



Gray Dot Catalyst

CREATING  
**HOPE**  
IN CONFLICT:  
A HUMANITARIAN  
GRAND CHALLENGE

# Path Dependent Business Models for Impact Innovations

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A Learning Paper for Creating Hope in Conflict: A  
Humanitarian Grand Challenge

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## Introduction

This learning paper examines the fundamental components of a business model and the concept of path dependency, documenting key insights from a Grand Challenges Canada workshop with 25 impact innovators that explored the impact of three types of decisions on future business model choices, using the Scaling Value framework. We also address some key variables that contribute to path dependency and how these factors influence an organization's ability to develop and sustain successful business models.

## Background

Having worked with hundreds of impact innovations across the past decade, we have witnessed all of them grappling with decisions on what the right business model is for them. As they seek to scale, key decisions that they make regarding their business model then start to both open and close doors for them. How they choose to protect—or not protect—their intellectual property directly influences what type of revenue models they can pursue. Decisions about organizational form have similar consequences. Registering as a not-for-profit or as a for-profit organization enables different levels of participation in different networks and what type of investment they can attract.

Each of these decisions have huge implications for the future direction of the organization. It impacts the organizational culture and 'the way things are done around here.' It opens up and closes scaling pathways, and can determine what the very 'soul' of the organization is. We therefore have written this paper for impact innovators, and those who fund these innovators through grants and investments, for the purpose of highlighting the issues of path dependency of business model decisions and their impact on scaling trajectories. By doing so we hope to provide some insights and helpful questions to highlight the potential consequences of decisions taken by innovators and entrepreneurs on their business models.

## Business Models

**A business model explains - what value is 'created' through your solution, 'obtained' by your consumer, and 'captured' by your organization.**

To put it simply for impact innovations:

**What value is created by your solution?** To answer this you need to be able to prove the impact of your innovation on the problem you have identified.

**How is this value obtained by the consumer?** To answer this you need to have a proven model for how the consumer accesses the innovation. For example, for an innovation used in a health clinic, the logical flow of how value is obtained requires a clear story of how it is procured by the buyer (Ministry of Health), administered by the user (clinical worker) and consumed by the target impact group (clinic patient).

**How does your organization capture value?** To answer this, your organization needs to identify what type of value it is seeking. The most obvious is revenue in order to pay for the innovation it is scaling, and the ongoing running of the organization. However, there is other value that can be captured, such as brand recognition, connections to new partners and consumers, knowledge etc. Answering these three questions successfully creates the core of a business model.

Identifying, testing and validating your business model is a crucial part of the process for entrepreneurs and innovators to achieve success. But what does that process look like in practice, and what tools are available to support you on that journey?

Research and practice regarding business models has accelerated in the past 15 years. There have been **three key steps forward in practical guidance for innovators on business models** in that time.

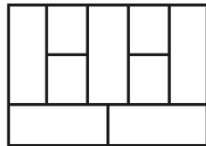


Diagram: Business Model Canvas

**Step 1: Codified Frameworks:** In 2010, the creation of the Business Model Canvas introduced and popularised a conceptual and practical framework through which start-ups and entrepreneurs could build business model ideas, using nine building blocks. This initial framework has been built upon to create derivatives, such as the [social business model canvas](#), [lean canvas](#), and the [sustainable business model toolkit](#), all of which can provide useful insights for impact innovators.

**Step 2: Codified Business Models Patterns:**

While the business model canvas is extremely helpful, it is essentially an 'empty canvas,' which requires practitioners to develop their business model from 'scratch'. To help address this Gassman, Frankenberger, and Csik published *The Business Model Navigator* in 2015, which identified 55+ types of replicable business models and how they can be applied and combined in what they term 'business model patterns.' This resource provides innovators with business model options to select, and apply, based on which models appear to fit their solution and their market, addressing the issue of having to start from scratch.



