototyping. Existing student ventures should also be invited to explore how to prototype their products out of the makerspace.

Design Thinking Workshops: These are workshops where students work in teams to identify needs and ideate solutions to key social challenges. They can be thematic, so student teams work on issues related to a specific theme, such as healthcare, waste management and recycling, food and agriculture, housing, etc. These workshops allow new teams to form around similar themes and start developing solutions.

Design Challenge

Your innovation lab should design challenges to inspire and support student makers in developing their first product prototypes. After every round of the workshop series, a time-bound design challenge should be launched for all workshop participants to finalize their product prototypes and present them to a broader community. This should happen at the end of every semester. During a design challenge, students should receive full access to the makerspace, support staff, and equipment. The challenge should close with a jury

pitch event, with winners getting advanced support to fine-tune their products.

External Target Group/Beneficiaries

While your makerspace should primarily focus on working with students, it should have an open-door policy to allow access to vetted impact-driven innovators or entrepreneurs within the broader local ecosystem outside your university. It would be best if you aimed to engage two other target groups: students of Science, Technology, Engineering, Arts, and Mathematics (STEAM) from other universities and workers from the informal sector.

Grounding Innovation in Informal Learning

Many students graduate from universities across Africa with exceptional theoretical knowledge but limited practical know-how—while their peers, educated outside the classroom and working in the informal sector, acquire knowledge heuristically through “learning by doing” but lack deep technical and technological proficiency. Your makerspace should aim to build bridges between these two realities. Linking these two groups could fill gaps and inspire powerful collaborations.



Each section covers a particular makerspace module or specialization relevant to a community of students in a vibrant HEI and includes a description and lists of tools and other materials.

Workspace	A safe, comfortable, and clean working environment.
General	Common tools and materials among and across modules that are useful on a wide range of projects.
Metalworking	Tools for working primarily with metal.
Electronics	Covers a range from the basics of circuit design through more advanced microcontrollers, robotics, and other electromechanical components.
Computers	The hardware and software necessary for modern planning, design, and fabrication.
3D Printing	Additive manufacturing ability, known as 3D printing, which allows makers to create detailed, complex objects.
Laser Cutting	The requirements for a laser cutter, which would provide the ability to cut and etch materials quickly and with high precision.
CNC Cutting	The requirements for Computer Numerical Controlled (CNC) machines, which accurately cut and sculpt various materials.

In establishing the setup and use of the makerspace, particularly in a higher education institution, there is an expectation that as students engage the space over a period, they advance from a basic to intermediate level as it relates to the use of tools and their capacity to execute more complex projects with these tools.

This section considers the recommended equipment and materials to introduce this module into your makerspace. It provides critical guidelines on the different components of the makerspace as students grow from the basic to the intermediate level. The tools listed in the proposed “starter pack” were selected to keep costs low while providing the most valuable tools and materials that are easy to work with.

Workspace

To create a safe, comfortable, and creative space for making by students, the workspace needs to be organized and spacious to provide enough room to move around freely without danger.

DIY (Do It Yourself)

To build community ownership and secure student buy-in, the initial workspace infrastructure, such as workbenches, storage, shelving, and whiteboards, should be made through student-supported projects

with technical supervision from trained tradesmen. This has the advantage of costing less while engaging students in meaningful acts of creation.

Metalwork

Metalwork capability in the makerspace will allow your students to make everything from delicate jewelry to durable, heavy-duty projects. These tools can create attractive metal project cases or build replacement parts for cars, bicycles, and other machines. The basic level focuses mainly on hand tools and smaller

projects, while the intermediate level adds more power tools and a welder, dramatically increasing the scale and capability of projects. Most tools take a few minutes to learn to use. Welding, brazing, and soldering each takes at least half an hour to learn safety and fundamentals.

Electronics

This allows students to learn about electricity, electronics, integrated circuits, and microelectronics. Advanced learning will enable students to read and create schematic diagrams and troubleshoot circuits. Under electronics, you should aspire to build further internal capacity around microcontrollers and robotics, allowing student makers to create advanced electronics and electromechanical systems, including robots. The microcontrollers and robotics component allows building and experimenting with robotics, microcontrollers, and other electromechanical creations. The basic level allows simple robots to be built to follow lines or avoid obstacles. The intermediate level adds more advanced functionality. Microcontrollers and robotics are some of the most exciting pieces of makerspaces for students.

