BRIGAID

The Business Development approach and PPIF methodology D6.3

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Modification Control

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Glossary

Business Case:	A financial feasibility study which (exclusively) contains the necessary information to decide whether to invest (time, capital, or both) in a business or project.
Business Model:	A description and overview of the proposed revenue streams for a product or service.
Business Plan:	A comprehensive document describing amongst other things the company strategy, the technological description, the financial viability and strategy and the market analysis. Includes all contents of a business case and the business model.
Business Plan 101:	A document that guides start-ups in developing their Business Plan. Included in Appendix B.
CIW:	The Climate Innovation Window, the new name of the ISP.
Funding Platform:	The proposed expansion on the current CIW dedicated to funding (elaborated upon in chapter 5).
Funding Scan:	The process of assessing all options for public funding. This process is part of the PPIF and is initially heavily guided by TFC, but will be standardized during the BRIGAID programme to require less assistance.
ISP:	The Innovation Sharing Platform. A knowledge sharing platform developed as part of the BRIGAID programme.
MAF+:	Market Analysis Framework. A package of exercises designed to guide the Market Analysis for Innovations. Presented in D6.2
PPIF:	Public-Private Investment and Financing model. A framework, established to guide innovators into the world of social funding (elaborated on in chapter 4) and assess their options for public funding.
Quick Scan:	An entry questionnaire that assesses the current state of the innovator before the start of the Business Plan Development Process.

Executive Summary

Due to climate change, there is an increase of natural disasters in Europe. Although there are different innovations that try to rise to the challenge and increase disaster resilience, technology based start-ups have much difficulty entering the market and survive on the long run. This is especially true for social innovations, such as the environmental innovations which will increase disaster resilience. The BRIGAID programme is created to bridge this gap from inventions to successful innovations and businesses, so that these solutions will be adopted by governments and end-users alike.

One part of BRIGAID's approach on doing that, is to make sure the innovations are 'investment ready' and receive guidance with the acquisition of funding and entering the market. That is the goal of this deliverable. One of the key aspects to achieve this is to have a high quality Business Plan. TFC has created the Business Plan Development Process, where innovators will learn how to create such a high quality Business Plan by use of face-to-face sessions and online tools in collaboration with Ecologic Institute. TFC furthermore evaluates these Business Plans and provides scoring, so that there is an indication of the 'investment readiness' of the innovations.

Furthermore, TFC assist the BRIGAID innovators in acquiring funds, by introducing to the world of funding, giving an overview of different types of investors, funding schemes and funding options by use of the so-called Public-Private Investment and Funding model (PPIF) and accompanying funding approach. TFC identifies the most relevant funding options for each BRIGAID innovator and aids the innovator in how to most effectively communicate their message.

Lastly, TFC will connect innovators with suitable and trustworthy investors in such a way, that it can continue beyond the BRIGAID programme's duration. To that end, TFC will collaborate with L'Orangerie Studio and ICRE8 to create the so-called Funding Platform and integrate it into the currently existing Climate Innovation Window. The Funding Platform is a digital platform in which innovations will be presented to investors with their 'investment readiness' grading. Investors can use this platform to invest in a BRIGAID innovation in different forms. TFC will select the first investors to join this platform, and provide the criteria for future investors so that only relevant and trustworthy investors will have access to this platform.

By helping innovators create a high quality Business Plan and aid them in several way to acquire additional funding, TFC will increase the chance of firm survival with the BRIGAID start-ups and with that, increase the chance of promising technologies that increase disaster resilience of being adopted by governments and end-users.

1 Introduction

The current climate change dramatically increases the number of natural disasters that occur within Europe. The need for innovations that can decrease the chances of these disasters occurring, lessen the impact these disasters have, or decrease the vulnerability of people and the environment has therefore never been higher. Bringing innovations to the market can be a difficult task, however. As many as 90% of the start-ups fail and those start-ups which are based on new technologies (the so-called New Technology Based Firms, or NTBFs) have even higher death rates (Forbes, 2014; Grimaldi et al, 2011; Wennberg et al, 2011; Ortín-Ángel and Vendrell-Herrero, 2014).

When looking at the reason behind the high death rates of these start-ups, CB Insights (2014) has shown show that the 8 of the top 10 reasons (everything aside from a poor product and a lack of funds) can be anticipated upon and prevented by developing a good Business Plan. Furthermore, the second most common reason of failure is difficulty in acquiring sufficient capital.

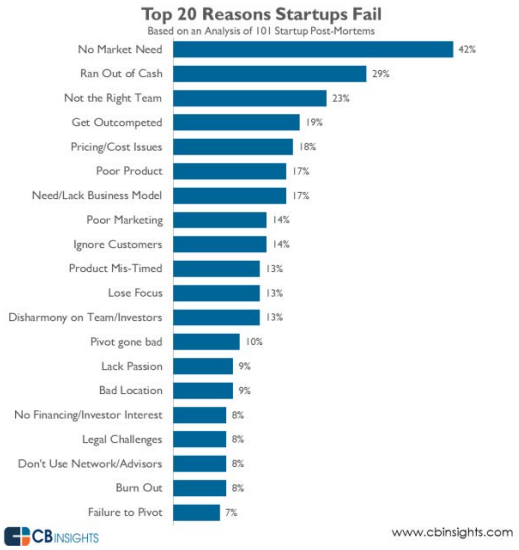


Figure 1: Top 20 reasons start-ups fail (CB Insights, 2014)

This leads to one of the core goals of the BRIGAID programme: to bridge the gap from invention to a successful (and profitable) innovation and business to increase the odds of the innovations being adopted and used. This deliverable (D6.3) addresses that goal, by helping innovators create a good Business Plan and help them acquire funding. In the BRIGAID Grant Agreement, this described in task 6.4 *("Support in the preparation of agile and fundable business plans"*) and 6.5 *("Development and application of a public-private investment and financing model (PPIF) for sustainable future investments"*).

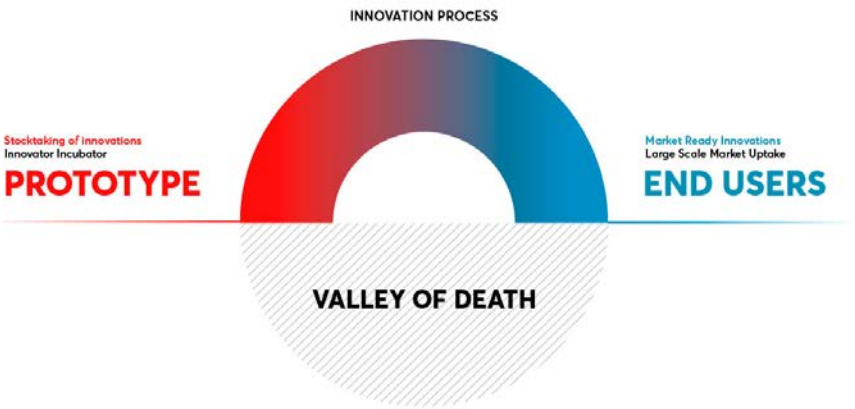


Figure 2: The mission of BRIGAID (bridging the gap between science and market) (BRIGAID, 2017)

The aim of these tasks are *"(…) to instruct the innovators on how to elaborate a business plan using a flexible, iterative and incremental approach. (…) The results will feed into a set of standardised guidelines, including a common template that will facilitate the elaboration of business plans. [The PPIF] comprises a proven and standardised methodology for business case development in which development of business*

planning and the creation public-private funding opportunities go hand in hand. (…) Based on this research, the model that suits the uptake of climate adaptation innovations best will be developed and applied to 20-30 innovations. PPIF will target a wide variety of funding opportunities including the European Structural and Investment Funds (ESIF) and other financial policy instruments of the EU and Member States and private funds. In sum, PPIF provides the methodology for:

- *the assessment of the 'investment readiness' and the guidance of innovations in terms of business planning and financing (…);*
- *the individual assistance by the task leader on the acquisition of finance"*.

To reach these goals, TFC has developed multiple approaches. The instruction of the innovators to elaborate a Business Plan, with standardised guidelines and a flexible approach has merged with the part of the PPIF for a proven and standardized methodology for business case development and business planning. This approach and methodology are part of the Business Plan Development Process (Chapter 3), in which innovators will be guided to create a high quality Business Plan. A Business Plan entails everything from planning, technological descriptions and the relevance to the financial forecasts and the business case (revenue streams and investment specifics). The core of attaining funding is having a good Business Plan, so this is a big part of making the innovator investment ready and finance acquisition.

The second approach is the PPIF model itself and the corresponding funding approach (Chapter 4). The PPIF is a model that shows different public and private funding schemes that are generally used and applicable for social innovations such as the environmental innovations in BRIGAID. The corresponding document introduces the world of finance to the innovators, to make them understand the perspectives and interests of the different types of investors. Only then are they able to choose which funding scheme and which type of investor is suitable for them and are they able to communicate their innovation is such a way that investors are willing to actually invest. The funding approach will aid innovators individually by helping them identify relevant funding options and giving tips on where to focus on.

This document, deliverable 6.3, contains *"a report on development of PPIF+ including a synthesis of the funding applications, and a business case for commercializing the ISP. Delivered in M18, updated in M33 and M48."*. As such, it describes the Business Plan Development Process, the PPIF and the Funding Approach, it describes how they were developed and it provides a timeline for what will be done in the remainder of the BRIGAID programme. The commercialisation of the ISP (the Innovation Sharing Platform) is part of the second part of task 6.5. That is *"to develop a business case including a funding mechanism to establish structural, ongoing financial support for climate adaptation innovations in Europe. BRIGAID will evaluate the opportunities to commercialize the Innovation Sharing Platform (ISP) (…). Herein, the focus is to connect with existing initiatives such as EIP-Water, who expressed their support for BRIGAID's initiative. The platform presents innovations and aims to connect innovators, end users, qualified investors, and grants and fiscal incentives advisors throughout Europe. Thereto BRIGAID aims to attract larger private financers such as NGO's or private equity funds, to develop a ring of common investors who are willing to provide co-financing for all public funds (…)."*

The business case of the commercialisation of the Innovation Sharing Platform, now called the Climate Innovation Window (CIW) is presented in Chapter 5. Chapters 3, 4 and 5 combined thus describe the entire process of the approach and guidance of developing high quality Business Plans, introducing the innovators to the world of funding, providing the means and individual assistance in finding suitable funding schemes and options, and actively connecting innovators to a trusted network of investors. By doing this, the aims of

task 6.4 and 6.5 have been met and the chances of successfully introducing innovations that can help us in the battle against natural disasters will increase.

2 Contents and Timeline

This document outlines the process and methodology to transform BRIGAID inventions into fundable businesses and describes the guidance of these businesses to acquire funding. This deliverable consists of different parts:

- A timeline for the further development of this deliverable;
- A description and demonstration of the proven and standardised Business Plan development process (the Business Plan Development Process; Chapter 3), which enables the assessment of the 'investment readiness' and guidance of the innovations in terms of business planning and financing;
- An overview and model for public and private finance opportunities for BRIGAID innovations (the PPIF; Chapter 4), and an overview of several public funding opportunities including the European Structural and Investment Funds (ESIF); and
- A business case for the commercialisation of the CIW (The Funding Platform; Chapter 5) which will include a funding mechanism to establish structural, ongoing financial support for climate adaptation innovations in Europe.

The process from invention to fundable business entails all these aspects, in a sequential order. For the innovators themselves, this process is structured as follows:

1. Intake
2. Developing the Business Plan until it reaches a threshold of completeness and quality determined by standardised indicators (with integration of the BRIGAID Market Analysis Framework (MAF+))
3. Getting an evaluation of the business opportunities based on the business case accompanied by a go or no-go advice
4. Getting introduced to the world of finance and funding by use of the PPIF and a group session
5. Undertaking a 'funding scan' on the business case to assess the compatibility with existing funding options
6. Integrating the innovation in the Funding Platform (the commercial aspect of the CIW)
7. Wrap-up and receiving additional advice on the identified funding option(s)

Since developing a Business Plan and finding funding options always differs from case to case, this process will always entail personalised advice. Because of this, as stated in the project proposal, the process cannot be completely autonomous for innovators. It will, however, give innovators the necessary tools to make the work they *can* do as valuable, easy-to-use and efficient as possible. The following sections will discuss the timeline, current state and future developments for this deliverable.