Diagram: Business Model Navigator Framework

**Step 3: Business Model Experiments:** Then, in 2019, Bland and Osterwalder published *Testing Business Ideas: A Field Guide for Rapid Experimentation*, which in turn provides a methodology for testing business model assumptions and assessing which business model is the best fit. This enables innovators, intrapreneurs and entrepreneurs to start iteratively



Diagram: Experiments

testing their business models, reducing the three big risk areas in any business model - the desirability risk (do consumers want the solution?), the feasibility risk (can the innovation be created and delivered at scale?), and the viability risk (will the business model be able to cover its costs, and create a profit?). By identifying and testing assumptions, innovators and entrepreneurs can reduce each of the risks. The experiments provide a solid foundation for a successful business model.

All of these resources form an extremely helpful toolkit for innovators to identify, create, test and validate business models. However, particularly when scaling an innovation, there is an additional dimension that must be considered: how do decisions innovators and entrepreneurs make during the scaling process shape the business model options ultimately available to them. This is path dependency.

## Path Dependency

In the context of this paper, *path dependency* refers to:

***Past or present decisions that constrain future decision options***

This is a simple, but incredibly powerful insight. The impact of path dependency has been highlighted in private sector giants such as the implications of path dependency on business models for Liz Claiborne. The decisions that Liz Claiborne made on how they marketed and retailed their products meant that they were particularly susceptible to disruption from the emergence of fast fashion. Their requirements on department stores to order complete sets of apparel well ahead of time, without the ability to reorder (i.e. the department store held the inventory risk) meant that retailers moved on to other brands who were allowing reordering. Liz Claiborne found it hard to change their business model quickly to respond to these changes because their model had created processes and capabilities that had become rigid, making them difficult to loosen, creating significant issues for the organization as it tried to respond to these new challenges.

In practice this means that organizations make decisions that seem the best option at the time, but each decision that is taken and implemented, focuses the organization in a certain direction. This direction will have varying levels of impact on how the organization then works, embedding systems, processes, ideas, governance models and more, which if not carefully considered and implemented creates a rigid organization; one that excels at doing its main 'business,' but is often unable to change direction if there is a sudden contextual change, such as a change in regulations or the emergence of new technologies.

These decisions can not only create rigidity, but they also often reduce the options available to an organization when opportunities or threats emerge. For example, not being registered in a certain country can hamper a humanitarian organization's ability to respond to a disaster in that country. Or deciding to be a charity, whether for values or tax purposes, cuts out any future options of raising financing through the sale of equity in the organization. A single individual decision may not seem overly consequential, however, decisions, and the impact of those decisions, are not isolated. Each decision made is based upon decisions made in the past, and are intertwined with decisions made in the present. Each one reduces future strategic options available to an organization.

## Business Model Path Dependency

Path dependency has many impacts on an organization, and there are multiple decisions that create path dependency. Just as some of the impacts are highlighted above, these can include the prevailing culture in an organization, its tolerance of risk, who it partners with, and how inflexible it becomes over time. This last factor is particularly important when it comes to the failure of organizations, as it leads to 'Architectural Rigidity', that means that they are unable to respond to changes in their environment quickly enough. All of these factors are therefore important for an organization to think about as it makes decisions regarding its development.

Bringing the concept of business models (particularly as articulated in the three key developments for practitioners outlined above) together with the concept of path-dependency provides a powerful tool for innovators to be able to anticipate potential impacts of their current decisions on the scaling pathway options for their innovation in the future.

The rest of this paper turns from innovation and business theory to application. It explores three decisions that all impact innovators face and the potential impact of those decisions. It then articulates how these decisions were explored with 25 innovators in a workshop session, and the resulting insights that emerged from that workshop.

## Impact Innovations and Business Model Path Dependence

Simply understood, *impact innovations are innovations whose purpose is to solve a social or environmental challenge, and are often developed by 'for-purpose,' or 'mission-driven' organizations.*

When it comes to business model path dependency, impact innovations face particular decisions and challenges due to their purpose. We highlight just three of the key business model decisions in point 1 and 2 below.

