

# **BUSINESS CASES: A TOOL FOR SCALING UP RESEARCH-BASED INNOVATIONS**

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*A Framework for Researchers*

Laura Husak

Canadian International Food Security Research Fund (CIFSRF)  
Agriculture and Food Security  
International Development Research Centre (IDRC)  
Ottawa, Canada

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## A Guide to Business Cases

Science-based agriculture research has developed many technologies, practices and models to improve food security; but dedicated efforts are needed to bring those innovations into use in farming systems. Despite the success of many agriculture technologies, most science-based results are not widely adopted and ‘scaled up’ (Dorai and Hall 2010; Spielman and Pandya-Lorch 2009). Scaling up, simply put, is “*to bring more benefits to more people more quickly*” (Myers 2000:iii, emphasis in original). For the Canadian International Food Security Research Fund (CIFSRF), scaling up means ensuring that smallholder farming families and other users adopt the results of research, resulting in improved food security and the resilience of small-scale farming systems. The business case is one tool available to researchers for developing scaling up strategies, communicating with other stakeholders, and validating approaches and models.

Translating the results of research into actionable solutions that can be taken up by end users as product, services, intervention, or policy involves a variety of approaches, including new business models and partnerships across sectors. While these system changes are context-specific, there are common elements, factors and pathways that can assist in navigating these processes. This framework serves to contribute to a shared understanding around concepts that can assist CIFSRF grantees as they develop scaling up models and strategies for bringing research results into widespread use.

This framework is intended to support CIFSRF researchers to develop **business cases** for their food security innovations. This is not a how-to guide. Rather it is intended to provide some concepts, tools and ideas for how business cases can contribute to the scaling up strategy for a food security innovation. This document can serve as a starting point for further investigation into the design and implementation of strategies and tools that will assist in the process of scaling up food security solutions.

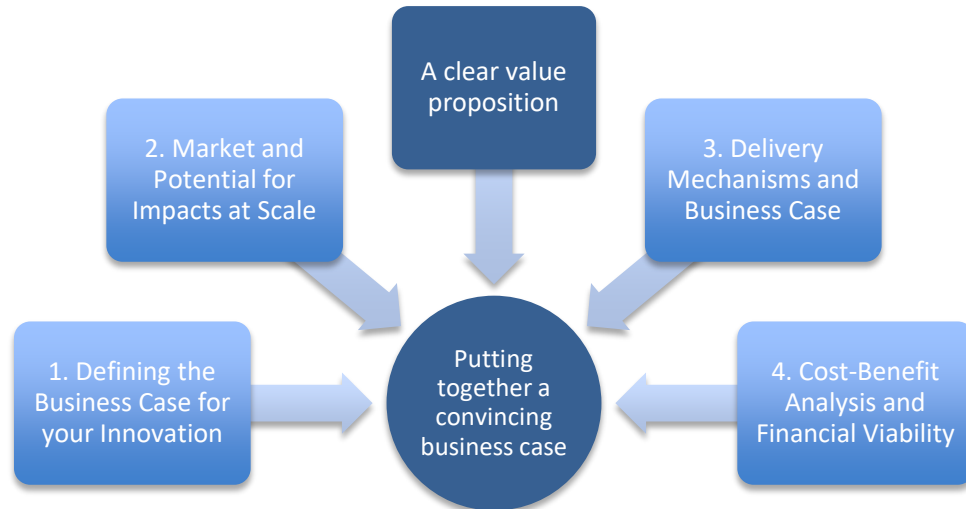
This document includes:

- An overview of business cases
- Modules on each of the key components included in a business case
- A final module on building your case
- Examples of how the business case framework is being used in CIFSRF
- Guiding questions to consider for each part of the process of preparing a business case.

The business case framework is organized into the following modules:

1. The innovation
2. The market and potential impacts at scale
3. Delivery mechanisms
4. Cost-benefit analysis and financial viability

The framework concludes with a section putting these components together to build a convincing case.



A business case can be used to make decisions, analyze future scenarios, and clearly communicate a course of action. Building a business case is not a linear process, therefore each of the modules will contribute to putting together a convincing business case however they do not necessarily have to be completed in this order. Preparing a business case is a process that often requires multiple iterations.

Accompanying this Framework is the ***Resource Guide For Scaling Up Research-Based Innovations: Tools and Articles for Designing and Testing Business Cases and Business Models.*** The Resource Guide includes additional tools, resources, workbooks, and articles on the components of a business case, as well as the relevant topics of social entrepreneurship and impact investing. The tools and articles can be found in the **Training Module Dropbox**, where available.

While this training module focuses specifically on business cases, it should be noted that the components of the business case are closely related to the components of a *business model*. Preparing and presenting a business case may play a crucial role in designing and putting the infrastructure in place for a business model that will sustain the delivery of the innovation.

Researchers already have a lot of skills to solve business problems – particularly the analytical approaches to developing and testing hypotheses. Many challenges associated with bringing a science-based innovation into use are linked to the viability of the business model to deliver the product, service or model in an effective and efficient way; and to the human values underlying the use of the innovation. Building a business case benefits from multiple disciplinary perspectives, but requires a shared understanding of the iterative process involved.

Whether using the terminology of scaling up or other terms, this guide was developed with the intention of assisting in creating a road map (not a how-to) for how you're going to get your innovation into use. Scaling innovations is difficult and important enough to warrant investing the time and efforts to building a strong business case.

## Business Cases: An Overview

A **business case** is a structured document that outlines an argument or justification for a particular course of action. Business cases are widely used in business environments and private sector research and development (R&D). This guide provides an introduction to how it can be applied in the Agriculture Research for Development (AR4D) domain to scale up solutions for smallholder farm families and other actors in smallholder farming systems.

A business case is often prepared as formal documents that gather and summarize relevant information and define possible solutions to realize the potential of an investment (Frisch 2008). A business case is used to assess potential options, analyze the potential risks and returns associated with each, and **make a compelling recommendation for a course of action**. Ultimately the success of a business case is that it seeks a particular action to address a business problem – it is a decision-making tool.

While financial value is central to business-oriented approaches, social and environmental value can also be factored into decision-making processes around a business case. An organization does not have to be profit seeking in order to use a business case. Business cases are commonly used in governments and other types of non-profit organizations to assist in decision-making processes and planning by analyzing potential risks and rewards. The business case is not only a number-crunching activity; it is used to create a compelling vision in the face of uncertainty and complexity.

The business case was integrated into the CIFSRF 2015 Call for Proposals. While there is variation in what is pertinent to include in a business case, there are four components that are relevant to food security innovations (IDRC and DFATD 2015).

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### Components of a Business Case for Food Security Innovations

1. <b>The innovation</b>	The ' <b>core</b> ' of the research results, with evidence that the innovation solves a problem more effectively or affordably than alternatives. The innovation is typically a technology, service, model, or practice that has evidence behind it that it is ready to scale up.
2. <b>The Market</b>	Refers to <b>who</b> will use the innovation and the characteristics and size of this group of people. The target market indicates the <b>potential impacts at scale</b> : it describes the expected changes and benefits that the end user, organization and institutional levels.
3. <b>Delivery mechanism</b>	The <b>model</b> for how the innovation actually gets into the hands of the end users. This is the emerging business model for how the innovation will be delivered to the end user.
4. <b>Cost-benefit analysis</b>	A <b>quantified assessment</b> of the difference the innovation makes for the end user. This component is the analysis of the risks and rewards associated with a particular approach or course of action, and the relative costs and benefits that are associated with adoption.

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## When do you build a business case?

The business case will help you cut through the complexity to draw out qualitative, quantitative and financial indicators that can be used in developing a scaling up strategy. Getting familiar with the components of a business case is useful even before the innovation is 'ready to scale'. It is recommended to begin early, even when the innovation is still in the prototype stage. Starting the process of building a business case early on is a practical way to lay out all of the questions and uncertainties about the potential model to deliver the solution to end users. Whatever the stage of the research process, the assumptions will be slightly different, and can be tested and addressed through the ongoing research process.

Starting to prepare a business case early in the research process is also useful since the business case is a key component needed in a **scaling up strategy** (see Box 1). Building a business case involves planning for data collection over time: from more general insights and observations to quantitative and financial indicators. As new insights emerge from user interactions and from deeper understanding of the problems, framing the scale and impact of the intervention over time is important for determining the approach that will be taken.