As previously stated, there is a sequential order in the different aspects of this deliverable. Because of this, the development of this platform has some dependencies and its contents cannot be developed completely

in parallel. For instance, the funding scan is based on the end result of the Business Plan Development Process and can therefore only be applied and validated after the Business Plan Development Process has been concluded. As for the creating of the Funding Platform, attracting investors will only be possible once there are sufficient high-quality opportunities available to them. This leads to the timeline shown below with blue concerning the Business Plan Development Process, green the PPIF and orange the Funding Platform:

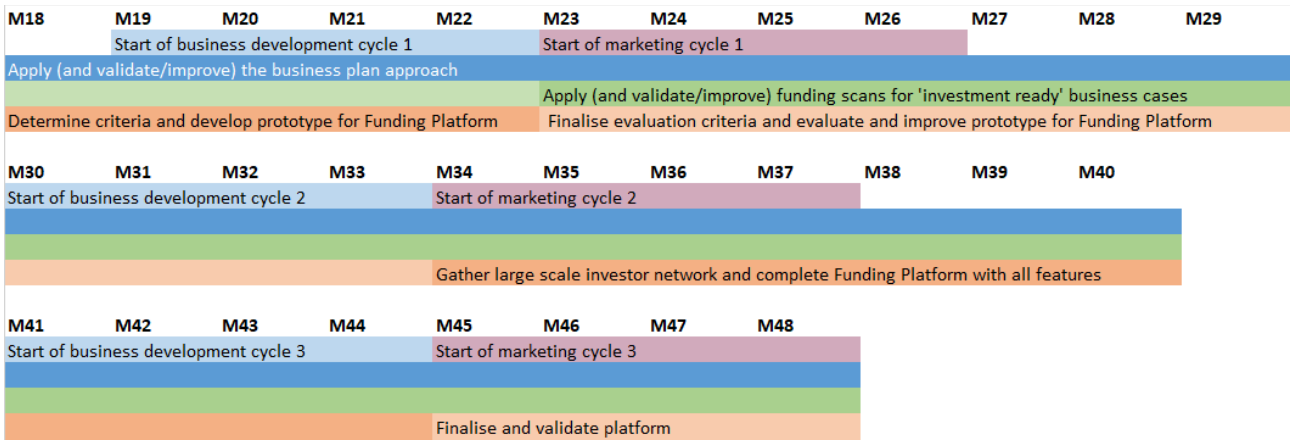


Figure 3: Timeline of the remainder of D6.3

While the first innovation cycle starts in M19, some innovators have already been involved in the Business Plan Development Process. As such, most of the Business Plan Development Process has been developed and some parts have been validated. The expectation is that at the end of M22, the first innovators will have completed the entire Business Plan Development Process and that the lessons learned and their feedback have led to finalizing the approach. Although the first business development cycle ends in M22, the Business Plan Development Process can and will be applied to innovators that are suitable for and willing to commit to the approach throughout the project. As such, the Business Plan Development Process continues throughout the rest of the BRIGAID programme, mostly concentrated around the business development cycles, but with possibilities for entry outside those strict time constraints.

During that time, the funding scan can be further developed based on the finalized Business Plan Development Process and validated by applying it. As such, when the first official innovation business development cycle has concluded in M23, the innovators with a 'go' advice can continue into the funding scan procedure.

The possibilities for the development of the Funding Platform are currently being explored in collaboration with L'Orangerie Studio and ICRE8, as discussed in chapter 5 of this deliverable. Contacting and acquiring investors that will associate themselves with the platform will only be possible when there are sufficient 'fundable' business cases on the platform itself. This means that this part of commercializing the CIW can only be started when several funding scans have been completed with high-quality results. This is expected to occur at the end of the second innovation cycle; M38.

3 Business Plan Development Process

As stated in the introductory chapter, the development of a good Business Plan is crucial for firm survival. A Business Plan enables innovators to identify risks and create mitigation and adaptation matters before these risks become reality, enables them to identify whether there's a market need before investing a lot of capital and time in the business and enables them to decide on a viable financial strategy so that they have sufficient capital. Other aspects of a Business Plan are the evaluation of the team's competencies and structure, a competitor analysis, and a description of dissemination and marketing measures; all aspects concerning the previously mentioned reasons why start-ups tend to fail. Many of the reasons why start-ups fail can thus be identified with a good Business Plan to either improve their business or innovation so that they do not fall into the pitfalls themselves, or to end the development of the business before too much has been invested. TFC's Business Plan Development Process enables BRIGAID innovators to create a good Business Plan, by guiding them and providing the tools to do so (in collaboration with the Market Analysis Framework developed by Ecologic). At the end of the Business Plan Development Process, TFC will evaluate the Business Plans to see if they indeed have enough potential for the innovations to develop it further.

This chapter describes and demonstrates this proven and standardised business case development approach, which expands on and incorporates the work from D6.2 (the earlier mentioned Market Analysis Framework; or MAF+). As communicated with the innovators themselves, the Business Plan Development Process helps innovators turn their technologies into marketable products and services. In broad terms, this is done by:

- Enabling innovators to identify and analyse target markets for their innovations;
- Assessing whether a clear market need for the innovation exists;
- Preparing innovators to strategically communicate with their target market; and
- Facilitating the development of a suitable and sustainable business model.

3.1 Overview and time requirement of the process

The Business Plan Development Process consists of six different steps from initial meeting to having an evaluated Business Plan and a wrap-up session. Completing the six steps of the Business Plan Development Process does require some time and effort from the innovator themselves, so it is important that they are committed to this process. The six steps of the process are:

1. **Intake**: Innovators must complete an initial questionnaire of eight multiple choice questions to assess if Work Package 6 can indeed provide them with additional value, and a first indication of the market potential of the innovation.

   Estimated time commitment: 0.5 hours max.

2. **Quick Scan**: Innovators must take part in a short telephone interview with WP6 partners. The aim is to assess the current state of their existing Business Plan, which will be built on in the next steps.

   Estimated time commitment: 1 hour max.

   Note: A result may be that the innovator has to do more preparation before the next phase can begin.

3. **Business Plan intake and workshop**: Innovators participate in a face-to-face session with WP6 partners. WP6 partners will carry out an in-depth analysis of the existing Business Plan, provide detailed feedback on how existing elements can be improved, and identify missing aspects to develop.

   Estimated time commitment: 12 hours over 2 consecutive working days.

4. **MAF+ (Deliverable 6.2)**: The next step will be a 6-8 week collaborative process where innovators will be guided through the MAF+ exercises. The aim here is to explore the different components of the Business Plan in more detail and provide tools to further develop them.

   Estimated time commitment: 1-2 hour phone call fortnightly (for the 6-8 week period) plus 2-4 hours preparation/information collection (desk research); total commitment of 12-24 hours over 6-8 weeks.

5. **Follow-up**: Drawing on the work completed in the prior steps and guidance provided by WP6, innovators will be ready to write a complete Business Plan. WP6 will evaluate this Business Plan with three possible outcomes:

   i. The Business Plan is incomplete and the innovator should improve it based on WP6 feedback;

   ii. The Business Plan is market- and investor-ready and needs no additional work; or

   iii. The Business Plan is complete but the innovation is judged to have insufficient market potential. The innovator is advised to cease further developing the innovation in its current form.

   Estimated time commitment: Case-specific, ranging from 0 to 40 hours.

6. **Wrap-up**: A final half-day session taking place back-to-back with one of the general BRIGAID meetings. This session has the aim of summarising the lessons and outputs, introducing the innovator to the world of funding, and laying the foundations for WP7's marketing communication activities and the funding scan.

   Estimated time commitment: 4 hours.

During these six steps, innovators will have the guidance and tools to create a high quality Business Plan reflecting the quality of their innovation. At the end of these six steps, each innovator will know the quality of their innovation due to the evaluation of their Business Plan and will know whether to continue development (a go/no-go advice). Each of these six steps will be elaborated upon in the following sections.

3.2 Intake and Quick Scan

The first step of the Business Plan Development Process is the Intake, which is meant as a selection tool to assess whether the innovators are suitable for this approach (i.e. that they will benefit from it) and whether they have the required time commitment for the approach. The intake consists of eight questions and provides the first insight into the target customer and market of the innovation. The intake is followed by an initial go/no-go decision and, in case of a 'go', leads into the Quick Scan.

The Quick Scan is a set of 47 yes/no questions (included in Appendix A) which aims to identify the current state of the contents of a Business Plan. It checks which parts are present and provides a score based on

four different subjects: Strategy, Technology, Social, and Financing. The Strategy subject checks whether the innovator has paid attention to the market opportunities, long term strategy and organizational structure of the company. The Technology subject checks how far the technology has been developed towards a market ready product in terms of prototyping, patenting and validating. The Social aspects of the Quick scan cover the attention paid to evaluation of environmental impacts, creation of legitimacy among stakeholders and collaboration with potential partners. The Financing section of the scan determines whether the required financial forecasts have been made and what the current financial state of the company is.

The Quick Scan only checks if the contents are there and is thus not an evaluation of the quality of these contents. The Quick Scan was first used at the Frontrunner Workshop in Leuven on November 16th 2016, where four frontrunners (the Water Vapour GNSS Monitor, Flip Flap Cofferdam, InfoDROUGHT and Fire Risk Monitor) answered these questions. The results of the quick scan are then summarised and presented in the form of a spider diagram; an example of a possible outcome is shown below:

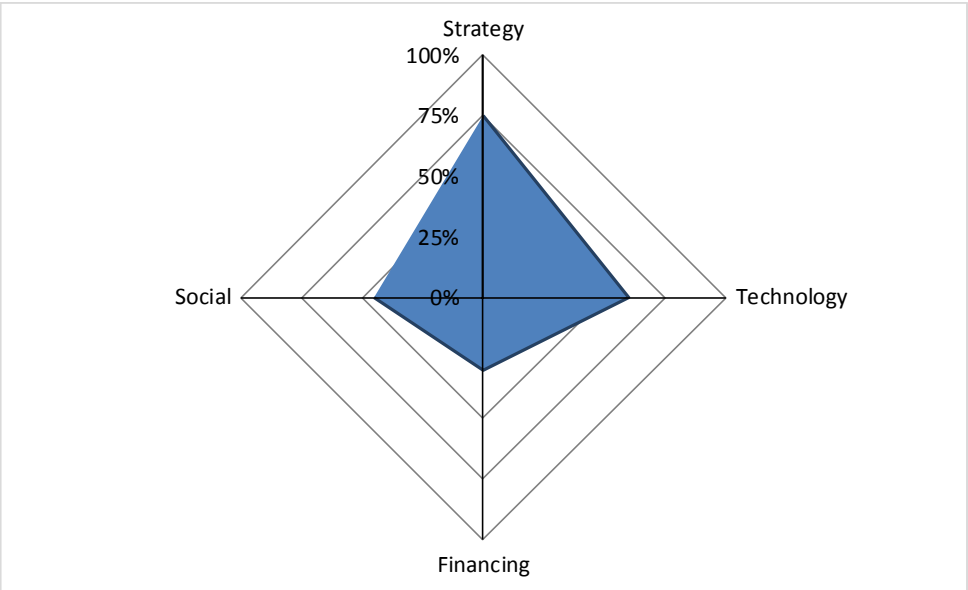


Figure 4: Example of possible Quick Scan results representation

The Quick Scan has been adapted based on feedback from the Frontrunner Workshop and based on feedback on the 'Business Plan 101', a document describing the required contents of a Business Plan and tips on how to write them, which innovators receive along with the evaluation report of their Quick Scan. The Business Plan 101 will be described in more detail in the next section and is included as Appendix B. The feedback on the Quick Scan was overwhelmingly positive and provided recognizable results according to the frontrunners. The Quick Scan has now been finalized and used with Ecologisch Waterbeheer as the next innovator. Innovators receive their answers, the graph, and a report with a summary and tips on missing parts.