1. The innovation may be targeted at disadvantaged or vulnerable groups who may, or may not have the means to pay for it, so;
  - a. Who pays for the innovation?
  - b. If it is understood to be a 'public good' (e.g. education or primary healthcare) , should the IP that it is built on be open source, or can the IP be protected?
2. As a mission-driven organization, what type of organization registration is the best fit (e.g. for-profit, or not-for-profit) for the mission?

The hope is that by highlighting how these decisions impact your business model, and some of the path dependency implications of each choice option, the reader can make more informed decisions, and post-ante understand why some of the decisions you have made in the past are constraining your current options, and potentially even your thinking about your strategic options moving forward.

When using the *Scaling Value Framework* as a lens to assess these questions, we can frame these three questions (1a, 1b and 2 above) in the perspective of scaling innovations.

Scaling Value Framework Component	Variable
Solution	<b>Intellectual Property (IP):</b> How you treat your Intellectual Property, such as making it open-source or proprietary.
organization	<b>Ownership:</b> What your organization is established as, such as a charity or limited liability company.
Value Network	<b>Consumer:</b> Who pays for (or makes the decision to adopt) your product or service?

## Solution: IP

There are a number of decisions regarding the development of a solution that will determine how much value can be created and captured. The ability to generate revenue or monetise elements of your solution is intrinsically linked to decisions on Intellectual Property (IP). Innovators need to think about their IP early in the ideation phase of their work. Deciding on what parts of your IP should remain proprietary and what should be open sourced has significant implications on revenue, scaling speed, and the scaling route you can take.

**Proprietary definition: It is the process of actively protecting intellectual property through typically one of the following ways:**

### Copyright

A legal right that typically protects original creative work, like a book, song, or movie, from being copied or used without the creator's permission.

### Trademark

A trademark is an easily recognisable symbol, phrase, or word that denotes a specific product. It legally differentiates a product or service from all others of its kind and recognises the source company's ownership of the brand.

### Patent

A patent is a legal right granted in a defined jurisdiction to an inventor or assignee that gives them the exclusive right to make, use, sell, or license an invention for a defined period of time.

### Trade Secret

Refers to confidential business information which provides a company with a competitive advantage and is often enforced/protected through Non-Disclosure Agreements

These mechanisms provide legal control of how any generated IP is used. The innovator can then decide to exclusively deploy this IP, or to enable others to use it based upon permissions, licensing, franchising, or other permissive mechanisms

**Open Source definition: This is where others can use your Intellectual Property for free. This approach is often associated with software, but is also applicable to all forms of written and diagrammatic work. Common types of open source licensing are:**

## Creative Commons Licensing

A form of licensing that lets creators share their work with others on their own terms, making it easier for people to use, remix, and build upon creative works legally.

## Copy Left Licensing

Allows people to freely use, modify, and distribute software (or other works), as long as they keep it open and share it under the same license.

## Permissive Licensing

This license enables users to distribute, remix, adapt and build upon the material in any medium or format, so long as attribution is given to the creator

Decisions about how IP is treated, whether to protect it, and if so, how, are fundamental to what types of business model can be developed by a start-up. For instance, if a social enterprise develops software and releases it on a permissive copy-left licence, they are unlikely to be able to create a successful business model from selling the software on its own (as any purchaser can share the software for free). This means that their business model options are likely to be pushed towards approaches such as fees for technical support, building custom features, or hosting (SaaS model).

In impact innovation, particularly, some of the IP path dependencies may also be predetermined where funders or donors require solutions to be open source, with some organizations taking the stance of only/primarily investing in and supporting open source software, such as UNICEF.

Innovators need to be aware that their treatment of IP cannot be based solely on the business model they would like to develop. Quality control, brand reputation, and speed of diffusion are just some of the other things to be considered when deciding on IP treatment.