Computers

A central component of your makerspace will be computers facilitating students' access to information and digital tools to design, create, and collaborate on projects. It further supports the programming of robots and using other programming tools. The complementary addition of a printer will be valuable in producing patterns, designs, decorations, and explanatory materials.

Along with internet access, computers in the makerspace will offer students access to reference information, project ideas, expert help, instructional videos, safety information, and data files to modify or replicate with digital fabrication tools. Documenting and sharing projects is an integral part of making, especially for exciting your makers in university. Adding cameras and access to blogging tools accelerates the process and helps expand the collaboration potential of student projects. A decent collection of software is available to makers as freeware and

shareware, running on various operating systems. Some examples: Gimp for creating and manipulating images, Inkscape for creating and manipulating line drawings, Blender, Sketchup, Tinkercad, and 123D for creating and working with 3D objects.

3D Printing

3D printing will be one of the critical capacities you need to build in your makerspace. Students can create complex 3D shapes from plastic or other materials. 3D printers are generally very safe, and students can use them at a basic level after one learning session. Popular free application offerings include Google Sketchup, Blender, Wings 3D, tinkercAD, and Autodesk 123D. Learning to use and maintain a 3D printer takes about one to three hours. Initial setup and calibration take several hours, so it is always good to work together with students in that initial process to help deepen the learning for them.

Laser Cutting

Precision will always be part of maker culture. Laser cutting allows students to cut complex shapes quickly and accurately from flat materials such as paper, wood, acrylic, cardboard, and felt. They can assemble these flat cutouts to create 3D structures or etch designs into the surface of materials. Learning the basics of a laser cutter use takes up to an hour. Conceptually, it works like a printer; students often understand it uses quicker and easier than a 3D printer. Learning to maintain a laser cutter fully will take several hours.

CNC Cutting

Computer Numerical Control (CNC) routers allow precise control of rotating cutters that can cut, carve, and shape various materials in three dimensions. This differs from laser cutting in two ways: it carves two- or three-dimensionally and cuts a broader range of materials and thicker materials.

CNC routers may come as kits and require several hours to set up and calibrate. This is always another great avenue to work with students to assemble under direct supervision to help deepen their learning.

Makerspace “Starter Pack”

Category	Item	Qty
3D Printing	CAD/CAM work station	2
	Large metal 3D printer	1
	Assorted 3D printing filament	50
	3D structure scanner	1
Electronics and Soldering	Arduino Kits	-
	Programmable Power Supply	2
	Waveform generator	2
	Oscilloscope	2
	Digital multimeter station	5
	Soldering stations	5
	Solder	-
	Intergrated soldering clamps	5
	Hand drill	5
	Screen printing supplies for PCB making	-
	Spectrum analyzer	1
	Frequency counter	2
	Decibel meter/Sound pressure level meter	2
	Step-up/Step-down power transformer	1
	Multi function wire stripper	1
	Crimpers (all sorts of crimpers)	-
	Breadboards	-
	Internet of Things (IoT) kit	5
	Raspberry Pi and accessories	-

Makerspace “Starter Pack”

Category	Item	Qty
Welding/Fabrication/ CNC	Electric kiln	1
	MIG/TIG welding machine	2
	Plastic extrusion/welding machine	1
	Vinyl cutter	1
	Mixed CO2 laser cutter	1
	Plasma cutter	1
	6 foot x 10 foot CNC router	1
Wood Metalwork Hand Tools	Wood and metal lathe	1
	Table saw	1
	Band saw	1
	Mitered chop saw	1
	Hacksaw (set)	-
	Handsaw (set)	-
	Drill bits (Set)	-
	Hammer set	-
	G-clamps	10
	Combination square set	5
	Tapes	-
	Chisel and file set	-
	Bench vice	4
	Scroll saw	1
	Jointer	1
Mortising machine	1	

Makerspace “Starter Pack”

Category	Item	Qty
Wood Metalwork Hand Tools	Oscillating spindle sanders	2
	Mallets	-
	Pliers	-
	Staple gun	-
	Dremel tools	-
	Dremel oscillating tool	-
	Jigsaw (metal and wood)	5
	Glue guns	10
	Mini lathe	1
	Heat guns	5
	Arbor press	2
Sewing/Textiles	Industrial sewing machine	2
	Steamer for clothing/fabrics	1
	Sewing Accesories	-
Safety Accessories	Goggles	-
	Hand gloves	-
	Eye protection	-
	Ear protection	-
	Knee pads	-
	First aid kits and books	-
	Dust masks	-
	Paint respirator	-
	Welding mask	-