3.3 Business Plan Intake and Workshop sessions

While the Quick Scan gives an indication of the current state of the contents of a Business Plan and shows the innovators that there are many more aspects to a successful innovation than just technological aspects, it does not yet help innovators to create a high quality Business Plan. The Business Plan Intake and

Workshop sessions will, and can therefore be seen as the core of the Business Plan Development Process. To be able to maximize the effect of these sessions, it is important that the innovators are familiar with the different aspects and the terminology of a Business Plan. To that end, the innovators get an adapted version of the previously mentioned Business Plan 101 together with the evaluation report of their Quick Scan. The adapted versions only show the parts which the innovators are missing, based on the results of the Quick Scan to keep the reading material as little as possible. The full version of the Business Plan 101 will be available to them online, if they want to read more about the parts they did already have. The Business Plan 101 is based on several much-used methodologies, and has integrated these in the different sections of the Business Plan. The various methodologies used include (but are not limited to):

- Porter's Five Forces model
- The S-Curve model
- Boschma's proximity model
- The Business Model Canvas
- The Lean Model Canvas
- Rogers' theory on Diffusion of Innovation
- The Technological Innovation Systems approach
- Mahoney's Resource Based View perspective
- Teece's Dynamic Capabilities perspective
- Common investment indicators such as ROI and NPV
- The World Bank's disaster resilience indicators
- Millar and Hall's Social Return On Investment approach

References of these methodologies are included in the Business Plan 101 document in Appendix B. These methodologies are combined with our expertise on developing business cases and integrated into the different sections of the Business Plan 101. This means that not every section relates to literature and that some sections relate to different methodologies. The Business Plan 101 is structured in the same way as the Quick Scan: there are chapters on Strategy, Technology, Social and Financial. By including content on social innovations, social acceptance, environmental impact and disaster resilience indicators, the Business Plan 101 is tailored to suit environmental innovations.

After sending the innovators this document, so that they are more familiar with the contents of a Business Plans, the Business Plan Intake and Workshop sessions will be planned. These sessions will go into much more detail concerning the activities of the innovators and will form a first version of a Business Plan, give an evaluation of that Business Plan and provide guidance on improving the Business Plan by use of a workshop. The first session, the Intake, consists of an interview with the innovators concerning all of the aspects mentioned in the Business Plan 101. By having this intake in a face-to-face interview session instead of a digit intake process, TFC has the opportunity to go into much more detail to truly get the underlying rationale behind strategic decisions and to explain the contents of the Business Plan further. The result of the intake can be seen as a first version, albeit not a formalised one, of a Business Plan. TFC will

score each part of this conceptual Business Plan as if it were a regular Business Plan, based on the following indicators:

- General, which rates the overall description of the innovation in terms of relevance and effect;
- Impact, which rates the environmental impact the innovation makes in disaster resilience;
- Team, which rates the competencies and organizational structure of the core team;
- Partners, which rates the quality of the possible partnerships in terms of relevance and balance;
- Long Term Ambition, which rates the quality of long term planning and setting of realistic goals;
- Social acceptance, which rates the current situation in social resistance and activities to create legitimacy;
- Market analysis, which rates the analysis of the target users and potential competitors and substitutes;
- Business model, which rates the viability of the cost and revenue streams and the strategy of market introduction;
- Technology assessment, which rates the novelty and potential of the technology; and
- Financial viability, which rates the quality and argumentation of the financial forecasts.

Each of these indicators are divided into different sub-indicators, each of which are scored ranging from 1 to 5, with 1 representing a 'Weak' description of the sub-indicator, and 5 representing an 'Excellent' description and argumentation of the Business Plan section. The scores of these sub-indicators are combined into the general indicators as shown above. As an example of the inner workings of the above mentioned methodology, the "General" indicator consists of a weighted average of the scores for the Business Plan sections: 'Innovation Description', 'Relevance' & 'Expected results'. For example, a 1-point description of 'Relevance' is described as 'Relevance unclear, only contains technical information' whereas a 5-point can be seen as 'Concise, with clearly explained technical aspects and a clearly argued relevance and aim'.

During the Workshop session, the second session of this approach, TFC will present this evaluation to the innovators and will explain the different scores, giving feedback on how to improve them along the way. Innovators will get a chance to further clarify parts of the Business Plan and will be advised in how to present or write down the parts in such a manner that the most important information is clear right away. This process has been fully completed by the ISA Fire Risk Monitor, resulting in a figure similar to the example shown below.

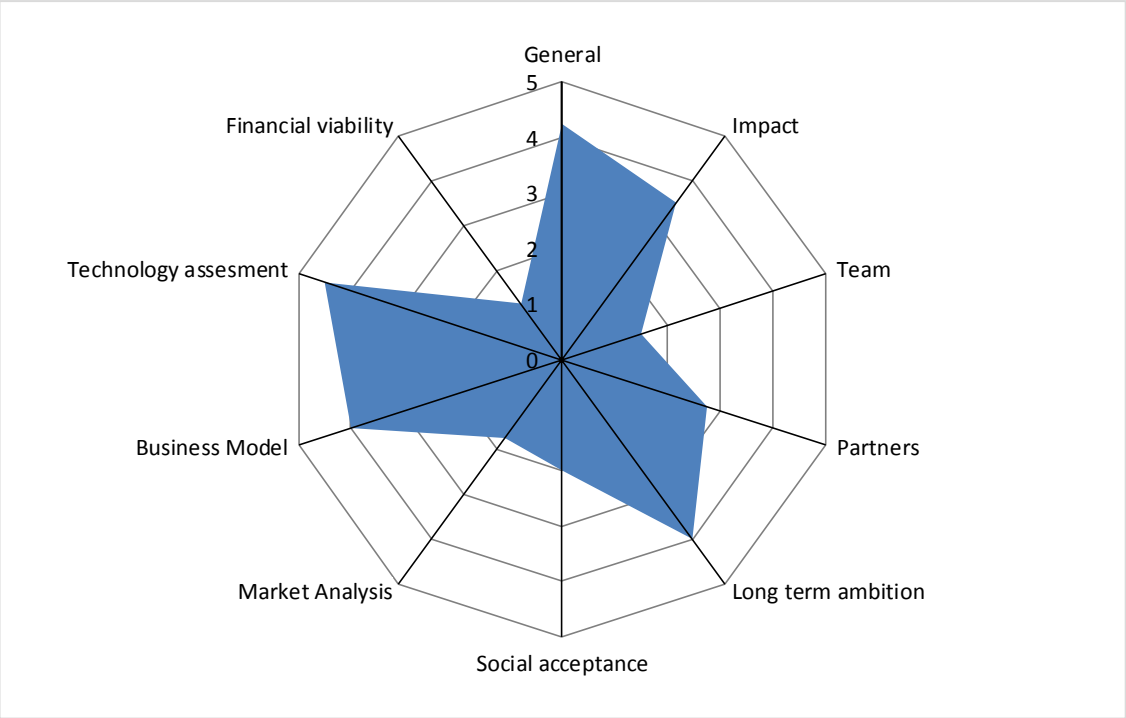


Figure 5: Example of possible scorecard as a result of the Business Plan intake

Many of the different aspects evaluated are easily forgotten or overlooked by those that do not have much experience in business planning, especially when trying to get funding. As shown, the technological aspect of the innovation is only 10% of what eventually determines whether you are able to receive funding and are able to successfully launch a profitable business. In our experience, many investors have indicated that the people who present the idea are at least as important as the idea itself (shown by the indicator 'Team') for instance. There are a few indicators that are exclusive to environmental innovations. The 'impact' indicator is based on the climate resilience indicators by the World Bank (World Bank, 2013) the relevance and expected results parts of the 'general' indicator are based on the environmental results, and the creation of legitimacy is also especially important with mitigation/prevention measures or large constructions (such as dams).

The second part of this session concerns the workshop itself. The innovators will learn how to use the Business Model Canvas, a framework which helps innovators better define their target customers, their value propositions for these customers, their revenue streams and more. The Business Model Canvas is shown in figure 6 below:

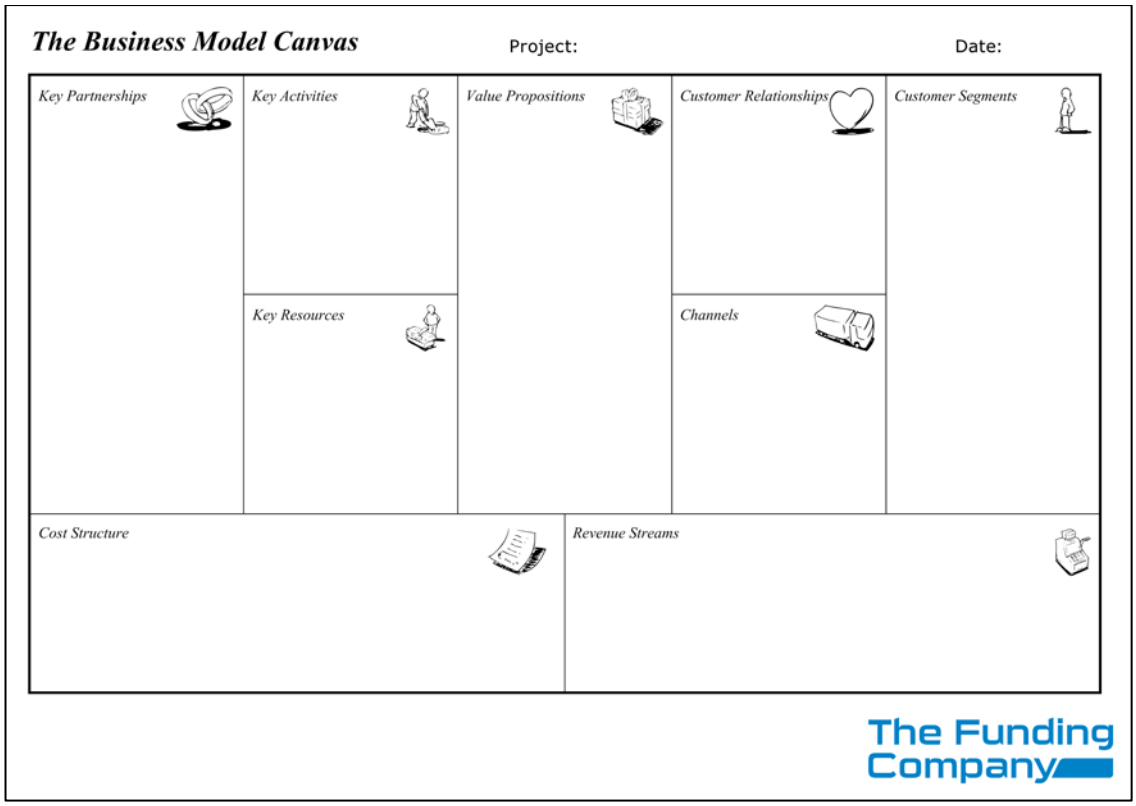


Figure 6: The Business Model Canvas, as used by TFC (Adapted from Osterwalder & Pigneur (2009))

During the workshop, TFC will explain why the Business Model Canvas can help them defining these different aspects, how these should interpret them and how the different parts of the Business Model Canvas can be used to improve their Business Plan. For instance, having a clear list of the Value Propositions that an innovation can offer, will help in determining who all of the competitors are; these competitors are not just the technological competitors, but everyone that provides the same value. In such a way, the Business Model Canvas is very helpful in improving the Business Plan. The Business Model Canvas created is also the starting point for the MAF+, the online tool developed by Ecologic Institute, which is the next step of the Business Plan Development Process.

At the end of the Business Plan Intake and Workshop sessions, innovators thus have their first Business Plan, have a better understanding of the value and contents of such a Business Plan, have an evaluation and with that an overview of their strengths and weaknesses, and have had advice how to improve the weak parts of their Business Plan. They have also worked with the first tool they can use themselves to improve and evaluate parts of their Business Plan in the form of the Business Model Canvas. The next step of the Business Plan Development Process will provide the innovators with even more tools to do so.