### PATH DEPENDENCY QUESTIONS:

1	What type of solution are you offering (e.g. product or service), and what IP have you created?
2	Who will you allow to use your IP, and under what conditions?
3	What are the pros and cons of your IP being proprietary or open source in relation to: <ul style="list-style-type: none"><li>○ Adoptability of the innovation</li><li>○ Replicability of the innovation</li><li>○ Customisation of the innovation</li><li>○ Revenue generation from the innovation itself</li><li>○ Quality control</li></ul>
4	If you have protected your IP (such as copyright or patenting), what legal jurisdictions are you protected in, and how does this affect your ability to scale?

## Organization: Ownership

When it comes to your organizational readiness to scale, the type of organization you are, or create, will also have an impact on your business model. Ownership of the organization that develops the innovation has an impact on both revenue and the investment models it can deploy.

### FIVE COMMON FORMS OF ORGANISATION THAT ARE TYPICALLY CONSIDERED:

Not for Profit / Charity (NFP)	Cooperative (Co-Op)	Limited Liability Company (LTD)	Limited Liability Partnership (LLP)	Joint Venture (JV)
An entity that exists to serve a purpose where there is no equity, such as a charity or NGO.	A Co-op is a business or organisation that is democratically owned and controlled by its members, to meet their shared needs.	A common structure where the company's value is held in shares that can be bought and sold	A partnership where members' personal assets are protected from business debts, similar to a limited company.	An arrangement between two or more parties to set up an entity that is owned by both of them for a specific purpose. This can be in any of the forms mentioned above that have shares.

### Investment

For most businesses and organizations, cashflow and capital investment are significant issues as they try to scale. Income often can't cover ongoing costs, resulting in negative cashflow, leading to bankruptcy. For organizations with equity, the sale of equity shares can deliver the capital they require. However, for organizations that are set up without equity, such as charities, the investment through the sale of shares is not possible, constraining their ability to raise funds to invest in the organization as it scales.

### Income

Despite reducing options for investment, equity-based businesses are not always seen as a good choice for social impact innovators. This can be the fear of the mission of the organization being diluted or diverted by the need to make a profit. It can also be a strategic decision for more practical reasons, such as the ability to access grant funding that might not be available to for-profit businesses.

When exploring your business model options, getting legal advice from a qualified in-country lawyer is a must.

**PATH DEPENDENCY QUESTIONS:**

- 1** What benefits will arise from setting up a charity rather than a business?
- 2** Will you be able to fund your transition to scale through grants, earned income, and debt alone, or might you need to sell equity?
- 3** What are the tax implications of the ownership model you are contemplating?
- 4** Will you be eligible to access key grant funding if you are a for-profit business?

## Value Network: Value Consumer

In a value network, your value consumer is one of the most significant roles; they purchase or adopt your innovation. Those who purchase the innovation may not actually use it, and may not actually receive the benefit from it directly. As highlighted on page 3 regarding how innovations are procured and used, a Director in the Ministry of Health might sign the purchase order for an innovative product, but clinical staff are the actual users of the product, and the clinic's patients are the target impact group who will benefit from the innovation's use. This can be articulated as:



The type of consumer that purchases the innovation will have a significant impact on the business model that is available to the innovation. For example, if the buyer is someone living on less than \$2 a day, even a fairly low unit cost per product could be a barrier to them buying it in a single purchase, meaning that a business model that spreads out the payments, such as leasing, renting, subscription, or 'Base of the Pyramid' approaches that look to break the unit into smaller sub units that are more affordable individually, may need to be considered.

Whereas, if your innovation is a service that you are seeking a government department to purchase, then the business model for the innovative service will probably need to be a grant or contract revenue model.

## PATH DEPENDENCY QUESTIONS:

1

What are the usual methods of payment/exchange that purchasers of our innovation use (e.g. subscriptions or service contracts)?

2

Do we need to adapt our sales/purchasing options to accommodate this, or can we provide an innovative purchasing model?