Building a case is a process that takes effort, creativity and patience. The process involves systematically assessing those components in order to come up with a convincing proposal for the scaling up strategy that defines a vision and creates a clear implementation pathway to scale the solution.

## Why build a business case?

Agriculture research plays a key role in addressing the challenges of food and nutritional insecurity around the world, but very few research results reach their potential *impacts at scale*. Agricultural innovations often require the support of public and private sector to enhance the uptake and adoption by large numbers of users. A business case can assist in framing a clear action plan for your innovation, in order to communicate it to potential partners, funders, gatekeepers, decision-makers and influencers. It should offer them a clear message of why they should be onboard with the strategy that you are proposing.

### **Box 1: Key Term**

#### ***Scaling up Strategy***

A scaling up strategy is a plan for how to get your research innovation into use by the target users. A scaling up strategy includes the **business model** for getting the innovation into use and the **road map** for how to achieve a **targeted impact**.

A business case is a key component of a scaling up strategy, along with a backgrounder, an impact assessment, gap analysis and an implementation plan.

A business case may be used to:

- Convey a business idea to investors or decision-makers
- Make key factors of a business opportunity explicit
- To outline several options for solving a research problem, and make a recommendation for a particular course of action, including how resources should be allocated

Business-oriented tools are a potential way to increase impact of research results. Business-oriented tools support the design and delivery of products, services, and models to meet the needs of end users. While a business case is often used in the context of an existing organization (public or private), it can also be useful in Agriculture Research for Development to systematically assess future steps toward how the innovation can be brought to end users.

The business case should be prepared for a specific audience and to solve a specific question or problem. It is important to define the objective of building a business case as it relates to your specific research situation, as this will help to tackle complexity.

### Who is your audience?

Since the business case is purposive document, it is important to have a clear idea of who your audience is so that you ensure that the business case is tailored with the information that they are most interested in. In the context of a private firm or government there may be stage gate opportunities to present new business case, however in Agriculture Research for Development it is likely that the business case will be presented to an external audience (outside of the project or partner organizations). It is important to consider: What questions may they have about this potential investment opportunity?

Understanding the needs and expectations of the audience will help tailor the message of the business is clearly communicated to them. While the research behind the innovation is complex, the business case should present the core information in a way that is easy to understand, specific and realistic enough to be put into action. The business case should contain all of the information that the audience will be expecting. It may be necessary to have some exploratory conversations to determine what components will be considered important from the perspective of the audience you are targeting.

<b>Tip: Writing an effective business case</b>	
<b>Simple</b>	Easy to understand and put into action?
<b>Specific</b>	Are objectives concrete and measurable? Does it include specific actions, with completion dates, and people responsible? Does it have specific budgets?
<b>Realistic</b>	Are goals, expense budgets, and milestone dates realistic?
<b>Complete</b>	Does it include all necessary components for this context?

## Who should be involved in preparing a business case?

Getting the **buy-in** for business case from across the research team is valuable in bringing together the diverse perspectives. Stakeholders from within and outside of the project team may have valuable insights into the business case. Having one person responsible will support accountability for ensuring the completion of the business case. A small team of 4 to 6 people may be an effective way to incorporate diverse perspectives while staying focused on the getting the tasks done.

Depending on the stage of the research innovation, the business case will likely require several iterations as new information or advances are made in understanding how the innovation becomes a solution for end users. While the business case is often an evolving document, it is important to have a clear sense of what timeline and what outcome is expected.

Practicalities
<b>Team:</b>
Who is the contact person for the business case?
<b>Timing:</b>
What is the deadline?
<b>Means:</b>
What resources are available to complete the tasks involved? (I.e. time, expertise and budget)

You don't have to have a background in business to be able to build a business case. Indeed, researchers have many skills in research design, testing hypotheses, trial and error, and other analytical skills that can be applied to business cases and business model design. However, it may be useful to connect with a **business school** or **business development organization** in order to gain new insights or guidance from someone with previous experience building business cases for a similar type of innovation.

## Business Cases, Business Plans or Business Models?

While the business case is one tool used to evaluate a potential pathway or investment, but it is not the only way to strategically plan an investment or a major decision. It should be noted that the business case also includes many elements that are necessary in a business model or business plan.

It is important to distinguish between the business case, business model and business plan, since each of these tools is related but distinct. A business model is defined as the rationale for how an organization creates, delivers and captures value (Osterwalder and Pigneur 2010). A business plan is any plan that enables a business to look ahead, to allocate resources, and to prepare for problems or opportunities, normally required as part of due diligence when a business seeks funding.

Applied research is often focused on impact, and the business model may not be initially apparent for a project with a fixed scope and span – typically because carrying out research and implementing programming take precedence. Many non profit organizations have 'hidden' business models, but a deeper understanding of the business model is crucial to funding the organization (Foster, Kim, and Christianson 2009). Understanding the business model helps frame the patterns and processes that are necessary to deliver impact in a sustained manner.

The following table outlines the differences in terms of what topic is best for each, what context it is effective for, and the key contents:

Table : Comparison of business-oriented tools

	<b>Business Case</b>	<b>Business Model</b>	<b>Business Plan</b>
<b>Works best:</b>	During the innovation process, when there is a business challenge that needs to be assessed in order to move forward	When the 'core' product/service is defined	In the context of a firm that is already established (usually start-up or growth stage)  When seeking financing or funding
<b>Works for:</b>	Partnership, project, organization or firm (for-profit or non-profit)	Organization or firm (for-profit or non-profit)	Firm (start-up or established)
<b>Key Components:</b>	<ul style="list-style-type: none"> <li>• The Innovation</li> <li>• The market and potential impact</li> <li>• A clear value proposition</li> <li>• Delivery mechanism</li> <li>• Analysis of risks and rewards</li> </ul>	Nine components: <ul style="list-style-type: none"> <li>• Key Partners</li> <li>• Key Activities</li> <li>• Key Resources</li> <li>• Cost Structure</li> <li>• Value Proposition</li> <li>• Customer Relationships</li> <li>• Customer Segments</li> <li>• Channels of delivery</li> <li>• Revenue Streams</li> </ul>	<ul style="list-style-type: none"> <li>- Executive summary</li> <li>- Why this is a winning team</li> <li>- Business model:               <ul style="list-style-type: none"> <li>• Vision, mission, values</li> <li>• Value proposition</li> <li>• Target market, marketing plan</li> </ul> </li> <li>- Financial Analysis:               <ul style="list-style-type: none"> <li>• Breakeven analysis</li> <li>• Sales scenarios, projections</li> <li>• Operating costs</li> </ul> </li> <li>- External Environment</li> <li>- Implementation Roadmap</li> <li>- Risk Analysis</li> <li>- Conclusion and Annexes</li> </ul>

The **business case** is selected for use in the broad context of scaling up food security innovations because many of the food security innovations come out of research partnerships, and are not within the context of a firm. A business case may be used in the process of defining or refining a potential business model.

The **business model** requires more in-depth analysis of the actual delivery channels and revenue streams, including: manufacturing or procurement, distribution networks, and building customer relationships. If researchers are creating a spin-off company to deliver the innovation to end users themselves, then it may be necessary to develop a detailed plan in order to receive funding.

A **business plan** is often prepared when applying for public or private funding, as it requires more in-depth detail. Whatever the context, the researcher should determine the specific needs of their audience to whom they will present the business document, as this will determine the appropriate



format and information that should be included. Business plans are less relevant in the context of CIFSRF, however may potentially be a tool used to seek other sources of funding or financing.