Makerspace “Starter Pack”

Category	Item	
Safety Accessories	Fiberglass drop clothes for welding	-
Cleaning Washing Post Processing	Dual motor dust collector	1
	Pressure washing station	1
	Ultrasonic cleaner	1
	UV light curing area	1
Computers Workstations Servers	Workstation computer for heavy duty rendering and processes	1
	16GB RAM workstation	1
	Windows PCs	2
	Linux PCs	2
	6 U rack mount	1
	Mobile 60” SMART LED monitor	1
	NAS server	1
	Shielded Cat 6 network cable box	1
	Gigabit router	1
	Access points	2
	Laptops for workshop facilitators	3
	Printer for workshops	1
Imaging Video Virtual Reality	Seek thermal camera	2
	Digital inspection camera	2
	VR gear	5
Paper Processing	Printer/Copier/Scanner	1
	Paper laminator	1
	Hot stamping/Foiling and embossing machine	1

Makerspace “Starter Pack”

Category	Item	
Paper Processing	Paper cutter – hand operated	1
	Label printers	1

The Makerspace

- | Context for makerspaces in HEIs in Africa
- | Makerspace programming
- | Grounding innovation in informal learning
- | Makerspace “starter pack”

➡ Drawing Up Your Budget

In the planning phase, we explored the importance of establishing the financial sustainability of your incubation hub. This involves examining funding sources for the incubation hub and knowing what it takes to set up and run it. If you are creating an incubation hub, you must consider what it will take to set up and/or expand it and its operational costs.

Set up and expansion budget

These refer to the initial costs for setting up the incubation hub and might include many of your fixed expenses, including equipment, resources, and initial labor. Consider implementing your incubation hub in phases, depending on available resources. Therefore, if you start with the essential elements and resources necessary to operate and run your initial programs, you can factor expansion and growth into subsequent phases. Phasing it this way also ensures that you

can commence serving students, test out your assumptions, and refine the operations and programs of the hub as you go along.

Yearly operations budget

This refers to the annual cost of running the incubator. It covers variable expenses such as costs for staff, running programs, consumables, and other operational costs to deliver on the offerings of your incubator.

Budgets should be prepared and deliberated on with relevant stakeholders to align and provide the needed input and support for the project.

Institution Highlights and Examples

The makerspace and physical facilities of an incubator can provide much-needed support for building product samples and prototypes, especially for physical products. However, different institutions have varying approaches and perspectives to providing a makerspace.

For the African Leadership University, which has embarked on a distributed learning model, it is nearly impossible to provide a makerspace that can be accessible to its students across their different locations. Students needing such services are able to connect local resources while receiving guidance from the incubation team at the university.

The Launch Lab at Stellenbosch University does not also maintain a fully-equipped makerspace, even though many of its innovative startups are technology-focused. This is because it is nearly impossible to provide all the materials and resources to meet the needs of the different startups building their businesses in the incubator. Similarly, the startups find technical support to develop their products outside the university space in commercial fabrication labs (fab labs) or by sourcing their own materials. The Launch Lab also focuses on its support on the commercial instead of the engineering side of its operations. On the other side of this, not providing all the resources forces startups to bootstrap and be innovative about solving their problems.

The facilities at the University of Rwanda Data-Driven Incubation Hub and the Carnegie Mellon Incubator Program are similar in that they have basic equipment but not fully built-out maker spaces. Students have access to space, computers, etc. Students can also take advantage of existing technical labs associated with their engineering programs.

Covenant University's Hebron Start-up Lab also provides workspace and studios for software-based startups. It also leverages the resources of the core engineering departments of the institution to support hardware-based ventures. These departmental labs possess 3D printers, fabricators, and other equipment that students to build physical prototypes and products on the university campus.

Additional Resources

Design Thinking and Startup Incubators: Towards a Co-Creation Model for Humanizing the New Product Development Process

<https://rbr.business.rutgers.edu/article/design-thinking-and-startup-incubators-towards-co-creation-model-humanizing-new-product>

How to Build a Business Incubator

<https://howdo.com/training/tools/business-incubator/>

Part 3

Post-Incubation Strategies

| **Measuring Your Impact**

| **Defining Graduation Policies and Investor Recruitment**

➔ Measuring Your Impact

Impact Tracking (Monitoring, Evaluation, and Learning)

a. What is a Monitoring, Evaluation, and Learning Plan (MEL Plan)?