3.4 MAF+ and Follow-up

The following step in the Business Plan Development Process is the Market Analysis Framework (MAF+), with will provide the innovators with online tools to improve their Business Plan and guides them in how to use these tools. The MAF+ is a separate deliverable of the BRIGAID programme (Deliverable 6.2) and is explained in much greater detail in its own document. The MAF+ starts with the Business Model Canvas discussed in section 3.2 and ends with an updated version of their Business Model Canvas using lessons

learned and tools obtained during the MAF+ process. This new and updated Business Model Canvas is the entry point for the follow-up. By means of a call, the innovator will explain the new Business Model Canvas with the rationale behind it. TFC will give feedback on that and give tips so that either:

a) they can use it to make a new Business Plan; or

b) they can improve it and present it in a next call

In the first case, the innovators will receive a blank Business Plan template, which they will be asked to fill in. This template will serve as a companion to the Business Plan 101 and can be found in Appendix C. All of the parts of this blank Business Plan were also discussed in the Business Plan Intake session. The innovators will send their Business Plan digitally and TFC will evaluate it using their standardized scoring method used in the 2-day session of the Business Plan intake. When all of the indicators have a score of ***at least 3.0*** as a weighted average calculated by the method described in section 3.2, the Business Plan is developed enough to either give a no-go advice (there is insufficient market potential) or to finalize the scores and integrate them into the Funding Platform (the expansion of the CIW described in chapter 5 of this deliverable), where these scores will eventually be used by investors to rate the potential of the innovators. This part of the Business Plan Development Process has not been reached by an innovator yet, so it still needs to be tested and validated.

3.5 Wrap-up and progression into the PPIF and Funding Platform

At the end of 3.4., the innovators should either have gotten a no-go advice or have an investor ready Business Plan, the most important document is creating a sustainable business and to be able to attract funding. The following steps for the latter category is to progress into the funding part of the D6.3 platform where they will receive guidance on how to attract funding. This part will entail:

- The PPIF model and accompanying document;
- A wrap-up session with multiple innovators that have finished the Business Plan Development Process (ideally back-to-back with an existing BRIGAID session) which will provide additional tips (such as on presenting their innovations to investors), give the innovators a chance to discuss their Business Plans and their process to get there with each other and to give them a further introduction in the world of funding and investors, based on the PPIF document;
- A funding scan to identify which funding options are most suitable for them; and
- Incorporation into the Funding Platform with the final scores of the evaluation of their Business Plan (most likely to be converted into categories ‘Silver’, ‘Gold’ and ‘Platinum’) and (a concise version of) their Business Plan itself. The Funding Platform will be developed as an expansion and commercialization of the current CIW.

These items will be expanded upon in chapters 4 (PPIF and Funding approach) and 5 (The Funding Platform) of this document. At the end of those steps innovators should know how and where to attract what kinds of funding to be able to further increase chances of firm survival.

3.6 Concluding remarks

The Business Plan Development Process is the core of the Business Development and Funding Platform that is D6.3. By using a standardised scoring mechanism and overall explanatory documents based on different proven methodologies and specifically tailored for environmental innovations, along with the integration of the MAF+, this guides the innovators to develop their Business Plans in such a way that makes them 'investor ready'.

As such, the Business Plan Development Process builds the business capacity of innovators, widening their range of vision to consider business development aspects and providing an estimation of market potential for their innovation (go/no-go advice). It also provides practical outputs, including a complete Business Plan reviewed by experts and the means to update this Business Plan independently in the future.

The application of the Business Plan Development Process has already begun before the start of innovation cycle 1, with several innovators having completed the Quick Scan and two (ISA and Ecologisch Waterbeheer) already having started the Business Plan Intake, MAF+ exercises and follow-up. Feedback from these innovators was used to further tweak these approaches. The investor ready Business Plans can be used for the next part of this platform: exploring and getting access to public and private funding opportunities.

4 PPIF and Funding approach

As shown in the introductory chapter, having insufficient funds is the 2nd most occurring reason why start-ups fail. The most important part of acquiring funding, having a high quality Business Plan, has been achieved in the previous part of the Business Plan Development Process. This chapter describes the next part of the Business Development and Funding Platform, where innovators are guided on the acquisition of finance.

Aside from the Business Plan, one of the key aspects of acquiring funds is to be able to understand the perspective of the investor, whether it is a public or private investor, and to get an overview of the different categories of investors. Only by understanding the interests and perspectives of your preferred investors, are you able to convince them to invest in your innovation; something with holds true for both public and private investors. Innovators furthermore need to understand the different kinds of funding schemes (such as grants or equity investments) and they should have an understanding of funding options that are suitable for them.

To this end, TFC has developed a Public-Private Investment and Funding model (PPIF) and a funding approach. The PPIF and its accompanying document explains the rise of social investors and provides a categorisation of types of investors. It also explains that the world of funding revolves around interests and helps innovators to understand the different perspectives of the investors. The PPIF itself is a model that shows different kinds of generally used and applicable funding schemes for BRIGAID innovators. It helps them by showing which funding schemes exists and which are most suitable for their situation. The funding approach will further expand upon this knowledge provided by the PPIF and prepares the innovators for interacting with investors by providing examples of relevant public funding programmes and by identifying relevant funding options for individual innovations by execution of a funding scan. The following sections will elaborate more on the PPIF, the relevant public funding options and the funding approach.

4.1 The PPIF

The Public-Private Investment and Financing Model (PPIF) and its accompanying document (found in Appendix D) gives innovators an insight in the world of funding. It contains a condensed version of an extensive research by TFC, which includes but is not limited to collaborations (including brainstorms and presentations) with several Dutch NGO's such as PPPLab and Kenniscentrum Sport. It also describes the rise of social entrepreneurship and social investors to show that not everything in the investment climate purely revolves around money, based on academic literature. Most importantly, it provides a framework with different public and private funding mechanisms for the innovators and an overview of some European funds applicable for BRIGAID innovators. This framework is an important guideline for the funding process, which will be continued in the funding sessions. This framework is not comprehensive however, since there are many sources of funding, which do not all apply to every innovation. For this reason, every innovator will proceed with the funding scan specified for their business. The finalisation of the PPIF will occur after the first few innovators have entered the marketing stage and will follow the timeline set out in chapter 2. The complete current version of the PPIF document can be found in Appendix D, and the essential concepts and purposes of the PPIF will be outlined here.

One of the goals of the PPIF is to make the innovators understand how different investors think and what their interests are. Only by adapting a Business Plan and pitch to the target audience, will an innovator be able to attract funding. To do so, you need to understand what matters to your audience, something that is important for both public and private funding options. To that aim, the PPIF describes a recent shift in economics from a purely financial point of view to a more stakeholder based approach. This movement drastically increased the amount of social enterprises and made Corporate Social Responsibility a common practice in many large firms. This movement not only affected the amount of social entrepreneurs but also influenced many governments to invest more socially responsibly. This ultimately gave rise to a new category of private investors, which held a midpoint between the Socially focused Government or NGO and the traditional financially focused banks and investors. These new investors can be called the 'Impact Investors' or Social investors, which consider both the social impact and financial risks of their investments, before committing. A broad overview of the different categories of funders is shown in figure 7.

Prioirity of Funder	Social Return on Investment		Financial Return on investment
	Just Impact	Impact first/ Impact & Profit	Profit first/ Just profit
Receiver of Funding	Public Sector/ Charity	PPP/ Social Enterprise	Traditional Business
Examples of Possible Funders	Philanthropist, Government, NGO	Government, Impact Investor	Traditional Bank and Investor

Figure 7: Overview of different funders and their priorities

As previously mentioned, research has shown that, next to having a good Business Plan, shortages in funding is one of the most daunting challenges a start-up faces, and one of the most common causes of failure. This is amplified in technology intensive start-ups, which often represent higher risks to their potential investors, and social start-ups (including environmental start-ups), which often appear to represent a lower possible return on investment. Therefore, many social entrepreneurs rely on grants and donations as their main source of funding, which is hard to sustain for a longer period of time.

This problem can be negated by employing a rigid long term strategy for funding, for which the Business Plan Development Process described in Chapter 3 of this deliverable provides a solid groundwork. For instance, a donation can help an innovator start up their business, but to rely solely on donations is not a sustainable financing scheme, since you cannot be certain of its continuation. It is thus important for innovators to have reliable sources of funding while taking advantage of the one-shot options such as grants. The PPIF therefore connects this strategic groundwork to the different categories of sources of funding, ranging from public grants to private equity funds. An overview of these different funding options is shown in the PPIF model as shown figure 8, based on the general risk tolerance from the investors and how sustainable the revenue stream is, which is the culmination of the documents found in Appendix D. The complete PPIF document found in Appendix D will serve as the basis for the innovators to step into the world of (social) funding.

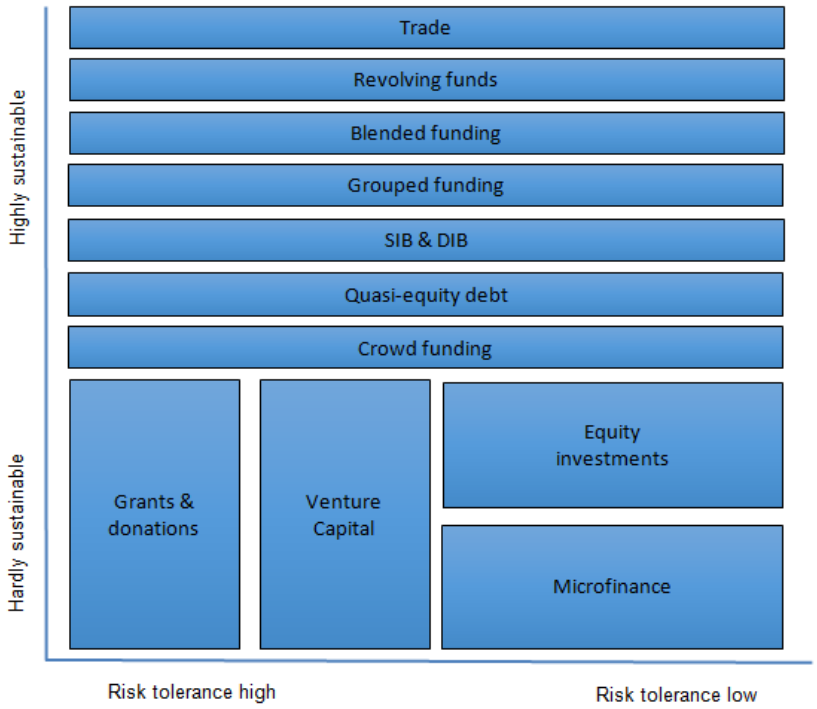


Figure 8: The public-private investment and financing model.

After innovators are familiar with the world of funding, types of investors, and different funding schemes as presented in the PPIF, they need to focus on sources of funding. A funding scan (described in section 4.3) will identify the most relevant funding options for the individual innovators, but an overview of the most relevant public European funding options for BRIGAID innovations in general can already help innovators getting a perspective on their options. The following section will present these funding options and will show the differences between these options.

4.2 Grants and grant application processes in Europe

Aside from having an overview of the most relevant financing schemes and a general idea of the different types of investors, BRGAID innovators can profit by knowing which public funding options are suitable for BRIGAID innovations in general. This chapter discusses several public European funding schemes that are relevant for BRIGAID innovators in general. Within Europe, there are different funding resources available for BRIGAID innovators (see figure below for overview), such as grant schemes from the European Structural Investment Fund (ESIF) programme and the H2020 programme. These resources are a part of the European 2020 strategy. These schemes serve as an illustration of the broad range of funding options that are available within Europe. This overview is meant to illustrate the need for clarification on the specifics of each available funding scheme in order to find which funding scheme is most appropriate for each innovation. One must keep in mind that this list cannot be considered a comprehensive overview of the available funding schemes within Europe.