While business cases and business models include similar components (a description of the innovation, the potential impacts, and how those impacts will be achieved), the main distinction is the way that this information is formatted and used. The following figure highlights the distinction between a business case and a business model:

Business Case	Business Model
<ul style="list-style-type: none"> <li>• Poses as a question/challenge and provides a recommended solution</li> <li>• Uses various types of data to justify the argument for that particular solution</li> <li>• Targeted toward a specific audience</li> <li>• Seeks to motivate a particular action or response</li> </ul>	<ul style="list-style-type: none"> <li>• Describes how a firm or organization creates and captures value</li> <li>• Demonstrates key linkages between the actors, resources and infrastructure necessary to create and capture value</li> <li>• Defines the conditions required for the firm or organization to sustain its operations and to grow</li> </ul>

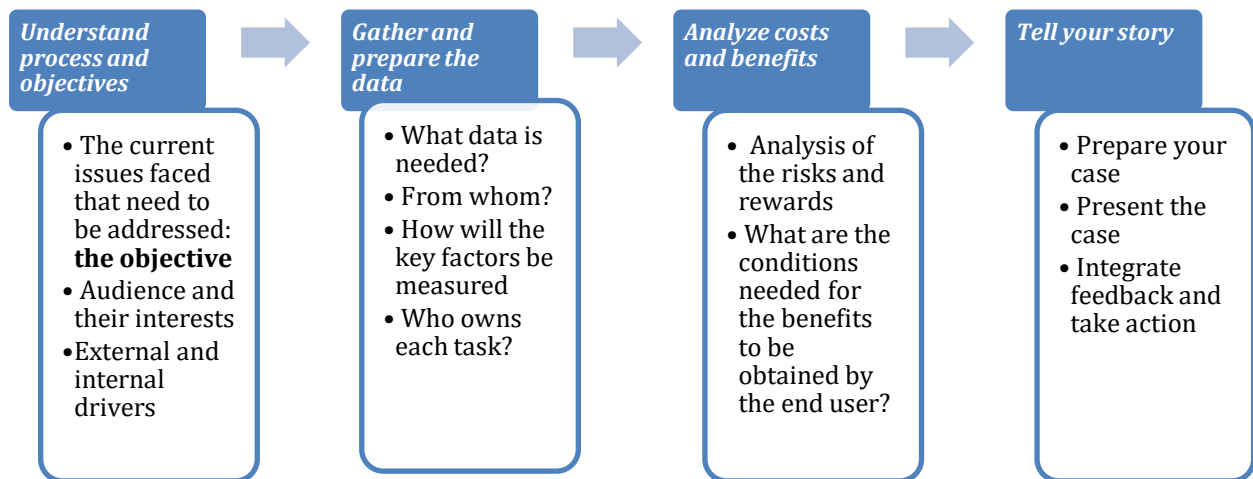
Both business cases and business models address the technical, social and financial impact of the innovation. And both are tools for change, for communicating a compelling vision, and clearly defining how the innovation will deliver value to end users. One will often inform the other. A business case can be used to systematically think about which business model makes sense for a particular product or service that will solve a problem that a target market segment is facing.

This report focuses on building business cases, but the research conducted to prepare a business case can also contribute to the design or validation of a business model. Therefore, an understanding of the business case may be helpful for researchers who may eventually explore possible business models for the delivery of products/models/services. The framework and guiding questions can be applied, as appropriate, to business model and business plan development. For more on designing Business Models, see the **Resource Guide**.

### Steps for Building a Business Case

While there are different approaches to preparing a business case depending on the context and objective, there are several steps that are necessary in all cases. Building business cases within the context of Research for Development partnerships, is similar but distinct from building business cases in the context of a private sector firm or government, since business case are often part of the organizational structures of evaluating new product innovations or new investments.

The key steps for building a business case are as follows:



### Step 1: Understand process and objectives

Before beginning the process of developing a convincing case for your innovation it is important to determine the objective of the business case. While the overarching goal is to help people decide whether further resources should be invested into the solution (Sheen 2015), but it is important to define specifically:

*What do you need to get out of the business case?*

A business case is an objective-oriented document that is useful when there is a specified audience that needs to be convinced or brought on-board. But before starting, it is important to have a clear objective. For example, you may need a business case to:

- **Inform which type of business model to use:** Audience is the potential partners in delivery of the innovation. Focus will be on the numbers side, including market reach, demand, and financial sustainability of the proposed business model.
- **Link up with partners in order to leverage our ability to reach end users:** It is likely you have an idea of what types of organizations you want to start a conversation with, but it is important to come to them with a clear message, and to understand what matters to them. A business case can provide them with the information they need to know in order to determine whether the partnership is a good fit, and if so, how it should be structured.
- **Attract investment to scale the manufacturing and delivery of our product/service to large numbers of customers:** Potential audiences of the business case are: an impact investor, bank, or other investor. They will be interested in the market potential and the financial viability of the solution.
- **Influence policy to create an environment that facilitates the use of our model/approach:** Audience is policymaker, and relevant government stakeholders and regulatory bodies.

Defining a clear objective of what the business case will seek to answer is critical to ensuring that the necessary data is collected and that the process doesn't become bogged down in complexity.

Remember, this is not a business case for the project; you are preparing a business case for the **solution** that will be scaled up. In the context of CIFSRE, the business case should contribute toward a specific vision and action plan for the scaling up process.

## Step 2: Gather and prepare the data

The sources of data for a business case are varied, and will likely involve a mix of existing data (such as market studies or research done by other organizations) and new data (such as financial projections or manufacturing specifications). It may be useful to keep a list of the data and information that is needed, and determine the level of detail that will be required by your audience. The modules will go into greater detail on the types of information that may be important to include in each section of the business case. Depending on the stage of the research and development process, some data may be assumptions or tacit knowledge that needs to be tested, and that is fine as long as assumptions are clearly stated.

Since the information needed to build a business case will often come from a diverse variety of sources, it is important that there is an **owner** assigned to each of the key data inputs. The owner is someone who works with the team to ensure the inputs and data are collected.

## Step 3: Analyze costs and benefits

Many benefits may be accrued and it is useful to structure those benefits in terms of the degree of explicitness. The benefits of the solution may be observable, measurable, quantifiable and financial. Some benefits, such as ease of use of a new interface or customer interaction processes, may not have directly quantifiable attributes but are important to capture as benefits. By classifying benefits according to main type of change needed to realize it an organization can assess the different potential types of changes: For example, the evidence from the business case may suggest that they do new things, do things better, or stop doing things.

The costs or risks of the solution require careful analysis, as risks can change as an initiative is implemented. A business case requires making assumptions with the understanding that these assumptions may turn out completely wrong. The ability to work with assumptions and respond with updates to the business case is important for the analysis process.

## Step 4: Tell your story

Building a business case is not just an exercise; it is an opportunity to tell your story. The most effective business case is one that gets other on-board with a clear vision that the audience is not only convinced about, but can believe in. Telling a compelling narrative about the impact of the

innovation and backing it up with concrete numbers can be a powerful way to convey your message.

It is normal for the business case to go through several iterations as assumptions are tested and new information about costs and channels become clearer. The initial effort will likely involve identifying the assumptions or tacit knowledge about the innovation and how it will actually get into the hands of users. While the audience of a business case is probably not your target users, the insights generated about your end users can inform how you interact and communicate with them as well.

The four steps outlined above for developing a strong case for a change of processes and practices require an iterative approach. The business case can be used to highlight the different organizational interests and the specific conditions needed to capture different types of benefits (observable, measurable, quantifiable, and financial). The main purpose of a business case is to use it to influence or convince a target audience to take a certain action. It does little good to write it and put it on a shelf. The modules will outline the key components of each element and the final module will offer tips and recommendations for putting all of the parts together into a convincing business case.

**Follow-up Checklist: Overview**

**Our business case objective is to:**

**We know specifically which innovation we are building a business case for (which innovation?):**

**The audience of the business case includes:**

**An individual who will be responsible for the business case is identified as well as the team that will be involved. These people are:**

**The timeframe for the business case development is:**

Let's begin!