A Monitoring, Evaluation, and Learning (MEL) plan spells out a project's approach to conducting monitoring, evaluation, and learning and the roles and responsibilities of a project team during the MEL process (ICARDA, 2020). A MEL plan aims to outline how a program will track its progress toward outcomes as outlined in the program's theory of change. It provides a clear overview of the project's (1) objectives, (2) indicators, (3) data collection methods and timelines, (4) roles and responsibilities, and (5) plan for dissemination and donor reporting. This shows linkages between the project's activities, expected results, and how they would be represented and shared while contributing to the learning processes that occur during and at the end of every project.

The Importance of a MEL Plan

Efficiency – A MEL plan allows you to assess how a project is being implemented and whether the correct assumptions are being considered. This allows your team to identify any problems with implementation in advance and respond more efficiently, at times even before the project kicks off (ICARDA, 2020).

Effectiveness – A MEL plan probes into how outcomes are being reached and whether the targeted results are being achieved from the planning stage through to the completion of the project and after. This promotes a culture of systematic learning for future projects (ICARDA, 2020).

Donor alignment – A MEL plan considers whether the project implementation matches the donor's framework and identifies the best dissemination tools to share data with stakeholders, particularly donors. This aids in better reporting on projects with a strategic view (ICARDA, 2020).

How to Create a Monitoring Evaluation and Learning Plan

Step 1: Start with your Theory of Change (ToC)

This is done during the planning stage to understand elements of the project, such as the objectives, activities, indicators, and expected outcomes. Refer to the steps and outcomes of your ToC.

Step 2: Identify program goals/objectives

These three questions can help guide the identification process:

1. What problem/needs is the incubator focused on tackling?
2. What are the steps being taken toward the solution?
3. How will the team know if the program has successfully solved the problem?



By answering these questions, the team can identify what the program is supposed to do and whether or not it was successful. At this stage, it is also important to develop the program outputs to help the team track successful steps toward meeting the overarching program goal (Compass, 2022).

In the case of the iiLab MEL plan, the objectives set were as follows:

Objectives:

- (1) Launch a six-month pilot program with the Kagame Cohort businesses at A.D.U to serve as a test model for building replicable and adaptable frameworks for the iiLab
- (2) Provide incubation support through business, social, and design programs for students entrepreneurs and alumni at A.D.U
- (3) Introduce an updated curriculum that can better facilitate meaningful lessons on navigating different stages of the entrepreneurial journey,
- (4) Provide a well-equipped makerspace to allow students prototype their business ideas and connect with other creatives, designers, and entrepreneurs
- (5) Facilitate partnership pipelines and fundraising avenues to sustain the iiLab and provide further financial and resource support to student business

Step 3: Define indicators

After defining the program goals, objectives, and outputs, the next step is determining the indicators for tracking progress toward the goals. You should have process indicators and outcome indicators. Process indicators track the program’s progress and help your team know if activities are being implemented as planned. Outcome indicators track the success of the program activities in achieving project objectives.

For the iiLab, the indicators considered were as follows:

Indicators:

- (1) Successful pilot of the iiLab with the Kagame Cohort
- (2) Setup of innovation and entrepreneurship center space, implementation team, and strategy
- (3) Number of student businesses incubated
- (4) Number of business, social, and design programs delivered by iiLab
- (5) Successful introduction of an updated curriculum that suits program requirements
- (6) Number of people in the community actively using the makerspace
- (7) Number of partnerships secured to support iiLab programs

Step 4: Map out data collection methods and timeline

After creating indicators to track progress and how successfully activities contribute to program objectives, the next thing is to decide on the methods for data gathering and a timeline to know when this is done. This decision often involves the program staff, MEL specialist, donor(s), and relevant stakeholders. Programs usually have multiple data sources. Thus, the source of monitoring data depends mainly on what each indicator is trying to measure.