Throughout Europe, certain tendencies in public funding can be distinguished. Generally speaking, funding schemes in western European countries are aimed at R&D developments, often specifically targeting SME's. Eastern European grants generally aim at improving social cohesion and decreasing economic disparities. A quick glance overview of this can be seen in the figure below. Furthermore, most European funding schemes can be categorized in terms of their Technology Readiness Level (TRL) focus. TRL's are

defined levels ranging from 1 to 9, representing the development phase a technological innovation is in. TRL 1 represents very early fundamental and conceptual research, whereas TRL 9 represents a nearly market ready product developing a market uptake strategy.

Figure 9: focus areas of European public funding options

There are many different public and private funding options available for innovators. Even when focusing purely on the European public funding options, there are many sources of funding. TFC has made a shortlist of those option which it deems most suitable for innovators of the BRIGAID programme; options where most likely most of the innovations have the necessary requirements and links with the goals of the programmes. This shortlist is:

1) The Horizon 2020 SME instrument;
2) Fast Track to Innovation;
3) Eurostars;
4) Local ERDF funds; and
5) LIFE.

These instruments will be discussed in further detail in the text below. As stated, one must keep in mind that these programmes will not all be suitable for each of the innovations in the BRIGAID programme. To that end, TFC will perform a Funding Scan for each innovator that has completed the Business Plan Development Process, to identify which funding options are most suitable for them. This Funding Scan will include many options beyond the five schemes listed below, which merely serve as illustration for the intricacies involved in selecting an appropriate funding scheme. As an overview, a table has been created with a summary of the relevant aspects that need to be considered when selecting a funding scheme. The text below elaborates on that. Discerning features are for whom they are applicable and the different success rates of the funding options presented.

Instrument	For whom?	Success rate	Important notes
H2020	European consortia that focus on research and innovation activities.	8-10 percent	You need to have a consortium that exists of at least 3 partners from 3 different countries.
LIFE	The funding instrument LIFE programme offers support for environment and climate action. (1) public bodies, (2) private commercial organisations and (3) private non-commercial organisations (including NGOs).	Around 20 percent	Anyone registered in the EU can make a proposal for LIFE funding and become what is referred to as a coordinating beneficiary. International collaboration is not required, but it will enhance the success rate as the impact on the European Union is important.
SME instrument	Close-to-market and scale-up projects of a single SME or a consortium of SMEs established in EU Member States or Horizon 2020 associated countries.	5-10 percent	The recommended TRL level for a SME instrument project is level 6. A very selective instrument. Only excellent proposals will receive funding.
Fast Track to innovation (FTI)	FTI is meant for the market uptake of disruptive innovations. It is available for ideas from consortia of innovators of all types and sizes from across Europe.	5-10 percent	Participation from industry in the consortium is mandatory A clear Business Plan is very important
ERDF	The money is mainly intended for small and medium size businesses.	This is different in every EU country and regions	The purpose of ERDF funding is to reduce the differences between the developed and less developed EU regions. European countries receive ERDF money to invest in programmes.
Eurostars	Small and medium size businesses that are focused on research and development activities and work together with other organisations in the EU or Eurostars associate countries.	Around 30 percent	The eligibility criteria can be different within the participating countries.

4.2.1 The Horizon 2020 SME Instrument

Small and Medium-sized Enterprises (SME's) that are EU-based or established in a country associated to Horizon 2020 can now get EU funding and support for innovation projects that will help them grow and expand their activities into other countries – in Europe and beyond. The SME instrument will have a bottom up approach. This means that innovators from different industry areas can apply for funding, including innovators that are focused on climate resilience. The SME instrument supports close-to-market activities, with the aim to give a strong boost to breakthrough innovation. Therefore, the instrument is aimed at technologies which are at TRL 6 or higher. Highly innovative SMEs with a clear commercial ambition and a potential for high growth and internationalisation are the prime target. These SME's can apply as a single entity, or apply with multiple SME's in a consortium.

The SME instrument consists of 3 phases:

Phase 1: Feasibility assessment (optional)

Concerns exploring and assessing the technical feasibility and commercial potential of a breakthrough innovation that a company wants to exploit and commercialize. Activities funded could be: risk assessment, design or market studies, intellectual property exploration; the ultimate goal is to put a new product, service or process in the market, possibly through an innovative application of existing technologies, methodologies, or business processes. The project should be aligned to the business strategy, helping internal growth or targeting a transnational business opportunity. The duration of the project typically has a duration of 6 months.

Phase 2: Innovation project

Concerns innovation projects underpinned by a sound and strategic Business Plan (potentially elaborated and partially funded through phase 1 of the SME Instrument). The project has a duration of 12 to 24 months.

Phase 3: Commercialisation (no funding)

The Phase 3 SME grant only concerns non-financial support in commercializing the innovation developed fully during SME phase 2.

Since the SME instrument has a broad focus, many SME would be eligible to apply. However, the SME instrument is a highly coveted and very selective instrument. The SME instrument generally has a success rate of less than 10% and an intensive application process. Because of this, not every SME within the BRIGAID programme will be at a favourable position to apply for this instrument. The Funding Scan will help innovators clarify whether their innovation has potential to attain SME funding (European Commission, 2017[b,c]).

4.2.2 Fast Track to Innovation

Fast Track to Innovation (FTI) provides funding for close-to-market, business-driven projects and is open to proposals in any area of technology or application. This means a bottom up approach. FTI should promote transdisciplinary and cross-sector cooperation. The aim is to reduce time from idea to market, stimulate the participation of first-time applicants to EU research funding, and increase private sector investment in research and innovation. The maximum duration of the project is three years; within this period the market introduction has to be done.

The FTI pilot supports projects undertaking innovation from the demonstration stage through to market uptake, including stages such as piloting, test-beds, systems validation in real world/working conditions, validation of business models, pre-normative research, and standard-setting. It targets relatively mature new technologies, concepts, processes and business models that need a last development step to reach the market and achieve wider deployment. To this end, if a proposal involves technological innovation, the consortium must declare that the technology or the technologies concerned are at least at Technology Readiness Level (TRL) 6; technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies). The indicative EU contribution per action is expected to be between €1 million and €2 million; in duly justified cases, an EU contribution of up to €3 million can be considered.

The FTI supports a wide range of different projects that include, but are not limited to Climate action, environment, resource efficiency and public-private partnerships. As with the SME instrument, success

rates for the FTI instrument are relatively low. In order to have a chance of being successful in applying for FTI funding the innovation needs to be in a late stage of development with a focus on Business Plan development and market uptake strategy. The FTI instrument will be suitable to a select group of BRIGAID innovators that are in a late stage of technological development and have developed a strong business proposition with high potential for large market uptake. The Funding Scan will provide the innovators with an indication of whether their Business Plan fits the preferred FTI description (European Commission, 2017[e]).

4.2.3 Eurostars

Eurostars supports international innovative projects led by research and development- performing small- and medium-sized enterprises (R&D-performing SMEs). Eurostars has been developed to meet the specific needs of SMEs. It is an ideal first step in international cooperation, enabling small businesses to combine and share expertise and benefit from working beyond national borders.

In order to be eligible for a Eurostars grant; The project coordinator has to be an R&D-intensive SME from a European country; there have to be at least 2 organisations from at least 2 Eurostar countries involved with the project; There has to be a balanced consortium. No organization or country bears more than 75% of the costs; The project needs to have a civil application;

Eurostars applications can be filed by Innovators that are still in a stage of experimental development, or TRL 4-5. Success rates on the Eurostars instrument are around 30%, making it a more easily attainable funding scheme than the previous two. However, eligibility criteria for the Eurostars scheme are more narrow, which results in many BRIGAID innovators most likely not being eligible for participation in the scheme. As Eurostars consortia must consist of partnerships across international borders, and the eligibility criteria vary between European countries, checking the eligibility of a consortium for the Eurostars scheme can be complex. The Funding Scan will aid innovators in testing whether their innovation consortium is eligible and well suited for applying for a Eurostars grant (Eurostars, 2017).

4.2.4 Local ERDF Fund

The European Regional Development Fund (ERDF) is a framework programme that is organised in different sub-programmes on European regional level. For example in the Netherlands the ERDF is distributed via EFRO (Dutch translation of ERDF) in the four regions East, West, South and North and in Germany ERDF money is distributed via Baden Wurttemberg, Bayern, Berlin, Brandenburg, Bremen, Hamburg, Hessen, Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, Schleswig Holstein, Thüringen. Grants are available for projects that are focused on innovation, generally with a bias towards small and medium sized businesses. The overall aim of the program is to reinforce economic, social and territorial cohesion. ERDF project need to be concerned with one of the following activities: Local development; Energy; Environment; Industry; Innovation; New technologies; SME Policy.

As these ERDF funds are managed by local governments across Europe, policies and laws regarding their distribution can vary wildly between, and even within, countries. Whether the BRIGAID innovators are eligible for these funds therefore varies greatly on a case by case basis, based on the focus area and geographical location of the innovator. The Funding Scan will aid innovators in discovering the funding potential of their innovation in their respective regions (European Commission, 2017[d]).

4.2.5 LIFE

LIFE is the EU's financial instrument supporting environmental, nature conservation and climate action projects throughout the EU. LIFE distinguishes 5 types of projects: traditional, integral, technical assistance, capacity building and preparatory. Each type of project has different conditions.

Traditional projects

These projects focus on one specific natural/environmental/climate problem with project costs of 1 million.

- There is monitoring of the effect of a project;
- Demonstrable added value for Europe.
- Cooperation with relevant partners from your own country and / or Europe.
- There is no support available from other European schemes than LIFE;
- Of the total project budget 60% LIFE funding is available, 75% for priority species and habitats.

Integral projects (IP)

Integrated projects are designed as a catalyst for an integral and strategic plan for addressing the environmental or climate problems of a vast geographical area: (multi) regional or (inter)nationally. The focus is on coordination and ensure commitment of the relevant parties. These are large projects with € 8-12 million grant, with a duration of 4-8 years.

Technical Assistance projects

Projects intended for the preparation of an integral project. An IP must be submitted the following year and the maximum grant is € 100.000 per project.

Capacity building projects

Projects intended to give additional support to member states that are new in the EU, have a lower than average gross domestic product and / or otherwise lag behind with submitting LIFE projects.

Preparatory projects

These projects address specific needs for the development and implementation of Union environmental or climate policy and legislation. The specific topics are indicated in the application guide.

Since the LIFE funding scheme is specifically aimed at environmental and climate action projects, it will most likely be well suited to BRIGAID innovators. LIFE does however, emphasize projects with large budgets and consortia, preferably with an international collaboration. Therefore, not every innovator will be able or willing to conform to these requirements (European Commission, 2017[a]).

4.3 Funding Scan

Although the funding schemes that are explained in section 4.2 can be relevant for nearly all BRIGAID innovators, each innovation is different and thus different funding options are suitable for different innovators, as the innovators will learn in the previous steps of the program. To truly enable innovators to acquire the necessary funding and provide individual assistance, TFC will perform a funding scan to identify the most suitable public and private funding options for them. The funding scan will also provide tips on the

focus and interests points of those funding options, and will thus help innovators in their acquisition of finance. The funding scan itself will be executed based on the available Business Plan and additional information gathered in a call by the funding specialists within TFC. An additional call is required since some of the aspects of an innovation which are essential identifying suitable funding schemes are a bit different from the aspects that make good Business Plan. The funding scan itself will be adapted based on feedback from innovators and lessons learned during the execution of the scan.

Some of the key aspects which are important in identifying suitable funding options are:

- **Themes and sectors**

While the BRIGAID innovations are all focused on disaster resilience, many have additional themes that are suitable for different funding options. For instance, some have an agricultural aspect, while others are much more aligned to water management. Extracting these subthemes is an important step to identify relevant funding options.