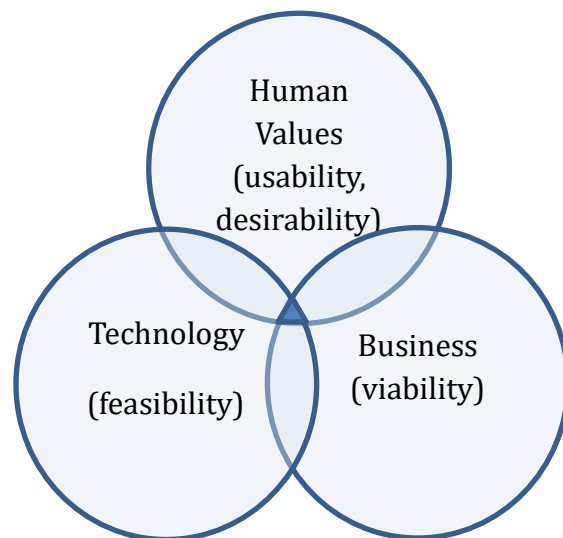
## Module 1: The Innovation

**The Innovation is the ‘core’ of the research results, with evidence that the innovation solves a problem more effectively or affordably than alternatives.**

A strong business case will clearly communicate each of these components with both quantitative and qualitative evidence. Research results are not automatically ‘solutions’ – they will likely need to be adapted and reconfigured in order to meet the opportunities and constraints facing the individuals and groups that will use them. Particularly in the context of smallholder farming, there are often factors of availability of the solution, financial accessibility and adaptability that are important factors related to adoption. Even as the research is being conducted, thinking about the types of information that will be useful to build the business case can assist in the

In order to answer the questions of “what is the plan to get your product to market?” it is first necessary to define exactly what value the product, service, model or practice will deliver to the user. Whether the objective is to sell a product commercially or promote adoption of a practice targeted through the public sector or NGOs, the business case should focus on the solution that is being deployed.

Innovation-oriented businesses have long been proponents of proto-typing in order to speed up the design of solutions and gain valuable input and buy-in from diverse stakeholders. Because of rapid change and uncertainty, greater heterogeneity of populations and the increased role of the plural sector, there is a balance between creativity and practicality that must be achieved. While there is great potential for new technologies, the challenge is to “match human needs with available technical resources within the practical constraints of business” (Brown 2009:4). A solution is a sweet spot between what is technically feasible, socially desirable and financially viable.



Evidence that the innovation ‘works’ is not enough, the *context* in which it works matters. The business case for the innovation involves demonstrating more specifically where and when in the user practices it offers a benefit and to who. Understanding these conditions will assist in targeting the product or service to a specific point in a value chain or a production process (Brown 2009). It is also useful to examine where the innovation does not work: perhaps your participants expressed their willingness to pay for an agricultural technology, but when it comes down to purchasing, they aren’t purchasing as many units as expected.

The business case approach requires thinking about how the translate into a practical solution, rather than a perfect solution. Thinking about the practicalities of the innovation requires understanding the user perspective.

The customer perspective matters, whether the customer is another business or a smallholder farmer. Consider the Four As of Awareness, Advantage, Affordability and Access:

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**Consumer perspective on the product or service**

<b>Awareness:</b>	Do I know about the product? What have I heard about the product?
<b>Access:</b>	Can I get it easily when I need it?
<b>Affordability:</b>	Do I have enough money to at the right time to buy it?
<b>Availability:</b>	How much benefit will I gain from this product or service relative to what I'm currently doing?

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(Acumen and Bain and Company 2014; Prahalad 2012)

The Four As figure above reveals a customer’s questions about a new product, but similar questions can be asked regarding customer perspectives of a service, or beneficiary perspectives toward an initiative, market intervention or policy intervention.

In the context where systems are already in place, it is relatively straightforward to identify which actors to go to in order to determine the each type of benefit. However in the context of a research-based innovation that is outside of the context of a firm, it is less apparent how the systems should be implemented, and which actors are best placed to deliver on the necessary resources, activities, and channels in order to offer the product, service or model.

The theory of innovation diffusion (Rogers 1962) identified four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. Is this theory still relevant for the business case today?

The innovation is defined by the characteristics of: relative advantage, compatibility, complexity, trialability, and observability to other people within the social system (defined in Table 1).

<b>Quality</b>	<b>Description</b>
<b>Relative advantage</b>	The degree of improvement from alternative or incumbent options (the perception of advantage is just as important as the actual advantage)
<b>Observability</b>	The degree to which results (from adopting the innovation) are visible, verifiable and attributable to the innovation
<b>Trialability</b>	The degree to which the innovation can be tested on a limited, scaled down basis.

<b>Complexity</b>	The degree to which an innovation is perceived as difficult to apply or complicated to use
<b>Compatibility</b>	The degree of consistency with the existing technological regime, with values, past experiences, and needs

Roger's Theory of Diffusion suggests that adoption involves early adopters' first trial the innovation and then sustain their use of that innovation. Sustained use means that user adopts the product or practice into their daily life and purchasing routines. The theory suggests that this demonstration to others of the benefits of the innovation compared to previous ways of doing that activity, then motivates others to also adopt the innovation. Thus this group of customers become the early majority.

An innovation doesn't necessarily have to have all of the five qualities listed, and some qualities may be more relevant than others. It may be useful to highlight the key qualities of the innovation and describe the context in which the users experience these qualities. Whether or not you are looking for an external investment, it is important to be able to communicate a clear description of the innovation. Even if the innovation is still in research prototype stages, having a clear understanding of what characteristics will be important to the end users can assist in focusing the research process and generating new insights.

**Three elements investors look for:**

1. What's the innovation you're focused on?
2. What's the problem you're solving and what's the product vision?
3. How are you using technology or science to solve that problem?

Source: *MaRS 2015, Talking to Investors, Investment Readiness*



**Follow-up Checklist: Innovation**

In one sentence, the business case for the innovation is that:

We are building a business case for this innovation because it has the potential to:

We know what makes the innovation 'tick', i.e. the conditions necessary for it to deliver value to the end users:

The advantage of this solution compared to the current or competing ways of doing things is that:

The specific actions that are essential to transform this innovation into a 'solution' are:

## Module 2: Market and Potential Impacts at Scale

*The Market refers to ‘who’ will use the innovation and the characteristics and size of this group of people. This relates to the potential impacts at scale that the innovation can have when adopted.*

The market for the innovation is the group(s) of end-users interested in a product or service that have the resources necessary to acquire it. In the context of an intervention or policy, this group of people is often referred to as the target beneficiaries, while the business sector sees their consumers as customers or clients (Battilana et al. 2012). Whichever the term being used, the business case for a food security innovation must define who specifically will benefit from the innovation.

It is well accepted that agricultural technology adoption is not just a one-off decision, it is part of a process that involves dimensions of use over time, use on what area of the field and what parts of the technology can be used (Befani, Barnett, and Stern 2014). There may be millions of people who could potentially benefit from the innovation, but defining the target market and the potential for impacts at scale is the first step in understanding specifically **who** those users are in order to determine effective ways to reach them. Smallholder farmers are not a homogenous group; new products and services need to be based on a **market segmentation** approach.

Market segmentation is “the process of dividing your total market or existing client base into groups that have common needs, behaviours or demographic characteristics” (Grameen Foundation 2015). It is done using statistical analysis and then extrapolating from the data to develop **customer personas** of different types of customers.

Market segmentation will determine the **specific characteristics** that influence access or use of the innovation and enable you to identify three to five distinct target market segments. Market segmentation allows you to target the products/solutions specifically to the distinct needs and capabilities of each customer segment.

Income is one way to define customers segments, but it isn’t the only way to define a target market segment. Target market segments can also be defined in terms of their value creation **role** in the market; i.e. as consumers, co-producers or clients.

### **Box 2: Key Term**

#### ***Potential impacts at scale***

Is a description of the problem or opportunity that the innovation targets:

Number of people benefiting x Impact

Potential impacts are measured as the sustained use of the innovation over time. The impact is assessed according to the type of benefit (observable, measurable, financial, etc.)

If you don't already have an existing client base, it is possible to consider hypothetically who your target customer personas are. It is also useful to consider what makes the early adopters different from the 'potential majority' of the users?

Accessing a product or services doesn't necessarily mean that a user is benefitting from the product or services, therefore potential impacts at scale requires defining **how to measure benefits** to clients/users.

**Potential impacts at sale** are defined by IDRC and DFATD (2015) as "a description of the problem/opportunity that the innovation is targeting; number of potential end-users at the end of the project and longer term (post-project); expected changes/benefits at the user level, and/or at the organizational and institutional levels, when appropriate" (6).

In Research for Development, specific practices are not in place for measuring impacts at scale. It is a concept that requires context-specific approaches to determine the appropriate and feasible ways to measure and evaluate

**Target Market:** Where is it offered? Who is it offered to? The enterprise should have an initial target geography and customer market that you can effectively research to obtain "ground-level" insights. Make sure your target market is specific enough in scope (i.e. 'Developing countries' will be too broad).