This table captures how data collection methods, timing, and roles can be illustrated as shown below:

Data Collection Method / Mechanism	Timing	Responsible Person
Assessment report for set project objectives	Every six months (mid-year; year end)	M&E officer, oversight provided by director
Focus groups; surveys for feedback on the curriculum and resources provided by the iiLab	Every six months (mid-year; year end)	M&E officer, oversight provided by director and program lead
Baseline survey (surveys)	Baseline survey completed on sign up to iiLab and then annually	M&E officer, oversight provided by director and program lead
Diagnostic survey (surveys)	Diagnostics survey completed on signup to iiLab and then annually	M&E officer, oversight provided by director and program lead
Edline survey (surveys)	Annually	M&E officer, oversight provided by director and program lead
Surveys to assess the engagement and community size of the makerspace	Every six months (mid-year; year end)	M&E officer, oversight provided by director and program lead
Report used to capture partnerships established and programs they are affiliated with	Annual	M&E officer, oversight provided by director and program lead

Step 5: Identifying MEL Roles and Responsibilities

Selecting MEL roles and the corresponding responsibilities is the next key stage of the process.

Usually, roles are already decided in the earlier planning program stages and feed into the decisions and assignments regarding MEL planning and reporting. This tends to be a mixture of MEL specialist(s), program staff, research staff, communications staff, and other essential project staff team members. This decision process should be inclusive to make the data reporting process smooth.

An easy way to put this into the M&E plan is to expand the indicators table with additional columns for who is responsible for each indicator, as shown below (Compass, 2022).

For the successful operations of the iiLab, and MEL reporting, the set roles are as follows:

Roles and responsibilities: The director will oversee all project-related activities, including M&E reporting and review, interacting with partners and donors, hosting focus groups, and delegating tasks as needed towards meeting project objectives. The program manager would oversee iiLab programs and the makerspace. The M&E officer/research assistant will lead all MEL assignments. The finance officer will manage the budget. The communications and design lead will support the design of content to be shared and the dissemination of that content.

Matching roles to data collection and dissemination tasks provides structure and makes it easier to keep the team accountable.

Step 6: Develop an analysis plan and reporting templates

After collecting all data, it must be compiled and analyzed to fill in a results table for internal review and external reporting. This responsibility is usually that of the MEL specialist or, at times, a research specialist.

MEL tools, such as Excel, SPSS, etc., can be used in the analysis, statistical tests, and graphing data (Compass, 2022).

Furthermore, a table representing the analysis plan and reporting template can include columns such as the indicator, baseline target, results per year, lifetime target, and percentage of target achieved thus far, as shown below.

Indicator	Baseline Target	Year 1	Long Term Target (Year 10)	Percentage of Target Achieved
Setup of innovation and entrepreneurship center	1 campus-based iiLab	1 campus-based iiLab	1 campus-based incubator	100%
No. of students, business incubated	200	12	TBD	6%

Step 7: Plan for dissemination and stakeholder reporting

In most cases, the last element of the M&E plan describes how and to whom data will be disseminated.

The following questions can be considered.

- | How will M&E data be used to inform staff and stakeholders about the success and progress of the program?
- | How will it help staff make modifications and course corrections, as necessary?
- | How will the data be used to move the field forward and make program practices more effective?

Dissemination should be internal (with the program team) and external (with donors and stakeholders). It can be done through reports, newsletters, printed material, digital materials, webinars, etc. With these steps in place and adhered to from the commencement of the project in a routine fashion, periodic reviews have a much better chance of being productive. As with most M&E data, this can be structured in a table.

For the iiLab, reports and webinars were the primary sources of disseminating information to the relevant stakeholders supporting the project.

Type of Output	Anticipated Timing	Anticipated Promotion Plan	Dissemination Indicators Tracked
Report on iiLab operations (programs and community growth)	1 campus-based iiLab	Newsletter	Successful submission of project progression report
Webinar update call with stakeholders (partners, donors, community)	Every six months	Newsletter, website, social media	Hosted webinar on project progress

Institution Highlights and Examples

Impact measurement is important; as established earlier, the impact of each institution’s incubator depends on the entrepreneurship goal or vision. Most incubators, however, focus on output in terms of commercial ventures that come out of the incubator.

The African Leadership University has two primary criteria for measuring the impact of incubated businesses: the number of businesses created and the number of jobs created. In this case, jobs refer to meaningful work opportunities that provide people with above-minimum wage pay and added social benefits.

The Data-Driven Incubation Hub at the University of Rwanda considers the number of commercialized products and services.

Covenant University’s Hebron Start-up Lab focuses on cultivating high-growth entrepreneurs who can create prosperity in Africa. Output is measured in terms of successful entrepreneurs and entrepreneurial talent developed in the program.

► Defining Graduation Policies and Investor Recruitment

Supporting Business Exits Through Fundraising and Dealmaking Facilitation

Having an Informed Exit Strategy for Incubated Businesses

Graduation Policies

Achieving this requires structure, teamwork, financial stability, resources, and policy.