- **Technological Readiness Level**

The Technological Readiness Level is a broad description of the maturity of the technology and an indication of the position on the timeline to commercialization of the innovation. While many innovators usually start to think about funding and a Business Plan when they are already at TRL 8 or 9 (system complete and qualified, or even already operational), the BRIGAID programme (with the Business Plan Development Process) shows that having a good Business Plan is important in a much earlier stage. Because of this, there is quite a big range in TRL amongst the different BRIGAID innovators. Some funding schemes are suitable technological development, whilst other are tailored for the development of a prototype. The TRL is thus an important factor in identifying suitable grants or funding options.

- **Partnerships**

Some grants require a collaboration, where a well-balanced and organised consortium is an essential aspect of the application. The consortium should be composed of organisations having excellent understanding of the topic at hand as well as the needs the topic aims to target. Cooperation between the consortium partners must be at high level and intensive, reinforcing the topic progressively and in common understanding of complementarity between the partners. The type of companies in the collaboration can also dictate which grants are suitable (for instance, some need a commercial partner and a knowledge institution).

- **Scope**

The scope of the innovation, geographically speaking, is also a key aspect in identifying relevant public funding options. Some regions have additional funding available to help further develop that region, while other public funding options are national or otherwise regional (such a the Danube Transnational Programme). Demarcating the scope of the innovation is therefore essential in identifying suitable funding options.

The funding scan will provide the innovators an overview of the funding options most suitable for them and where their priorities and focus lie. The scan itself will be evaluated and formalized as the BRIGAID

programme progresses, and expanded with increasing knowledge of different national and regional funding options in different BRIGAID countries.

4.4 Wrap-up session

When sufficient innovators have completed the Business Plan Development Process, a wrap-up session will be organised, preferably back-to-back with an existing BRIGAID session to minimize the time investments and travel expenses of all parties involved. This session will continue the 'story' of the PPIF, to further explain how different public and private actors have different interests and thus will invest for different reasons. The message (whether it's a pitch or an investment memo) to these parties therefore changes based on who the innovators are asking to invest. This aim for this session is to work together with WP7 concerning pitches and how to reach end-users (and in this case, public or private funding parties). The session will also elaborate on the process of attaining public or private funds, such as what a grant application entails or how you will meet investors.

The session also provides an option for the innovators that have completed the Business Plan Development Process to discuss their Business Plans and the hardships or lessons learned with each other and can give a pitch to each other. This will make the innovators themselves even more comfortable with the business aspects of their Business Plan and creates stronger connection between the innovators, which can help them in the future.

The wrap-up session, as the name implies, also wraps up the individual guidance and personal interaction with the BRIGAID innovators from the side of TFC and the Ecologic Institute. During this guidance, innovators have:

- Learned how to make a high quality Business Plan;
- Had their Business Plan evaluated so that the innovators know the quality of their innovation and if they should continue to invest in it;
- Been introduced to the world of funding and have learned to understand investors;
- Gotten an overview of different funding schemes and European public funding options suitable for BRIGAID innovations in general;
- Had the most suitable funding options identified for them; and
- Been aided in how to communicate with the investors to make sure their message has the maximum effect.

With this wrap-up session, the innovators have thus learned everything necessary to bel able to successfully bridge the gap between invention and a successful business and innovation, while having gotten access to the tools to help them. The last aspect of this deliverable is to directly bring the innovators in contact with trustworthy and relevant investors. This is done by the creation of the Funding Platform, the commercial aspect of the Climate Innovation Window. This will digitally link investors to the innovators and will provide an easy way for investors to identify and invest in innovations that are interesting for them. This will be elaborated upon in Chapter 5.

4.5 Concluding remarks

This chapter has focussed on describing the approach of introducing innovators to the world of funding and gave an outline of how the funding approach and the public-private investment model aids innovators in acquiring funding, by using the Business Plan developed in the activities described in chapter 3 as an entry point. With that knowledge and the tools provided, innovators are now able to decide on the best suitable funding schemes and funding options for their specific situation and have had advice and training on the necessary skills on approaching different investors and applying for the different funding options. The next chapter will elaborate on the final part of this deliverable: connecting investors to individual innovators, so that innovators do not need to approach and identify suitable investors themselves. This is done digitally by use of the Funding Platform, which will be explained in the next chapter.

5 Funding Platform business case

Up to this point, the actions of this deliverable has led to innovators creating a high quality Business Plan, to understand the world of funding and to be able to identify the most suitable funding schemes and funding options for them. As such, this deliverable has helped innovators overcome many of the pitfalls from the top 10 reasons why start-ups fail as discussed in the introductory chapter. One of the most difficult aspects to acquire funding however, is to identify and approach relevant and reliable investors. Not all investors have an interest in environmental innovations and not all investors have the best interest of the business at heart. At the other side, investors themselves can often find it hard to identify relevant investment option and to evaluate their quality without investing a lot of time. This is the final area where TFC can aid the innovators within the BRIGAID programme, as well as the trustworthy investors interested in investing in them.

This is done by the creation of a platform for ongoing and structural financial support of climate innovations which can continue to operate beyond BRIGAID's programme period, called the Funding Platform. This Funding Platform will be extension of the already developed Climate Innovation Window (CIW) presented in Deliverable D7.6 of the BRIGAID programme. The CIW is the first step in establishing the Communities of Innovation (CoI) proposed in D7.1. These CoI are based on the idea that innovation benefits from the involvement of many different actors from entrepreneurs to end-users. The Funding Platform aims to expand this idea by selecting qualified investors and including them in these CoI. When sufficiently developed, the Funding Platform will be introduced to the participating innovators at the wrap-up session discussed in chapter 4. These tools aim to provide European climate innovations with a much needed foothold in the world of social finance.

5.1 Platform concept and features

The current version of the CIW is an effective tool for knowledge sharing, but currently has little practical application beyond the product development stages. The proposed Funding Platform aims to change that, by providing the link between high potential innovators and qualified investors, to become the ideal solution in the domain of Climate Innovation Funding. In order to do that, the platform will have to overcome certain challenges which will be outlined below.

First of all, as outlined in the PPIF section, it can be said that acquiring investment is the main challenge for all entrepreneurs, and even more so for those in the social domain (Certo & Miller, 2008). The market is scattered, and no clear strategy for acquiring funding exists (Austin et al, 2006). In order to solve this issue, the platform should become an attractive solution for a wide range of different investors, who as a result will all be concentrated in a single space, making the platform a convenient foothold in the diverse world of social finance. In order to achieve this, the platform will be developed under the consultation of a wide range of investors, who will provide their input on the needs for such a platform, to make it as attractive as possible to a diverse group of investors.

The main way that the Funding Platform can become an essential platform for investors is by providing a reliable and user friendly way of displaying and ensuring the quality of the innovations on it; to provide investors with a comprehensive overview of the quality of the innovations in different aspects. Ultimately this will culminate in the establishment of different grading levels provided by BRIGAID as 'Seals of

approval'. These grading levels are directly related to the scores from the evaluation of the final Business Plans as discussed in chapter 3 and will most likely be categorised as 'Silver', 'Gold' and 'Platinum'. The final categories will be determined after meeting with several investors, to get their view of the grading concept. These will be easily visible and recognizable grading levels that give a single glance overview of the quality of the innovation.

From the perspective of the innovator, the platform should also be valuable in order to maintain a steady influx of innovations after the end of the BRIGAID programme. While the platform will provide some inherent benefit to these innovators by assimilating a broad range of different investors into a single platform, its usefulness can further be expanded by also ensuring the reliability and integrity of the investors. The platform will achieve this by establishing another set of criteria, this time aimed at rating the investors. These criteria will be developed in collaboration with the participating innovators and pilot investors. Preliminary ideas of what these criteria could be are, prior investing portfolio, work/management experience and credit worthiness. Investors on the platform will receive a 'qualified' status when complying to this set of criteria, providing the innovators with larger security when looking for funding.

During the development of the platform the criteria for the innovators will take precedence over the criteria for the investors. This is because in the initial phases the acquisition of investors might be challenging, so keeping their barrier to entry as low as possible might help acquire more interested investors. Aside from that, during these initial phases, the innovators seeking funding will still be under the active supervision of the BRIGAID programme lowering the risks of them being connected to unreliable investors. The formalized criteria for qualifying the investors will be introduced in a later stage, before the end of the BRIGAID programme as outlined in the section on planning below.

The main benefit this platform will attain over other funding platforms is that it will have a high level of quality assurance from both sides of the funding equation. This is especially relevant in the domain of social entrepreneurship, and is therefore an excellent fit with the goals of the BRIGAID program. This is in contrast to existing platforms like AngelKings, Gust and Angellist, which benefit from having a very large network, but are very unreliable in terms of quality control, nor do these platforms focus specifically on social entrepreneurs, making them less suited for BRIGAID's innovators.

For the specifics regarding the visual presentation of the platform within the CIW and the workings of the funding platform in terms of back-end development TFC will collaborate with L'Orangerie Studio and ICRE8, and where possible, will conform the planning of the Funding Platform development to their scheduled annual updates of the CIW in M24, M36 and M48. The first meeting with these BRIGAID partners to discuss this has been planned. In order to ensure that the platform optimally meets the requirements of the participating innovators and investors, there will be an intensive collaboration during the development period, as described in the section on planning below.

5.2 Possible future expansions

While the initial goals to provide a platform that links innovators with investors are explained above and described in more detail in the planning section below, BRIGAID also sees certain opportunities for expanding the concept in the future.

The BRIGAID CIW is not the only platform dedicated to knowledge sharing for innovation opportunities. During the development of the CIW multiple sources of possible collaboration were determined, including the EU initiatives Climate ADAPT and EIP-Water, as well as the Dutch initiative WaterWindow. All three parties have expressed interest in the BRIGAID CIW platform and confirmed their interest in possible future integration and collaboration. For this reason, the development of the CIW was done with the architectural design of WaterWindow in mind, so the platforms are mutually compatible. While the platforms currently run fully independently, possible future merging would be relatively simple. With the introduction of the funding platform into the CIW, this discussion will be rekindled to gauge interest among the other parties for possible integrations. The first meeting with the WaterWindow to discuss a possible future integration has already been planned as well.

During the development of the platform, much attention will be paid to growing the network of attached investors. Initially these will mostly be private investors, but BRIGAID will be looking into attracting larger investors as well, like NGO's and private equity funds. When nearing the end of the BRIGAID programme, opportunities for using this network to establish a revolving BRIGAID Development Fund will be investigated.

5.3 Planning

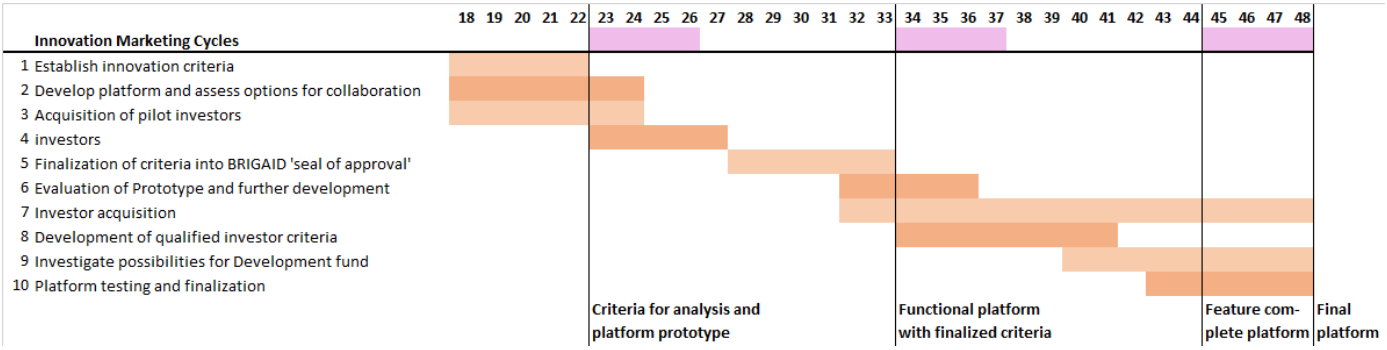
The BRIGAID Innovation cycles will provide a guideline for the development and validation of the Funding Platform, since these periods will provide most opportunities for testing the platform in practice. The end of each business development cycle, and consecutive start of the marketing cycle, will serve as internal goalposts for the development of the platform. The following marketing cycle will then serve as the testing ground for the new deliverables. The defined goalposts are:

Marketing cycle 1 (M23): The establishment of a formal set of criteria for evaluation of the funding potential of innovations, and a minimally functional prototype of the funding portion of the CIW.