Estimating the size of the market, follow this formula to calculate the **Available Target Market: this is the market that the enterprise/organization has the capacity to reach**. It is important to distinguish between the available target market (also called the accessible market) and the market size.



Defining whether the market opportunity is in a new market or an existing market is important in terms of understanding the potential market size. This is because there are different levels of risk and opportunities associated with each. In an existing market, customers are already used to spending money buying a similar product or service. The method of delivery may differ, but customers are already familiar with the process of accessing the product or service.

In contrast, a new market is one "where there isn't an existing demand for the product or service, but their could be" (Chen 2015). New markets are associated with a higher level of risk, and it is especially critical to have the resources, management, and an excellent product or service that

users will be willing to take a risk on. If the market doesn't grow at the pace and size that is expected, it is easy for enterprises to flounder and fail. Market entry poses a series of challenges that are distinct from existing markets, including information deficiency: "gaps in knowledge about the local environment, the local competition, and the preferences and particularities of the targeted customers"(Simanis 2011).

### ***Generating Traction with Users:***

Communication is the process by which information about the innovation is shared, and ideas and attitudes toward the innovation are shaped. **Mass communication reaches more people, but informal communication is more powerful.**

Anthropologies have shown that consumers embed mental schemes and benchmarks into their evaluation of a new product or service. What we buy, or practices we adopt, are often shaped by complex subjectivities and calculations that we don't even take into account (Madsbjerg and Rasmussen 2014a). Users may express their willingness to pay, but do they actually take the product/service? What can we learn from the responses and feedback of early customers and users? What can we say about the processes by which the new product/service becomes embedded into their practices and lives (Simanis 2011)?

### ***New markets or Existing Markets:***

When there is no pre-existing market, there is increased ambiguity around the implementation pathway. There is no competition to compare against. Customers need to learn about the product/service and how to use it. There are limited frames of reference that can be relied upon (Simanis 2011). When a product/service is new and out of the range of experiences of the user, and will require a depth of understanding of local needs in order to translate the research result into a solution that answers a need. The value proposition may be unclear.

With a clear understanding of the customer segments, the potential impacts at scale, and insights into how to communicate with customers, it is possible to craft a value proposition.

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### ***What is the Base of the Pyramid?***

Increasing the productivity of the 2 billion smallholder farmers has arguably been the top priority for international development initiatives related to agriculture. **The 'base of the pyramid' or 'bottom of the pyramid' (BOP) represents productive and consumer markets that are largely untapped in emerging markets – that potentially bring both commercial benefits and sustainable livelihoods for the poor (World Economic Forum 2009).**

Base of pyramid customers have particular characteristics. It is important not to generalize this group of billions of people. However there are some considerations, including: low and fluctuating incomes, constraints to living conditions, a tendency to purchase products that they know and trust (World Economic Forum 2009). Since incomes of individuals are fluctuating, it is important to consider how group buying or pooling of revenue streams can make the product/service more accessible.

## Value Proposition

The value proposition is a statement that sums up the **product/market fit**: that is, how the product solves a problem that the user faces compared to alternatives.

A well-crafted value proposition may highlight:

- the benefits of your product
- the favourable points of difference compared to competing products or other alternatives

Value is both quantitative (i.e. speed of delivery) and qualitative (i.e. design and customer experience). There are many **types of value**, including: emotive, self-expressive, quantified, or financial.

The value proposition may change as information about the target market becomes apparent. The value proposition answers the question: *how much is this worth to the end consumer?* Even if the product, service or intervention is provided for free to the end user, there is still a value proposition that is delivered to the end user.

Advantage is when your customers are convinced that your product/service provides better outcomes than present practices (Acumen and Bain and Company 2014). Advantage is crucial for adoption of the innovation, and it is necessary to evaluate the unique properties and characteristics of the innovation that will encourage adoption.

The value proposition is also linked to the market opportunity: is the problem large enough and is the market opportunity large enough? Is this a growth opportunity? The strategy developed in the next module (Delivery Mechanism) should operationalize the product/service vision.

A value proposition should identify alternative solutions, including DIY solutions (do-it-yourself) and competing products, services, sectors. Distinguish multiple unique characteristics may enable you to gain insight into how to **differentiate** your product and multiple sources of competitive advantage

Value is defined as benefits relative to cost, rather than just benefits alone (Anderson, Narus and van Rossum 2006). This means that the value proposition should not be focused only on the innovation itself, but the innovation within a particular context in which there are competing

### **Box 3: Key Term**

**Sustainable competitive advantage:** strategies for how a venture or organization can maintain an edge if new competitors enter the market.

- network effects
- differentiated technology
- intellectual property
- cost advantages
- trade secrets
- brand

alternatives. The competition may not be another firm offering a similar product or service; it may be an alternative practice or way of doing things.

### **Once you have a clearly defined target market, start thinking about: Marketing Plans**

**Marketing Plan:** raising awareness about the product or service, and helping customers evaluate the value of the innovation for themselves. Marketing plans should include what makes sense for your technology and how it will be used by the customer/user.

Keeping in mind that the investor business is likely to take a lead role in defining how they will market the product, some key points to include if appropriate include:

- **Market research:** market dynamics, seasonality, customers, benchmarks in the industry, suppliers
- **Marketing strategies:** networking, direct marketing, advertising, training programs, written articles, direct or personal selling, publicity and press releases, trade shows, website
- **Pricing and promotions:**
- **Budget:** for marketing, advertising
- **How you will monitor results of the marketing plan?**
- **Lean data collection:** collecting quick user feedback is important to gaining insights into the customer perspective.

### **Testing value proposition hypotheses:**

Once you have a value proposition hypothesis, it is important to test it with market research and user feedback. Updating and revising the value proposition is important to developing a business case that integrates new findings and customer/user feedback throughout the research and deployment process.

The potential impacts at scale are the impacts that the solution can offer to the user. It is important to have a clear definition of the target market, and who, specifically, the product or service will deliver a benefit to. The impacts at scale should be defined according to the type of innovation: it may be an increase in income, an increase in nutritional status, or increase in productivity.

The customer profiles are only useful when they are linked to specific offerings. Target customer profiling is an important step before you actually reach out to customers/users. Once you start interacting, it will be important to create mechanisms to collect and integrate their feedback about the solution. Market segmentation is useful once end users already access a product and you need to understand how to target the product/service to increase their impact. All of these factors will feed into a more specific understanding of the potential impacts at scale for the innovation over time.

**Follow-up Checklist: Market and Potential Impacts at Scale**

The target market group(s) are clearly defined:

We have a definition of how the impact of the innovation is measured in the business case:

The potential impacts at scale could result in:

Number of people            X            Impact per person            =

The challenges of reaching our target market are (anticipated or actual):

From the user/customer perspective, the innovation responds to their needs in the following ways:

Advantage:

Availability:

Access:

Affordability:

## Module 3: Delivery Mechanism (The Business Model)

*Delivery Mechanism: This is the model for how the innovation actually gets into the hands of the end users. This is the emerging business model for how the innovation will be delivered to the end user.*

The delivery mechanism includes the key activities, channels and partners needed to actually get the product/service to the customer/user.

The development of a business model may not become clear until the innovation, potential market, and value proposition have gone through many iterations and, potentially, drastic revisions. A business model that is a comprehensive mode of how the organization will balance cost structures and revenue streams, and what people, materials, value chains and customer relationships need to be established in order to create value. Business models can be for-profit or non-profit, and increasingly are hybrid organizations. Cooley and Kohl (2012) note that the organization that invented or tested the pilot or prototype may not be interested in or capable of managing the transition to a larger scale.

Because of the role for both public and private sector in agriculture, the policy context of each country, along with the geographical, landholding, and crop systems must be taken into account when determining the potential delivery mechanism.

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### Three Delivery Pathways

<b>Expansion</b>	Expanding pilot
<b>Replication</b>	Between organizations of same or different types, i.e. franchising
<b>Spontaneous diffusion</b>	i.e. Profit-seeking imitation, competition

Source: (Hartmann and Linn 2008)

Business model development is a process in unto itself, but the preparation of a business case will begin to answer many of the same questions surrounding the key aspects of the innovation and the meaning that makes it valuable to an end user in their everyday activities.