3

If our Buyer, User and Target Impact Group are all different, do we understand all their needs, and how the purchasing decision and process occurs? Is our business model aligned to this?

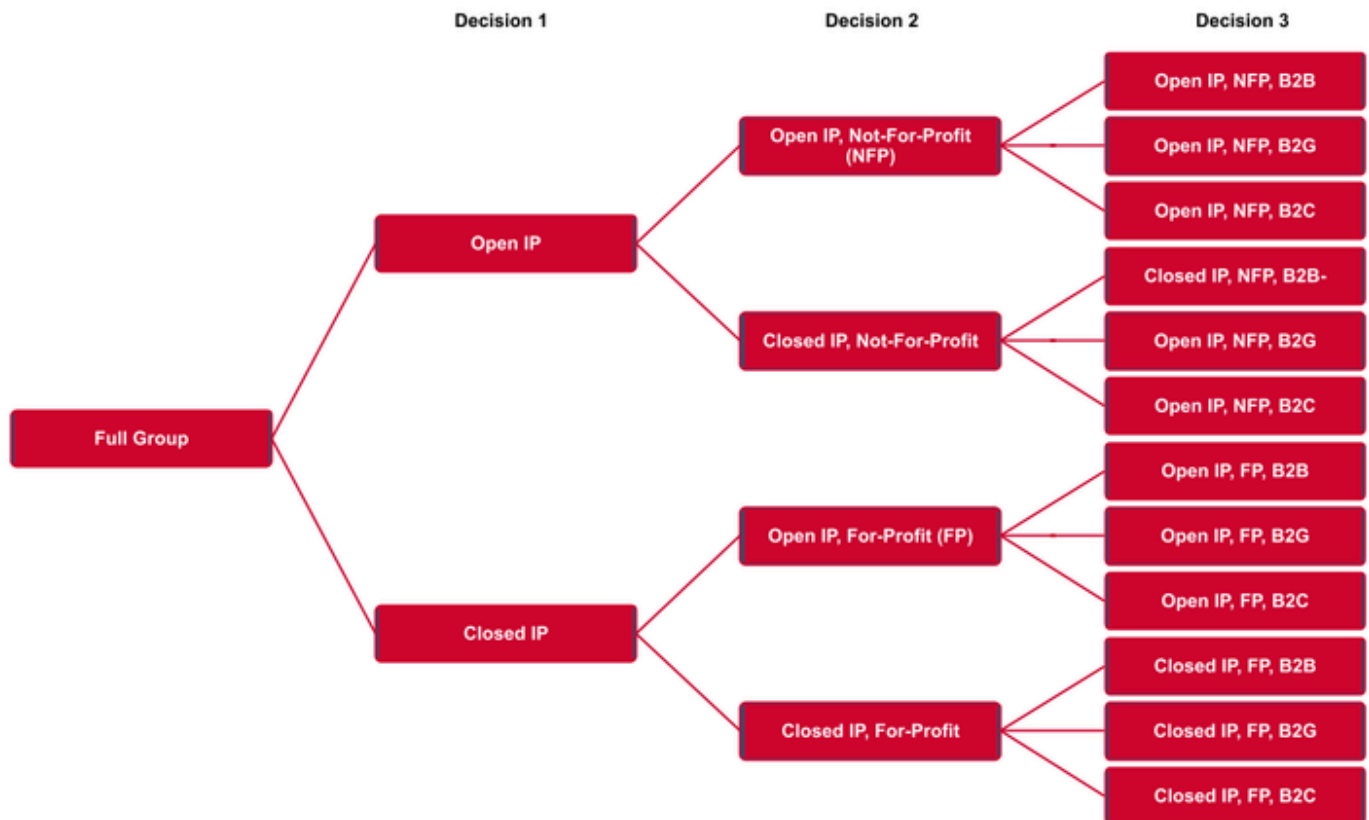
## Modelling Decision Pathways

During a recent workshop with the Grand Challenges Canada *Creating Hope in Conflict* cohort of impact innovators addressing social and environmental challenges in humanitarian settings, we explored the three questions outlined above. The innovators operate across multiple countries and contexts worldwide. They shared insights into the factors shaping their decisions, as well as the impacts of those decisions, in each of these areas.