According to infoDev (2020), The factors that define the duration of the stay within the incubator are usually determined by:

1. Follow-up of the company's performance assessment system or progress against agreed milestones.
2. Vision and understanding held by the incubator manager.
3. Perception held by the entrepreneur.
4. Timeframe variables that cover the company's incubation period.

The most commonly used graduation criteria are:

1. An experienced management team.
2. Financial stability (e.g., funding and/or turnover to operate for 6-12 months).
3. Significant product sales and backlog of orders.
4. No continuing need for incubator services.
5. Space requirements exceed the incubator's capacity.

Post Graduation Follow-up

Monitoring long-term incubator performance

Effective monitoring of graduate firms improves the accuracy of monitoring data on incubator performance. Typically, graduate companies are monitored for at least a year post-graduation. This enables the incubator to assess the longer-term impacts of its activities in terms of new job creation, multiplier, and other indirect effects, such as possible opportunities for future cooperation (mentoring, support of spin-off businesses, intrapreneurship training, etc.) (infoDev, 2020).

Post-graduation programs

Incubators can agree on a year-long program of ongoing aftercare services with incubation graduates. This can take the form of a gradual phasing out of support for companies who may, for example, have followed an accelerated graduation program (infoDev, 2020). In addition, initiatives such as an alumni club for all incubator graduates maintain long-lasting connections between the incubator and its graduates. These linkages can be fostered by offline activities such as mentoring programs and conferences or online forums like case study analysis sessions and expert forums.

To conclude, it is paramount that you consider the graduation policies and exit strategies present as an incubator. This can break or make the startups you host when they reach the growth/scale-up stage in the startup development journey and are prepared to leave the incubator or accelerator. Here, exit strategy support such as

investor introductions and brokerage support, help to find an office space, introductions to partners, and regulatory compliance services can significantly contribute to a smooth process of establishment and growth beyond the incubator.

Investor Recruitment

Pros and Cons of Different Investor Types (Factors to Consider in Supporting Startups)

A wide variety of investors can serve as sources of funding to incubatees/trainees and startups at different levels of funding and different stages with varying interests. Increasingly, as more tertiary education institutions have internal incubators to serve student businesses, this drives the necessity for incubators to better understand in what capacity they can engage with investors as well.

This section considers six types of investors that are more accessible to local incubators and the pros and cons of pursuing each investor or the other as a means of funding. These are friends and family funding, startup incubators and accelerators, angel investors, venture capital firms, equity crowdfunding, and corporate investors.

Friends & Family Funding

Funding from friends and family is one of the most popular sources of finance for incubatees, startup companies, and entrepreneurs. Funding raised through family and friends can vary from a few hundred to tens of thousands of dollars. Although this form of financing tends to be informal, putting agreed terms in writing provides more security. This is usually a source of pre-seed finance very early in setting up a new business, as it tends to be a small amount (Brex, 2020).

Pros of Family and Friends Funding

1. Funding from family and friends is arguably the most accessible source of external pre-seed finance very early in the setup of a new business.
2. It is often accompanied by loose terms and, in some cases, without expectations of any payback.
3. The support of family-and-friend investors can serve as a positive sign to angel investors, as it proves there are others with confidence in your innovation.

Cons of Family and Friends Funding

1. There is always the risk that securing investments from family and friends may stress personal relationships, as many good friendships have ended this way.
2. The amount of capital obtained from family and friends is usually small.

Startup Incubators and Accelerators

Startup incubators are known for supporting new ventures during the idea stage, providing access to the infrastructure and environment required for developing a Minimum Viable Product (MVP). With no offer of funding (and no expectation of equity in return), incubators collaborate with their participants for anywhere from a few months to several years, primarily in a service and space support capacity. However, raising capital can be a provided service option.

In contrast, startup accelerators are a faster track toward funding or further funding. They offer capital in exchange for equity in your company (usually up to a maximum of 10%) and, for several months, provide a crash course in

growth and fundraising designed to accelerate your existing growth. Post graduation from an accelerator, alumni are expected to have honed their performance metrics and pitch and be ready to raise a full seed round (Law, 2017).

Examples of incubators and accelerators to access in Africa are Google Launchpad Accelerator Africa, MMH Accelerator, Impact Hub Accra, Impact Hub Dakar, Mest Africa, and Growth Africa.