### Defining your Endgame

One of the driving factors for why development programs and projects seek to scale up is to guide the intervention to a point of sustainability where the donor can withdraw support and the intervention can be carried out by stakeholders – whether through government adoption of the policies, through other organizations taking over and sustaining the service, or by not being needed anymore. Each project has already prepared an **Exit Strategy** as part of the proposal process. Scaling up doesn't have to be an exit strategy. Sustaining or transferring the delivery of the innovation to the end users beyond the timespan of the project will depend on the business model that is established and refined during the course of the project.



But before determining your business model, it may be useful to think about your “endgame”. Defining an “endgame” is useful step in determining what happens ‘after research’. It helps to know where you are going in order to determine how to get there.

Gugelev and Stern (2015) outline six *endgames* for non-profit organizations, which are also worth noting for research projects:

Table : Six 'Endgame' options post-project

	<b>Characteristics</b>	<b>Potential pathway</b>
<b>Open Source</b>	Breakthrough idea that is easily adopted and integrated by other organizations	Research and development ideas shared openly; knowledge hubs
<b>Replication</b>	Products or models that are easy to be adopted and delivered by other organizations	Replicable models such as a certification or franchise, or centres of excellence
<b>Government adoption</b>	Model that can potentially cover a large portion of the population with potential as public sector program	Package or service of significant scale that can be offered to government agency
<b>Commercial adoption</b>	Product or service with profit potential that solves a market failure or market risk	Profitability of the product or service, attracting private sector investment, targeting hard-to-reach market segments
<b>Mission achievement</b>	Defined and achievable outcome that solves a discrete problem	Targeted intervention with quantifiable measurements of success
<b>Sustained service</b>	Strong organization with sustained funding that can offer a market or public service gap	Financially sustainable model carried out by a strong organizations, increasing level of efficiency

Adapted from: Gugelev and Stern (2015)

### ***Which endgame most closely matches your vision for your innovation?***

Each endgame is associated with different processes and ultimately a different outcome. Of course, as research progresses it may become necessary to change the endgame.

### Business Models

While there are many (countless!) business models that can be adopted to scale up a food security innovation, there are several important characteristics that can be used to define and categorize the business models:

- Model of revenue generation
- Type of relationship with customers
- Model for social impact
- Types of partnerships for delivery

## Push or pull?

Consumer demand relates to subjective preferences of the characteristics of products and the consumer perceptions of the product attributes. Understanding the potential business model requires first determining whether the innovation is demand-driven or supply-driven, since this will influence what types of delivery mechanisms and business models are best-suited for the innovation. In agriculture, it is particularly useful to define whether the solution is “pulled” by market demand, or whether it is “pushed” by the supply of science.

### **Demand-driven innovations: Market “pull”**

- Client preferences
- Value chains
- Market drivers
- Market research
- Public and private partnerships
- Multi-disciplinary teams

### **Supply-driven innovations: Science and technology “push”**

- New market
- New product or service
- Anticipatory, preventative or cautionary technology or practice
- Collective models for conservation or natural resource management
- Breakthrough innovations

These factors will influence the response to the innovation by the market and therefore it is useful to consider how this may be addressed within the business model.

The following sections will briefly describe some considerations for developing a business case for three common business models: for-profit commercialization, social entrepreneurship, and non-profit service delivery.

#### **1. For-profit commercialization**

Some research projects may decide to create a spin-off company. This is a practice that is sometimes used to commercialize a research result in the context of university research results. It has also been done by non-profits, for example when they are interested in developing a social enterprise or delivering a market need.

### ***Business Model Canvas:***

<p><b>Key Partners</b></p> <p><i>Who can help you leverage your model, since you won't own all resources or perform all key activities</i></p>	<p><b>Key Activities</b></p> <p><i>Which things you really need to perform well</i></p>	<p><b>Value Propositions</b></p> <p><i>The bundles of products and services that create value for your customers (each customer segment)</i></p>	<p><b>Customer Relationships</b></p> <p><i>The type of relationship you establish with your customers</i></p>	<p><b>Customer Segments</b></p> <p><i>People and organizations for which you're creating value (users and paying customers)</i></p>
	<p><b>Key Resources</b></p> <p><i>Which assets are indispensable to your model</i></p>		<p><b>Channels</b></p> <p><i>Touch-points where you interact with customers/users</i></p>	
<p><b>Cost Structure</b></p> <p><i>Mapping the business infrastructure will show the cost structure</i></p>			<p><b>Revenue Streams</b></p> <p><i>How and through which pricing mechanisms your business is capturing value</i></p>	

Each of these nine elements is integral to a business model: it involves both the delivery of value (right hand side) as well as the market activities required to get the product/service to market (left hand side) and the financial viability of the model (foundation).

The delivery mechanism will likely involve partnerships designed to leverage the resources, technologies and networks of existing distribution networks. It may involve piggybacking or establishing new channels to reach customers. Be sure to consider what existing delivery mechanisms are currently serving the needs of the users you are seeking to reach. A

## **2. Social entrepreneurship: Balancing impacts and revenue**

Services and models are increasingly important for increasing productivity and market connectivity of farming systems and value chains in smallholder farming systems. Social enterprises or social businesses are often appropriate in the context of smallholder farming since they seek to use market-based approaches to deliver a social impact.

Business-oriented approaches have been developed in the social innovation space, where they have taken off in the start-up and lean start-up approaches to entrepreneurship. The business paradigm suggests that complex problems can be solved through multi-sector co-creation of innovative social solutions. It believes that for-profit and non-profit value creation process can be compatible, and that it even becomes necessary to create shared value.

The approach of the social innovation and social entrepreneurship paradigms have been to apply the approaches of business to the ‘bottom of the pyramid’ to meet the needs of the poor – this has been proposed not only as a pathway to reducing poverty, but also of bringing profits for the companies willing to change their business models to meet the needs of this market (Polak and Warwick 2013). This approach is based on the idea the charity and aid have fostered dependence and weak governance, and that the private sector can drive adoption when products and services are designed to meet the needs of the poor and offer solutions to problems they are already trying to solve in their day-to-day lives. Driving adoption of innovations and the bottom of the pyramid means giving the poor choice through markets not charity (Prahalad and Hart 2002).

**Social Business Model Canvas:**

<p>Resources</p> <p><i>What resources will you need to run your program? People, finance, access?</i></p>	<p>Key Activities</p> <p><i>Which activities will you be carrying out?</i></p>	<p>Type of Intervention</p> <p><i>What is the format of your intervention?</i></p>	<p>Segments</p> <p><i>Beneficiaries</i></p>	<p>Social Value Proposition</p> <hr/> <p><i>Impact Measures</i></p> <p><i>How will you show you are creating social impact?</i></p>
<p>Partners and Stakeholders</p> <p><i>Who are the key groups you will need to involve to deliver the program?</i></p>	<p>Channels</p> <p><i>How are you reaching your beneficiaries and customers?</i></p>		<p><i>Customers</i></p>	<p><i>Customer value proposition</i></p> <p><i>What do your customers want to get out of this?</i></p>
<p>Cost Structure</p> <p><i>What are your biggest expenditures? How do they change as you scale up?</i></p>		<p>Revenue Streams</p> <p><i>Break down your revenue streams by %</i></p>		

Social enterprise delivery models are useful when revenue and impact are both the objectives of the venture. The social business model canvas includes both the social impact (social value proposition) as well as the revenue streams.

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**Successful social enterprises operating in BOP markets use four broad strategies:**

- **Focus on unique products, services or technologies:** that are appropriate to BOP needs. This involves substantial investment into new business models
- **Localized value chains:** through franchising or agent strategies that involve the local ecosystems, vendors or suppliers. This involves investment into capacity building and training
- **Enabling access to goods and services:** financially or physically. Financial access is facilitated through packaging strategies that have lower purchasing barriers, prepaid or financing approaches. Physical access involves novel distribution strategies
- **Unconventional partnering:** with governments, NGOs, companies, and other stakeholders to bring essential skills, capabilities and resources together.

**Often a series or a combination of these strategies is used.**

Source: Hammond, World Resources Institute, and International Finance Corporation (2007)

***Non-profit service delivery:***

Non-profits play an important role in ensuring that the benefits of income, nutrition, and stability reach those hardest to access.

There are often existing local supply chains that allow service providers to broaden reach and save costs, for example the outsourcing of 'last mile' delivery to snack stalls or women entrepreneurs in small villages (World Economic Forum 2009:27). Bundled product delivery is another option for linking up as a one-stop destination for products and services.