We asked the participants to take part in an exercise that saw them address each question in turn.

1. What has your approach been to IP? To have it mainly open, or mainly closed?
2. What type of organization are you? For Profit, or Not for Profit?
3. Who purchases your innovation (Government, Organizations (for profit or NGOs) or individual consumers?

The exercise was interactive, with participants moving to a section of the room based on their answers to each question in turn. At each stage, they would have a discussion with others who had made the same decision as themselves, focusing on why they had made the decision, and what outcomes had emerged from it. For each question they would go through the same process. This is illustrated in a Bayesian decision tree, showing the 3 stages of decision nodes in the diagram below:



The purpose of the exercise was not just for participants to discuss why they had made each of the decisions that they had made, but to highlight the impact of those decisions on the business models available to them after making those three decisions.

As organizers, we were able to do this by parsing the 55 business model patterns identified by Gassman et. al. to ones that are used regularly by impact innovations. This whittled the number of business model patterns to 36. We then pre-identified which models could be used by organizations in each of the 12 possible end options in the exercise. At each of these 12 options, there would be a number on a chair, which identified the number of business models that were available to them based on the choices they had made.

The participants ended up spread across less than half of the 12 final options. The lowest number of business models available was for **open source IP, not-for-profit organizations selling to governments (B2G)**, with 9 of 36 potential business models available to them. Whereas, participants who had **chosen closed IP, for-profit organizations selling to individual consumers (B2C)** could potentially choose 32 of the 36 options. Just 3 decisions had created a path dependency that led to a difference of choice of only 25% of the available business models at one end, to nearly 90% of available business models at the other.

Such a discrepancy in the business models available based upon just three decisions provides a stark illustration of the path-dependency on business model implications of the choices we make as innovators, entrepreneurs and intrapreneurs.

## Insights Emerging From The Modelling Exercise

As we analyzed the discussions, some interesting insights started to emerge around **value capture, investment, social licence to operate, and dual-entity structures**.

The first interesting insight from the exercise discussions was the significant skew in the participants towards closed IP and setting up as for-profit businesses. This was something that we had not expected to be as skewed (over 70% of the participants were in this category).

**Value Capture:** When asked why participants had chosen to be for-profit organizations with closed IP, the most common theme that came up in the discussion was the ability to make a profit to reinvest in scaling the organization and the innovation's impact. Something that was not a surprise. However, there was actually more focus on investment being the main driver, rather than revenue.

**Investment:** Linked to value capture of profits was the ability to raise investment. Many of the innovators recognised the need to secure investment in order to scale effectively. Being a for-profit company enabled them to offer shares in their business, as well as generate profits to attract investors. One participant when talking about IP and investment stated *'While open source can reach more people, the opportunity to attract investment may be restricted.'* Contributions to the discussion were more focused on investment than the authors would have anticipated from this group. This may be due to the impact of other sources of revenue and non-equity investment reducing in the humanitarian sector with the sharp reduction in Aid budgets across the globe, particularly from the US.

Although each of the organizations represented by the participants in the closed IP, for-profit group had an impact mission, they did not articulate that being a for-profit company necessarily created any tension with this mission. Their capitalist business orientation did not appear to create concerns about their social or environmental purpose. However, this potential conflict could be seen in some of the rationale for decision making by others who had chosen open IP and/or not-for-profit organizational structures. For these participants the social-licence to operate was seen as critical.

**Social Licence to Operate:** The key drivers participants discussed for choosing either open IP and/or registering as a not-for-profit were mainly in response to what can be termed as social licence to operate (SLO) motives. According to Breakley, Wood and Sampford (2025) there are a number of definitions for the term Social Licence to Operate. In this paper they identify different types of Social Licence to Operate, most notably, perceived 'morality' of the organization and its activities, and in turn how it is accepted by a local community and whether it is accepted by other stakeholders beyond the local community.