Marketing cycle 2 (M34): The prototype has been evaluated and work has started on developing it into the final platform, in collaboration with the start-ups active in marketing cycle 2. The criteria established are now finalized and have culminated in the BRIGAID 'Seal of Approval' levels.

Marketing cycle 3 (M45): Completion of the feature-complete platform, ready for final tweaking in marketing cycle 3 and on schedule for final delivery of the platform in M48.

The following table provides an overview of the planned development steps during the remainder of the BRIGAID program, along with the defined goalposts mentioned above. This is followed by a more detailed explanation of what each development phase entails.



1. **Establish innovation criteria (M18 – M22)**

This entails the establishment of criteria for the rating of innovations active on the Funding Platform. These criteria will mostly concern the investment readiness of the innovations. Therefore, these criteria are tightly connected to the Business Development activities mentioned earlier in this deliverable, and will be developed in conjunction with it. These criteria will also be subject to preliminary evaluation by the participating innovators and the early investors acquired through step 3.

2. **Development of platform and assessment of options for collaboration (M18 – M24)**

This marks the start of the actual development of the platform as an expansion of the CIW. There are currently talks with L'Orangerie Studio to discuss how to best collaborate concerning the integration of the Funding Platform into the CIW. The time period coincides with the scheduled update of the CIW by L'Orangerie and the planned integration of the investor side of the platform described in WP7. This development will incorporate the criteria established in step 1 and will be in close collaboration with the pilot investors acquired in step 3 for feedback on the essential features of the platform. At the start of marketing cycle 1 a 'bare-bones' prototype of the platform should be usable. This allows the platform to be functionally tested, while still under the supervision of the BRIGAID partners, and The Funding Company in particular. This step will also provide opportunity to rekindle the conversation for collaboration with other knowledge sharing innovation platforms like EIP-Water, Climate ADAPT and WaterWindow.

3. **Acquisition of pilot investors (M18 – M24)**

As mentioned before, the range of potential investors in the social finance sector is very diverse. In order to ensure that the established criteria match the needs of investors across the spectrum of finance, a selection of pilot investors will be made to evaluate the proposed criteria mentioned in step 1. The selection of investors will be based on the PPIF framework. The goal is to have most of the pilot investors ready for the start of the first marketing cycle, though the search for additional investors may continue some time longer.

4. **Application and evaluation of criteria (M23 – M27)**

With the diverse set of investors willing to participate in the first marketing cycle, the established criteria will be applied in the prototype of the platform in order to evaluate their usefulness. In order to ensure optimal usefulness of the eventual 'Seals of approval', these criteria will be tweaked to provide a good heterogeneous view of the different Innovators, and attention will be paid to the alignment of scores with investor preferences. Based on the evaluation results and investor feedback the criteria will be further developed in step 5.

5. **Finalization of criteria in BRIGAID 'Seal of approval' (M28 – M33)**

Continuing with the feedback from step 3, the criteria for innovation evaluation will be further formalized. This will culminate in the before mentioned BRIGAID 'Seal of approval', though the name is still subject to change. This seal will most likely contain multiple levels of quality based on results from the previous steps in the BRIGAID programme like the MAF+ and Funding Scan. These scores will all be visible to the investor on further inspection of the Innovators page, but will also presented in a simple user-friendly way to the investor. This will most likely consist of a single, easily visible, one to three star rating representing the grade of BRIGAID's trust in the innovators potential.

6. **Evaluation of platform prototype and further development (M32 – M36)**

During and after the first marketing phase, the prototype platform will be used for the first time and evaluated. In this step, lessons learned from that period will be applied to the platform, and immediately evaluated with input from marketing phase 2. This will culminate in the Funding Platform being virtually feature complete at the scheduled update of the CIW in M36.

7. **Investor acquisition (M32 – M48)**

After the establishment of formal criteria and with the pending launch of the prototype platform the acquisition of investors for the platform will be initiated. Networks of the participating BRIGAID partners will be used to acquire a broad range of investors who will be encouraged to participate during the second marketing cycle and provide feedback on the platform prototype. These acquisition activities will continue until the end of the BRIGAID program.

8. **Development of qualified investor criteria (M34 – M41)**

During the second cycle marketing phase the application of the platform prototype will also be used as the basis of evaluation from the innovators side. Their input will be used to establish a set of criteria for the investors, along with the criteria taken from the PPIF.

9. **Investigate opportunities for BRIGAID development fund (M40 – M48)**

During the final stages of the BRIGAID programme, the opportunities concerning a BRIGAID development fund will be explored. Using the established network of investors that will have been gathered up until that point, their interest in participating in such a fund will be gauged. An early foreseen possibility is based on the principle of a revolving fund. The gathered knowledge through the marketing phases of the BRIGAID programme will be used to guide the process of this development.

10. **Platform testing and finalization (M43 – M48)**

The final step of the development is the testing of the definitive version of the platform. This will be done during the final marketing phase of the BRIGAID programme. Foreseen changes at this stage will be minor adjustments to the presentation of the interface and minor bug fixes.

5.4 Continuation after BRIGAID programme

The ultimate ambition of the Funding platform is that it will continue to operate as a platform for innovators and investors after the end of the BRIGAID programme. The expectation is that the remaining

time within the BRIGAID program and the intensive collaboration in adapting the platform to best suit its users' needs will ensure the platform to become well standardized and easily maintainable by M48. The open nature of the platform and of BRIGAID's methods for business development will allow new climate adaptation innovations to enter the platform and receive ratings with only minor to no outside involvement from TFC.

6 Overall concluding remarks

The aim of this deliverable is to provide *"a report on development of PPIF+ including a synthesis of the funding applications, and a business case for commercializing the ISP",* with the PPIF+ itself providing the methodology for *"the assessment of the 'investment readiness' and the guidance of innovations in terms of business planning and financing"* and *"the individual assistance by the task leader on the acquisition of finance"*.

This document has reported on three different solutions: 1) The Business Plan Development Process, 2) the PPIF and Funding approach and 3) the Funding Platform. The first two can be seen as the PPIF+ as referred to in the previous paragraph. Together, these three different solutions guide innovators in:

- Creating a high quality Business Plan;
- Getting an evaluation of that Business Plan which indicates their 'investment readiness';
- Helping them understand the perspective of (different types of) investors;
- Providing them with multiple relevant funding schemes, public European funding options and individual public and private funding options; and
- Bringing them into contact with suitable and trustworthy investors through the Funding Platform.

These different solutions meet the goals set for this deliverable and tackle the challenge which caused the need for this deliverable: increasing the odds of those innovations that increase resilience to natural disasters as a result of climate change, to successfully enter and stay in the market, so that these solutions will be adopted by governments and end-users alike.

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Appendix A: Quick Scan questions

- ☐ A clear organizational structure has been established and formalized
- ☐ Short and long term goals have been determined, and a strategy has been formed to achieve these goals
- ☐ Key success factors have been discerned and a timescale for the actions to achieve them has been created
- ☐ The target customers have been discerned and described
- ☐ The target market has been discerned and described
- ☐ The current competitors have been discerned and described
- ☐ Substituting or rival technologies and innovations have been discerned and described
- ☐ Mechanisms to maintain profits of the innovation (appropriation regimes) have been discerned and described
- ☐ Unique Selling Points (USPs) of your innovation have been described
- ☐ A dissemination plan to reach customers has been formalized
- ☐ A feedback mechanism with the customers has been discerned and described
- ☐ The revenue stream has been discerned and described
- ☐ The cost structure has been discerned and described
- ☐ The price structure of the innovation has been discerned and described
- ☐ Barriers for introducing the innovation to the market have been identified
- ☐ A plan and timescale for introducing the innovation to the market have been formalized
- ☐ Patents have been applied for
- ☐ Patents have been granted
- ☐ A presentation, demonstration or explanation of the technology or innovation has been given outside of the company
- ☐ A description of the technology has been formalized
- ☐ The novelty or radicalness of the technology has been discerned and described
- ☐ The technology has been tested in-house
- ☐ The technology has been tested at key partners
- ☐ The technology has been tested at customers
- ☐ A prototype has been created
- ☐ Technological risks have been discerned and described
- ☐ A technological roadmap has been formalized
- ☐ A revenue forecast has been formalized
- ☐ A profit forecast has been formalized
- ☐ A funding scheme has been formalized
- ☐ A financial budget has been formalized
- ☐ The Net Present Value (NPV) of the project has been calculated
- ☐ The financial Return on Investment (ROI) has been calculated
- ☐ The social ROI has been discerned and described
- ☐ Specific and relevant subsidy programs have been discerned
- ☐ There is enough capital for the development of the project
- ☐ There is enough capital for the testing of the project
- ☐ There is enough capital for the commercialization of the project

- ☐ There is enough capital for the scaling up of the project
- ☐ There is enough capital to incrementally improve and update the project after launch
- ☐ The required additional assets (such as personnel and expertise) have been discerned and described
- ☐ The required partners have been discerned and described
- ☐ Collaboration with these partners has been formalized
- ☐ The environmental relevance has been discerned
- ☐ Steps to create legitimacy and an analysis of public acceptance have been formalized
- ☐ The expected environmental results have been discerned
- ☐ The impact of the innovation on the occurrence of hazards, exposure, and vulnerability have been discerned

Appendix B: Business Plan 101

Introduction

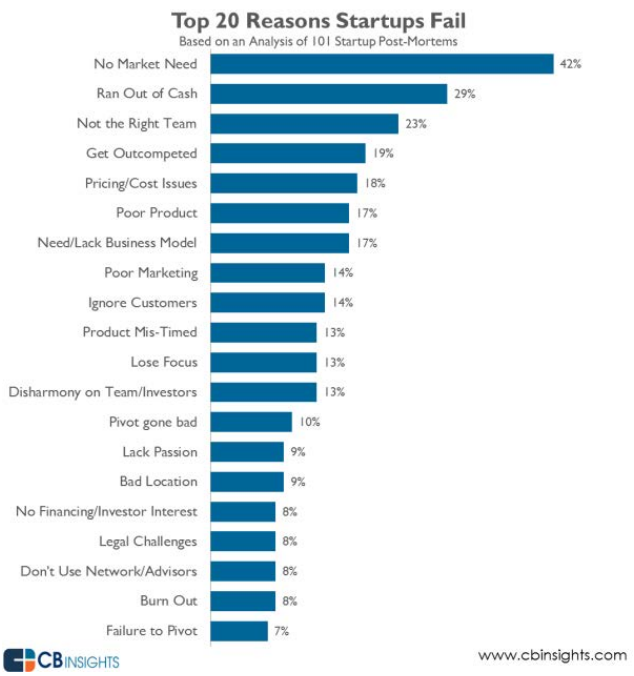
Creating an innovation is a difficult task. Inventing a new technology, creating new combinations of existing technologies, finding different uses for a technology, or creating new markets costs a lot of time, determination and investments and requires expertise, creativity and much dedication. To be able to successfully launch and sustain an innovation, however, the technology itself isn't sufficient; you also need a good Business Plan. But what is a Business Plan, and why is it important? This document functions as a 'Business Plan 101', to explain why it's needed, and what it entails. It also provides useful tips and tricks for writing the Business Plan.

Importance

As good Business Plan is essential for the success of an innovation and survival of a firm. Not only will a Business Plan force you to make choices on strategy, marketing and financial aspects that will determine, along with the technological aspect, the success of the innovation, but it is also required to get the necessary funding to survive. This may seem strange, since it seems like we live in the Golden Age of start-ups, where there are more start-ups than in the years before. The Kauffman Index of Start-up Activity, the leading start-up index for the US, rose in 2016 to a level of 0.38 (Kauffman, 2016). This indicates that their broadest measure of start-up activity is now above the U.S. historical average from the last twenty years. Forbes even stated that "a new era for entrepreneurs and start-ups has begun" (Forbes, 2013).