***TIP:***

**Integrate referrals into your delivery mechanism:** actively leverage your early adopters by promoting referrals. For example, ask or require customers to bring other neighbours to training workshops. Consider if this will be considered culturally appropriate for women or men.

There may be profit in non-profits (Coates and Saloner 2009). Some non-profits are based on a **cost-recovery model**; this means that some activities generate revenues that are sufficient to cover operating expenses. Given the importance of diversifying funding sources as a risk management mechanism, new delivery models may be developed by non-profits to offer value to their users in new forms.

This can be particularly useful if the model doesn't fit well other financial start-up schemes, such as government assistance, grants, or private donors.

***Repeatable Models:***

Whether your innovation is a product, service, model or practice, it is likely that it's delivery mechanism will involve developing a model that can be grown or multiplied in some way. Repeatable models are an approach to minimize complexity in an organization in order to facilitate growth. Often research projects focus on too many products, rather than growing one or two products or services that are best suited to their target users' needs and demands. Repeatable models approaches focus on one that can be targeted to deliver on customer needs. Repeatable models also seek to balance short-term and long-term interests by minimizing decision-making hurdles and process complexity. The idea is to do fewer things better and integrate lessons into repeatable processes.

Creating models and products that are: easy for other organizations to adopt and implement; models with capacity for integration into the public sector; profitable potential products or services; achievable outcomes to discrete problems; or sustained funding to fill a market or public service gap. This term refers to tactics and strategies to ensure that the replication, expansion, multiplication and other forms of transformation are easy to adopt by others – particularly other people and organizations without technical expertise.

Delivery mechanisms involve the actors, processes, and resources necessary to get your product/service or model to the end user. It involves planning and iteration to test out approaches and refine them to improve the impact. There are many different business models that can be designed and therefore it is important to have a clear understanding of the 'endgame' for the model, this is the long-term plan for how the solution will address the problem. The business model canvas and social business model canvas are important tools for moving from ideas about how the solution will get to end users to clear processes and organizational structures that will be able to scale.

**Follow-up Checklist: Delivery Mechanism and Business Case**

We have developed a Business Model Canvas for our delivery mechanism:

We know our endgame:

We have identified gaps in the business model and identified potential partners or approaches to address these gaps:

The advantage of this solution compared to the current or competing ways of doing things is that:

The specific actions that are essential to transform this innovation into a 'solution' are:

## Module 4: Cost-Benefit Analysis and Financial Projections

*The Cost-Benefit Analysis is a quantified assessment of the difference the innovation makes for the end user. This component is the analysis of the risks and rewards associated with a particular approach or course of action.*

The cost-benefit analysis is just one method to measure the performance and value of the innovation on the user and identify a financially sustainable model to deliver the product/service. The challenge for research-based innovations is that the investment in an innovative area does not always lead to immediate financial benefits. The purpose of this component of a business case is to quantify the options available and use this information in conjunction with the qualitative data to determine which pathway to recommend.

Depending on the specific type of innovation and the business model being pursued, the evaluation of costs and benefits will need to take into account the specific costs and revenues. In the research phase this is often difficult to ascertain, and is more assumption than knowledge. However while quantification and financial projections may be based on assumptions, it is still valuable to dig into the numbers side of the innovation in order to understand how the innovation can scale. It is essential to developing an educated guess into the scale that the innovation will need to achieve in order to become sustainable (Simanis 2015). This is an often neglected component of research-for-development projects.

If the project is developing a business model for the delivery of a product or service it will be especially important to have a clear plan for how the business model will become financially sustainable. Financial projections are an important tool for understanding the cost and revenue structures of a business model.

### *Types of Benefits:*

- **Observable benefits:** can be measured by opinion or judgement: subjective, intangible or qualitative benefits (agreed criteria)
- **Measureable benefits:** allows current situation to be measured in relation to a baseline prior to the innovation
- **Quantifiable benefits:** existing measures in place and the size of the benefit can be reliably estimated. Includes forecasting, requires substantiating any assumptions made in quantifying benefits
- **Financial benefits:** can be expressed in financial terms, can be used to calculate overall financial value of the investment, rate of return or payback. Require reliability and verification



We can think more specifically about the different types of benefits of a particular course of action in terms of the degree of explicitness of the benefit. Does it involve doing new things, improving performance in an existing area or stop doing things that aren't working?

*Table : Degree of explicitness of benefits*

Degree of Explicitness	Do New Things	Improve Performance	Stop Doing Things
Financial			
Quantifiable			
Measureable			
Observable			

Adapted from: (Ward 2007)

There is a limitation to the cost-benefit analysis that needs to be stated upfront: it follows the perspective that everything is an economic trade-off. That is why there have been efforts to measure social value, particularly in **social innovation** approaches to development.

Calculating the cost-benefit analysis of an innovation is not necessarily going to lead to a promising result. But that doesn't mean that the innovation should be discarded because it doesn't have an immediate payoff for users. It is important to consider the other impacts that may accrue by the use of the innovation, such as impacts to health, food security, or environmental services, at the individual and collective levels, over time.

Cost-benefit analysis requires determining all possible indicators and attributing a weight and a score for each. The indicators should all be measuring in the same direction – i.e. all detracting from the present state of the environment without the innovation,

Cost-benefit analysis is a method used to calculate a dollar value on an impact. Cost effectiveness uses a quantitative approach, but does not put a financial value on the impact. At the research stage it may not be possible to conduct a complete cost-benefit analysis, as this is often done at the end of a project. However, for the purposes of the business case, it will be important to determine the quantitative information that is available at the current stage. This will be useful to inform the type of impact assessment that is appropriate for the innovation and for the model that is being developed.

### ***Unit of Value:***

When planning to scale an innovation, define the smallest unit at which the product delivers value. This is the unit of scaling when increasing the product in pricing. This is the unit that customers pay for.

The Unit of Value determines how you price, scale and sell your product to customers. It is important to define the unit of value, as the forecasts will be based on this.

Note: big or small doesn't matter, what matters is that the unit of value matches the strategy to bring the product to market. Smaller unit of value requires more sales to larger number of customers to generate value. Big unit of value results lower volume of sales, but at a higher rate.

### ***Financial Parameters:***

The financial parameters will differ in the case of each innovation – but need to be linked with the targeted impact. There are a wide variety of financial projections that can be carried out and

### **Potential Financial Parameters in your Financial Justification for a Business (i.e. with expenses and revenues)**

- Projected Net Cash Flow: i.e. flow of dollars in and out of the business (use historical financial statements when possible, otherwise project a cash flow). *Cash-flow statement*: is possible if there are previous years of sales, then use profit and loss statements combined with sales forecasts to estimate. Otherwise, a 12-month breakdown should include the assumptions made.
- Return on Investment (ROI)
  - **Payback Period**: the amount of time required to earn back the money invested
  - **Internal Rate of Return (IRR)**: is the internal rate of return of a cash flow stream associated with an investment. IRR is the anticipated gains as a **percentage** of the initial investment (rather than a dollar amount).
  - **Net Present Value (NPV)** of projected cash flow (also called discounted cash flow analysis): Considers the *time value of money*, since money depreciates over time.
  - **Break Even Analysis**: is the point at which your business expenses match your sales or service volume
- Total Cost, or Total Cost of Ownership
- Total Capital Costs
- Total Operating Costs
- Cost per transaction (or per person, etc.)

However, developing potential financial parameters for a start-up or research-based solution (no sales yet, subsidized distribution) is much more of a challenge. This part of a business case involves creating a justification for how this can become a viable business and how it will work.

It should be noted that at early stages in the pilot stages it will be necessary make reasonable estimates of the cost of operating the business, including costs related to human resources, capital assets, etc. You do not need to have access to the precise financial data but should be able to know what items you need to make such estimation for.

□ Be sure to state what assumptions you are making.

When further information becomes available from the actual implementation of the manufacturing and sales of the technologies it can be used to calculate more accurate financial analysis.

**Sales scenarios, projections:** should include up to three years if possible. Be clear about the assumptions behind your forecast and what it is based on.