In the discussions a number of participants articulated aspects of SLO that they perceived as important, and that appeared to have driven their decisions to choose open IP and/or Not-For-Profit.

- a. **Morality:** One participant clearly articulated that being for profit created a potential *'ethical dilemma.'* While another stated it was *"not about owning an idea, but rather finding a solution to a humanitarian issue."*
- b. **Community Acceptance:** At least one participant equated being a for-profit organization as being too focused on profit. They felt that their organization's goal was to build community capacity, and so being an NGO was *'intuitively'* right. While another participant believed that local community members were more *'receptive to those with a not-for-profit mission'*.

- c. **Stakeholder Social Acceptance:** The one participant whose organizational choices had been open source and for-profit said they found it *“tricky to explain to external stakeholders that you are humanitarian but for profit.”* While another participant organization had actually changed from being a closed IP, for-profit organization and had re-registered as an NGO as they found that key multi-lateral stakeholders were wary of engaging with them as a for-profit organization. *“Perception and stigmatisation of being a for profit entity in the humanitarian sector is something that influenced organization decisions. To gain entry into the humanitarian market and from a partnership perspective, it was essential to be seen as an NGO.”* Another angle was where a participant highlighted that it was *“difficult to navigate (their) reputation for taking a closed IP stance.”*

Reviewing the discussions from the open source and/or not-for-profit organizations participant groups it became clear that much of the decisions were driven by a desire for Social Licence to Operate (based on the multi-faceted definition above). However, this was not the only group of drivers. The participants in this group also pointed to the benefits from a Value Network perspective. In particular the collaborative dividend of being a not-for-profit. A number of participants talked about their open source solution and being an NGO opening doors to enable collaborative partnerships with others, whether they be NGOs, UN or communities. And in at least one case, these collaborations had enabled knowledge sharing that improved their innovation.

As discussions developed, it became clear that the status of the organization, whether for-profit, or not-for-profit had significant impacts, both positive and negative. For example, when it came to value capture regarding income, although for-profit organizations had potentially more income streams available to them, they often couldn't access grants that were available to not-for-profits, and also potentially missed other value capture opportunities from partnering, and knowledge acquisition. Whilst not-for-profit organizations, although able to benefit from social licence to operate, were hamstrung by an inability to raise equity investments.

**Dual Entities:** The above discussion on the status of the organization led to discussions about setting up as dual entities, (sometimes referred to as hybrid organizations) with both for-profit and not-for-profit arms. Some of the organizations represented were exploring this as an option to try to break free from some of the path dependent positions they found themselves in.

## Conclusion

At each stage of the innovation journey, decisions create path dependency. In the workshop exercise, we found that out of 36 possible business models, the teams had between 9 and 36 options, depending on the choices they had made earlier during their scaling journey. So being clear-eyed about what business model path dependencies might emerge from key decisions that are made, even from the very early days of developing an innovation, is critical. The saying *'a stitch in time saves nine'* holds true for innovators, intrapreneurs and entrepreneurs when it come to decision making on:

- the IP treatment for their solution
- the organization ownership model, and
- who they identified as their key consumers

Our exercise with the workshop participants showed them which business models will be closed and open to them at each of those stages. Such an exercise can be a very effective scenario-based model for supporting better decision-making through a business model

path dependency lens.

The exercise went beyond just identifying how many business model options are available to organizations based upon the choices they make. It also shone a light on the motivations, drivers and impacts of the decisions they had made to the three questions that were posited. Through this exercise insight was gained on the importance of investability in driving decisions of the majority of participants, the contextual drivers of social licence to operate. Perhaps most intriguing, was the fact that a number of the organizations were contemplating and exploring creating dual-entity organizations. Proving that although path-dependency for business models is significant, decisions can sometimes be revisited to open up new pathways that had previously been closed.



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