Pros of Startup Incubators and Accelerators

1. Accelerators and incubators provide advice and guidance from some of the brightest startup minds through mentorship programs.
2. Accelerators and some incubators offer a direct and reliable route to investment, with backend access to VCs, angels, and seasoned founders.
3. Credibility and social proof are provided under incubators and accelerators when raising funds.

Cons of Startup Incubators and Accelerators

1. They tend to be hugely over-subscribed, mainly as they produce more prominent names, lowering their acceptance rate.
2. There also tends to be varying quality amongst different incubators and accelerators.
3. Accelerators tend to be an expensive bet for a startup as equity is a costly commodity to trade for relatively low amounts of capital.

Angel Investors

Angel investors are wealthy individuals who offer capital to early-stage startups in exchange for an equity share. Due to the relative volatility of angel investing (it's hard to pick a winner early), many angels pair financial motives with a philanthropic bent (Law, 2017).

Like most investors, angels, as they are called, need an exit strategy to make their investment work. This exit strategy enables them to unlock their profits by selling your company or going public. This also allows another party to buy off their shares at a higher price.

Examples of angel investors to access in Africa are Jozi Angels, Ghana Angel Investor Network, Fanisi Capital, Michael Jordaan, Ravi Agarwal, and Lamide Adeosun.

Pros of Angel Investors

1. Angel investors tend to take risks other investors would not. They have a higher tolerance for risk than most other investors. Thus, it is excellent when a startup requires a notable amount of funding and is looking for an investor to take a chance on it.
2. Flexibility is another advantage of angels as investors. Their limitations differ from those of venture capitalists (VCs) and financial institutions. This enables them to flex investment terms for the benefit of both parties.
3. Experience is a third benefit of having an angel investor in your incubator. A good number of angels are former founders of companies. Thus, they bring their own experience and networks on board.
4. In addition, without a board to answer to, swift decisions are an advantage of angels as they can make quick decisions without voting. This is also good when an incubator needs more runway money.



Cons of Angel Investors

1. Angels tend to be expensive. Giving away early-stage equity can be extremely costly, particularly if you are trying to court a big-name angel with preferential investment terms.
2. Not all angels are created equal. Thus, without other investors to be accountable to, there exists a chance for an angel to take advantage of a founder. Also, the time, energy, and expertise individual angels will be willing to invest in your incubator varies.
3. Although angels can provide significant investment amounts, this still pales in comparison to the capital that VC funds or financial institutions can provide.
4. Last but not least, angels tend to need a significant return on their investments as early-stage angel investments are high risk, and future investments can heavily dilute an angel's equity.

Venture Capital Firms

Unlike an angel, venture capital (VC) firms invest using a fund: a pool of money provided by the company's investors (typically referred to as limited partners) and the fund's managers (or general partners) (Law, 2017). The VC's job is to invest that money into promising new startups, often over a decade, and generate a return for itself and its investors.

VCs offer their capital in exchange for equity and, like angels, require an eventual "exit" (usually an IPO, merger, or acquisition) to generate a return on their money (Law, 2017). The size of the VC's fund will determine the size of return required, impacting both the amount it will invest and the types of companies it will invest in.

Examples of VC firms to access in Africa are BECO Capital, Novastar Ventures, and Algebra Ventures. Rise Capital, CRE Venture Capital.

Pros of Venture Capital Firms

1. VC firms provide advice and experience. VCs have a (literally) vested interest in your success, which often translates into more guidance and advice than angels would be willing to offer.
2. VC firms provide access to a ton of capital. VCs have far deeper pockets than the average angel (or even super angel).
3. VC firms create a network effect. Working with a big-name VC offers credibility, social proof, and, most importantly, access to its network of experts.
4. VC firms provide a clear path to follow on investment. Most VCs are in for the long haul and will lead subsequent funding rounds.

Cons of Venture Capital Firms

1. VC firms need massive returns for their investment. Venture investments are risky, and vast amounts of capital are at stake, translating into the firm's limited partners' expectations of pretty weighty returns.
2. VC firms need control. With investors to appease and investments to justify, VCs don't just want more control over the direction of your company—they need it, usually in the form of board seats.
3. VC firms also tend to be more risk-averse than angels. VCs are after proven performance and watertight metrics; their due diligence process can take a long time.
4. Conflict of interest is an issuance that can occur from obtaining investment from a VC. This happens when what you want to do as a founder does not necessarily align with what your VC investors want.