**Gross margin = Sales – Cost of sales**

Unit sales	Pricing	Sales (Units x Price)	Unit costs (Cost of production per unit)	Cost of sales (Unit x Unit costs)

**Expense Budget:** this is a forecast of how much is it going to cost to actually make the sales that you forecast?

**Operating costs:** includes both fixed and variable costs:

*Fixed costs:* remain constant no matter how many units are produced, such as:

- Overhead (rent)
- Payroll (if salary)

*Variable costs:* change according to the number of units produced. Most of these are direct costs that should go in your sales forecast, but some variable costs, like ads or marketing, are not directly related to the cost of production. Such as:

- Raw materials
- Power
- Labour
- most advertising and promotional expenses

**Breakeven Point:** the point where your businesses expenses math your sales volume. If the business is viable, at a certain point the overall revenue will exceed the overall expenses including interest on any loans.

<b>Break-even Analysis</b>	
Monthly Units Break-even	
Monthly Sales Break-even	
<b>Assumptions</b>	
Average per-unit revenue	
Average per-unit variable cost	
Estimated Monthly Fixed Costs	

### ***Why dig into the numbers?***

Depending on the specific context of the research process, the cost-benefit analysis and financial projects may involve significant speculation. It will be important to determine the information that will be required by the audience of the business case. If the audience is a potential private sector partner it may be worth investigating further into the financial projections with them in order to determine the impact of their involvement in the initiative.

Cost-benefit analysis is not used rigorously in non-profits or charities and non-profits, however new methodologies are increasingly being developed, particularly in the impact investing sector. This raises a potential paradox that can occur: needing results to decide if and how the innovation should be scaled, yet needing to make decisions about how to scale before those results are available. The sentiment that it is “too early to know” is no reason not to start assessing potential financial scenarios. It is a useful exercise to gain a deeper understanding of the potential impact of the innovation, the scale at which it can achieve increased impact, and what it will take to achieve financial sustainability for the business model.

For a more in-depth analysis, the Open Online Course “Financial Modeling for the Social Sector” by Erik Semanis and Acumen is a great resource to test out the financial sustainability of your business model. The playbooks can be found in the Resource Guide.

Digging into the numbers will provide the hook for your business case. It will put the vision into perspective. Balancing this with a compelling narrative will provide a deep understanding of the vision and help create a clear pathway for implementation.

**Follow-up Checklist: Cost-Benefit Analysis and Financial Projections**

We have defined the measures of the cost-benefit analysis:

We have a plan to test and validate the cost-benefit analysis:

We have identified the assumptions made in the financial projections:

The financial workbook has been completed:

The specific actions that are essential to validate the financial workbook are:

## Module 5: Putting together a convincing business case

Based on the elements of the business case discussed above and the specific considerations that are important to agricultural research, a framework for applying the business case is outlined. The framework is tested in two case studies on post-harvest technologies developed by a CIFSRF project and will continue to evolve in an iterative process as the tool becomes more widely used by CIFSRF projects.

The framework outlines the stages of the innovation and the scaling up pathway of the innovation. Based on these characteristics, a matrix of steps and guiding questions are offered for consideration by the projects. The process of building a business case involves identifying a challenge and validating a clear argument for a particular plan. It is important to understand not only what you specifically need to achieve, but also how this matches with your strategy for sustaining this beyond the timeframe of the project.

### Outline of a standard business case

1. Executive summary
2. Why this is a winning team and business opportunity
3. The business model:
  - a. Vision, mission
  - b. Value proposition
  - c. Delivery mechanism
4. Target market, marketing plan
5. Financial Analysis:
  - a. Breakeven analysis
  - b. Sales scenarios, projections
  - c. Operating costs
6. External Environment
7. Implementation Roadmap
8. Risk Analysis
9. Conclusion and Annexes

This framework provides an overview of a potential format of business case that could be used to present the business plan to an outside investor. The business case should be tailored to the specific needs of the investor/partner: it should match your purpose. It should be simple, specific, realistic and complete.

## Applying the Business Case Framework

The framework and guiding questions for applying the business case to food security innovations is a preliminary approach that is part of an ongoing research process – it will continue to be updated as it is applied and tested and further feedback becomes available. The limitation is that the success of the approach will only be visible after the completion of the research period, particularly the post-project outcomes of the food security innovations and their sustainability over time.

### Potential Constraints facing the Business Case approach

The framework for applying business cases to food security innovation is not without its challenges. These are rooted in the structural divide that researchers and their 'beneficiaries' often face. The

challenges of survey fatigue, lack of delivery on promises, or the baggage of the local politics of participation can all influence the realities of the challenge of scaling up.

***‘Hard-to-measure’ contexts***

The sensitivity of collecting financial data and the lack of consistency raises questions of privacy and ethics. Methods to corroborate income results are needed.

Longitudinal studies are best for determining the impacts over a relevant period of time. For example changing measurable benefits into quantifiable benefits often requires showing a change over time: from a pilot, to comparative sites, to external benchmarking, modelling or simulation, or other external evidence (Ward 2007).

There are also different levels of data available, which vary in degree of explicitness: from observable to measurable, to quantifiable to financial (Ward 2007) The risk of a purely financial focus is not only that the data might not be available, but that the financial benefits of the innovation may be lower than the investment in the research. Particularly when there are new innovations that are in emerging areas of research, where the extent of evidence from similar cases may not be there.

**Different roles in Business Case development**

Pachico and Fujisaka (2004) that the ability to recognize “the “sparks” that led to the successful spread of certain innovations particularly those that started small scale” (iv). This subjective element that indicate it is “time to scale up” may be based in the success of a pilot project or the drive of a local champion or visionary, or the efforts of accountability of a donor or development practitioner. The human element of scaling up is linked to the ability to plan and implement the scaling up process, but clearly there are also external factors and contexts that influence the adoption of an innovation.

Three important roles are especially noted in the scaling up process:

<b>Reconfigurers</b>	Spotting new opportunities and inspire the team with fresh ideas. Conceptual thinking and sensing new marginal practices and might change the industry. Creative leaders, sense ideas that may not be on the company’s radar and turn them into business opportunities
<b>Articulators</b>	Translating new thinking into the practical, everyday activities of the company. Process oriented, make sure the organization can understand the new direction and how to action it.
<b>Conservators</b>	Maintaining the operation of the team, bring stability to the organization, and make sure that new ideas can be repeated and scaled

When business is stable we can make assumptions that allow us to create economies of scale, but when confronted with a fog, we must use remove these mental habits and use the human sciences to get people right:

Unhelpful assumptions	Getting people right
<b>Human beings are first and foremost individual, thinking beings</b>	Human beings are first and foremost social creatures
<b>We are fully aware of our intentions</b>	We make most of our decisions according to our familiar with the world
<b>Our choices are informed by weighing different options against each other</b>	We change our preferences according to the mood and social setting we are in
<b>We know what we want and what we need</b>	Out choices are often make spontaneously
<b>We are the same, regardless of the social context of mood we are in</b>	We are at our best when we are fully engaged in the world

(Madsbjerg and Rasmussen 2014:181-182)

Minimizing complexity may involve using the findings of the business case research to develop necessary structures, processes and hierarchy to increase the impact and facilitate the model to scale. Add only necessary complexity. Test new approaches with rapid experiments with customers/users.

**TIP:**

While working on the draft, have a friend or colleague review the business case and ask them to consider:

- What **gaps** do they see in the narrative of the case?
- What **measurable and quantitative evidence is** needed to complete the picture?
- Is there **sufficient financial evidence**? Are all assumptions stated clearly?
- What is the **overall message** that the business case communicates?

The **process of planning** how to achieve results matters as much as the final document. Therefore it is a 'living document' that will change as new information and evidence becomes available in the process. Putting together a business case and presenting the results is really just the start. It is the implementation afterwards that will really make the difference. Using business-oriented tools, such as the business case may help frame the process and move through the complexity of scaling. It is certain that scaling an innovation is not easy, but hopefully the business case will help make it a more straightforward process.



**Follow-up Checklist: Putting together a convincing business case**

**We have prepared a draft business case**

**We have a plan to test any assumptions that remain to be validated:**

**We have identified the audience and set a time to meet:**

**We have a clear message to communicate that is a balance between numbers and narrative:**

**The outcomes of the business case presentation will be integrated with the following activities:**

Congratulations! You build a business case, and now you are ready to take on the challenges of implementation as you build your business model and scale your innovation!

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