Equity Crowdfunding

Equity crowdfunding allows individuals to invest small amounts of capital in exchange for a small equity share. While many equity crowdfunding platforms allow anyone to invest, others offer the opportunity to contribute to angel- or VC-led rounds, providing a hybrid funding model that combines expert experience with crowd-sourced funding (Law, 2017).

As with other types of equity-based funding, for investors to make any money, they require an eventual exit: selling their shares in the event of a merger, acquisition, or even IPO (Law, 2017).

Examples of equity crowdfunding are Indiegogo, CrowdCube, Crowdfunder, Seedrs, and Kickstarter.

Pros of Equity Crowdfunding

1. An incubator gets to set its terms. Equity crowdfunding allows you to raise what you want, how you want, without the added complications of investor control.
2. Equity crowdfunding is relatively fast. Most equity crowdfunding platforms give startups 30–60 days to raise investment.
3. Crowdfunding is evolving, which is a unique benefit. This type of fundraising is in its infancy. Still, as more companies facilitate crowdfunded investment, more options appear, affording founders never-before-seen flexibility to raise capital in a way that suits them.

Cons of Equity Crowdfunding

1. Capital is restricted through this method of investment. As it stands, regulations on crowdfunding are tight, with restrictions imposed on the number of investors you can have and the amount of capital you can raise.
2. There tend to be hidden fees. It is common practice for equity crowdfunding platforms to charge fees for facilitation and payment processing.
3. There can be a lack of guidance. For many fledgling startups, expert advice from experienced VCs or angels can be as valuable as the capital they provide. With most types of equity crowdfunding, you're on your own.

Corporate Investors

Corporate investors are driven by different motivations, from social and environmental commitments to tax planning or a desire to foster innovation in their supply chain (Brex, 2020). What they have in common is their size: these are typically giant corporations that may have a multinational presence and substantial resources to invest in your venture.

Pros of Corporate Investors

1. They can provide a direct route to the market and connections across the supply chain that far outweigh your contacts as an individual.

Cons of Corporate Investors

1. The more a corporation invests in you, the more an equity stake you may have to hand over in return.

Examples of corporate investors to access in Africa are The Chan Zuckerberg Initiative, Seedstars World, Investment AB Kinnevik, Innovation Prize for Africa, Tony Elumelu Entrepreneurship Program, and the African Women's Development Fund.

Supporting Businesses Choose the ‘Right’ Investor and Close Deals

Choosing an investor is more than simply trying to acquire startup funds. It also implies a certain level of commitment. You should take stock of the expertise a startup needs and the expectations before approaching a particular investor (Bernstein, 2018). Regarding potential investors, you should consider their recent dealings, the services they might provide, their expectations of company leaders, and how involved they want to be in company operations. This will build the foundation needed for a long and successful partnership.

It is also essential to intentionally support startups with the deal-making process and the legalities involved. For most entrepreneurs, it might be their first time closing a round or signing a deal to secure funds. Thus, having a support mechanism and legal advice is pivotal when reviewing terms, countering offers, and ensuring the best deal for all parties involved. As outlined in the discussion on graduation policies, support continues after an agreement is signed. In the early stages of receiving funds, supporting startups in developing and keeping to a roadmap of how it will be used (if not already done) can provide a lot of direction and keep the team on track.

Institution Highlights and Examples

Getting student entrepreneurs access to funding can play a key role in ensuring the growth and sustainability of their ventures.

At Carnegie Mellon University, students can benefit from different funding types, including:

Milestones-based funding

Entrepreneurs have milestones they need to complete, which are tied to funding amounts that will further enable them to develop different parts of their ventures. As they complete these milestones, they are presented with the relevant funding amount.

Stipends

Entrepreneurs also receive stipends for being in the incubator to encourage them to stick with the unpredictable journey of entrepreneurship. If the students do not have any source of income, it can be challenging for them to focus solely on their ventures. Therefore, they are provided with stipends to enable them to meet their needs and obligations.

Connection with potential investors

As students go through the incubator program, they get to pitch to a wider community and potential investors, which can be a source of much-needed funds for the growth of their businesses.

The Launch Lab at Stellenbosch University and the university itself invest in a chosen number of businesses every year to ensure that these businesses have the needed resources to grow and expand to their next levels of growth.

The Data-Driven Incubation Hub at the University of Rwanda connects students with investors but also seeks support in the form of grants for pre-seed funding the support the incubated startups.

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