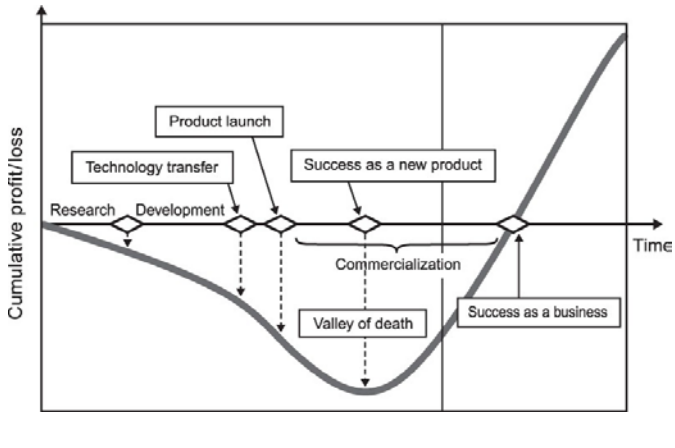
However, it is no secret that the vast majority of the start-ups fail. According to Forbes, this number is as high as 90% (Forbes, 2014). Scientific research, such as research by Grimaldi et al (2011), Wennberg et al (2011) and Ortín-Ángel and Vendrell-Herrero (2014) show that of these firms, those based on new technology (New Technology Based Firms), have even higher death rates. This is especially true for firms based on academic research, due to the novelty and radicalness of their technology.

CB Insights analysed 101 start-ups, to find out why they failed. The results, shown in the graph on the right, show that the 8 of the top 10 reasons (everything aside from a poor product and a lack of funds) can be anticipated on and prevented by developing a good Business Plan. The lack of funds, the #2 reason on the list, can be tackled by developing a good investment memo and having the right support or guidance to do so.



Funding is especially important in the long run. A common term amongst start-ups is the 'valley of death' as shown in the figure below. While most start-ups can obtain funding for testing and developing their prototype, funding is hard to obtain during a commercialization, when results are still little and finances are low. It is therefore of

utmost importance that there is a funding strategy in the early development stages of a new firm.



The 'Valley of Death' (Osawa and Miyazaki, 2006)

The Business Plan

Business Plan, business case, business strategy, business model… these terms are very common as entrepreneurial terminology, but it can be confusing what they mean. For a start-up, especially in the case of a New Technology Based Firm, the Business Plan and business case overlap. A Business Plan is a broad strategy for the company itself: what are the goals to achieve and how will you reach them, when will the company make profits, and what is your overall strategy? Basically, it is a guide on how to develop and grow your company. A business case is a financial analysis of one specific case. For instance, is it wise to invest in company X, or should we develop product Y? Since a New Technology Based Firm deals with one product, and can in itself be seen as a "case" for investors, it has a lot of overlap with a Business Plan. These two are therefore usually combined into one document with New Technology Based Firms, with the more strategic questions originating from the Business Plan and the more financial questions (such as the Return On Investment, for instance) originating from the business case. The business strategy and business model are both part of the Business Plan. The strategy entails what your target market and customers and, and how to reach them for instance. The business model entails how you will profit from your innovation.

This document will aid in creating such an extensive Business Plan. It will describe the required contents of such a document and will provide tips and tricks on how to determine these contents. Broadly speaking, a Business Plan can be divided into four sections: a section with contents concerning the business strategy, a section with contents concerning the technological aspects of the innovation, a section with financial aspects including the business model, and a section concerning the social aspects of the innovation. As you may have noticed, these four sections coincide with the four area's that were evaluated in the Quick Scan you participated in leading up to this point in the BRIGAID programme. Your scores in that scan can provide a guide for the area's you are performing well on, and the area's you might need to pay extra attention on in the development of your Business Plan.

Lastly, this document features a list of references and sources. Many of the contents of the Business Plan are based different literature. These sources are not references in-text, but can function as additional reading material.

Strategy

Organisational Structure

It is important for a start-up to have a clear organisational structure with well-defined responsibilities and corresponding tasks. Primarily, there should be at least someone responsible for the technology and development, someone responsible for the financial aspects and someone responsible for the management and PR – the entrepreneur and 'face of the company'.

Goals and strategy

Both short and long-term goals are important when starting a company. Long-term goals will prevent a start-up from 'muddling through' and not creating a sustainable business model. A lack of short-term goals, however, can cause a focus on company growth and the neglecting of profits, causing many start-ups to go bankrupt. The rule of thumb is to be patient for growth, but impatient for profit.

However, goals without a strategy on how to achieve them is like an empty promise to investors. A well-formulated strategy on how these goals are achievable is therefore a requirement.

Success factors and timescale

Having clear goals is important, but to truly be able to achieve them the identification of the key success factors is required. When are the goals actually achieved and what are the bottlenecks? This asks for an operationalisation of the goals, so that they can be measured. Along with this, a timescale of the actions and milestones for these success factors – and ultimately the goals – is an integral part of this.

User needs analysis

Your innovation will only succeed if there is an unmet user need that it addresses. This can be either a problem which needs to be solved, or an opportunity of a brand new type of product which will address unmet and generally unknown needs.

The most innovative companies in the world are so successful because they have a very clear understanding of these unmet needs, even when the customers themselves are still unaware of those needs. Analysing these needs can be done by performing surveys or panels using potential customers, but you will only receive information about the unmet needs which the users have already identified themselves. Carefully analysing trends in purchasing behaviour, technological advancements and – perhaps most important – how customers use their product in new ways, can provide valuable information about user needs.

Target customer identification

It is very important to have a clear picture of who your customers are. Although this may sound easy, it can often be difficult to identify who exactly will pay for the innovation, and who will be using it. Narrowing down is the key here. For instance, "auto users" is not sufficient as target customers if you are trying to sell a car. What age group are you focusing on? What region are you active in? If you are selling electric cars, your type of customer is very different from when you are trying to sell a diesel SUV for instance. A few easy things to consider when you are trying to determine the target customers are:

- Is your innovation easy to use?

- Is your innovation expensive?
- Is your innovation a status symbol?
- Is your innovation sensitive to particular groups?
- How is your innovation different from existing products?

For each of these questions, the follow-up question should be "so who would be keen to buy it then''? Gadgets and complex products are often targeted at a younger demographic for instance. For innovations with a societal benefit, things are a bit more difficult. There is a good chance that the government is your direct customer (when the innovation is a dam, for instance) and thus the one that will be paying for the innovation. The end user, however, are the inhabitants of the region which is protected by the dam. Those are then your target customers, since you need to address the needs of these people. If they find your innovation to complex, or they do not want to have it in their backyard, the government will not buy your product. If you convince the end users, they will in turn appeal to their government to buy the innovation. Or the other way around: you need to convince the government that your innovation is what the people want.

Target market identification

Your innovation can be technologically brilliant, but if there is no market for it, your company will not survive. It is therefore important to identify and analyse the target market before too much expenses are made. Important aspects of this analysis are:

- the number of active players in the market (potential future competitors);
- the financial feasibility of the market or 'saturation' of the market (is the market growing in number of sales, is it stagnant, or is it declining);
- the technological development within the market or the 'maturity' of the market (how long until your innovation is no longer technologically relevant); and
- the size and commercial possibilities of the market.

Usually, a market analysis consists of the TAM (Total Available Market), which is the total market demand for a certain product or service, the SAM (Serviceable Available Market), which is the portion of the TAM that is suitable for your solution (including the geographical scope), and the SOM (Serviceable Obtainable Market), which is the portion of the SAM that you can realistically capture with your solution. An outcome of this analysis could be that the market you are targeting is just not suitable. An option is to identify a more feasible target market and then adapt your innovation to suit the newly targeted market.

Current competitor identification

To be able to ultimately convince your potential customers to buy your product, you need to have a good overview of the current active players in the market. Whose product will you try to make obsolete and which of the current companies or institutions will not be happy with the introduction of your innovation? It is easy to just think of technological competitors, but your competitors could be broader than that. For instance, a self-driving car will not only have other car (parts) manufacturers as competition, but taxi

drivers as well. Electric cars are not only competing with other cars, but also with companies involved in the petrol infrastructure.

Analysing these companies can give a better understanding of the difficulty of entering the market, the amount of rivalry in the market, and the current standards within the market. It also shows where your product needs to excel if it wants to penetrate the market. Important things to know about your competitors are not only their products, but also their size, their resources (including their expertise and personnel), the amount of customers they have, the loyalty of their customers, and the partnerships they have.

Substitutes/rival identification

No idea is completely unique and no opportunity stays hidden. This means that if you have a great idea or technological breakthrough which is exactly what people are waiting for, chances are very high that other are working on a technological breakthrough or innovation to tend to the people's unmet needs as well. Having a good overview of your rivals (i.e. competitors working on a comparable or competitive technology) is important to be able to give a good estimation of your chances of successfully enter the market.

Investors will want to know this before they feel confident in investing in your company. The overview of the rivals also concerns another risk that investors will want to know: what are the potential substitute products or technologies? In other words: when will your product of technology be rendered obsolete? What are the technological threats?

Unique Selling Points

To be able to convince your potential customers that they should buy your product, it should be obvious to them that your product is better than the alternatives. You therefore need clear Unique Selling Points (USPs) which indicate the perceived relative advantage compared to the competitor's products or the current situation. Keep in mind that this does not merely include the technological advantages, but also:

- the complexity of the product (an easy-to-use, well designed product will be advantageous);
- the compatibility with current infrastructure and lifestyle
- the visibility of the product (this includes design and easy brand recognition);
- and the trialability of the products (can people test it out for themselves first or is it a big investment which they cannot undo).

Unfair advantage

The unfair advantages of your company are assets that cannot be easily copied or bought. This could entail a certain technology, a network, or skills and expertise of certain employees. These unique assets gives your company an edge over the competitors.

Additional assets

It is unlikely that a company has all the required resources and assets for the launch of their product. Having a clear overview of which assets and resources are required is therefore an important part of

successfully developing and launching an innovation. Examples are the requirement of capital, skilled labour, particular expertise or skills, software, machines, particular materials, communication and sales channels, and supplier channels. The next step is to determine whether these assets and resources can be acquired in-house, bought, or if a partnership is required.

Partner identification

If there is a clear overview of the required additional assets, chances are that not all of them can be bought or acquired in-house. Even if they can be bought, a strategic partnership may be a better (and cheaper) solution. A clear overview of potential partners, what they can offer, what you can offer them and what would be the ideal form and terms of partnership is important to make the best choice in requiring the required assets. A description of their financial position and, especially in the case of international partnerships, their ethical and juridical status and profile is also of importance. Keep in mind that while searching for partners, it is important to have a match on a cognitive, social, geographical, cultural, and institutional level. There is an ideal match if two companies are not too similar, but certainly not too different from each other.

Market barriers

The analysis of competitors gives an indication of possible market entry barriers such as the requirement of capital, the knowledge intensity or the presence of alliances (such as with Blu-ray or HD-DVD), but there can also be legal, ethical or other social barriers to enter the market. It is important to get a clear overview of these barriers, so that successful market entry can be possible.

Market introduction plan

When market entry barriers are known, a plan on how to overcome these and how to be able to enter the market can be formalised. Such a plan includes a timescale with concrete actions, milestones and deadlines.

Dissemination plan

To be able to sell your product, you need to reach your potential customers. To be able to do so, a choice has to be made on the contents of the communication, the target of the communication and the medium of the communication. The contents will also influence the frequency and medium of the communication. If you want to send out quick status updates when you are working on a software platform, you will need to do that more frequently and through digital means. If you want to show a prototype of a product, it can be shown only once (you can't risk showing a defective product) and it needs to happen physically. Broadly speaking, the medium can be divided into mass communication, communication with target groups, or personal communication; the form of it through third parties, face-to-face or digitally. Keep in mind that different digital platform are used for different types of content; a Facebook update has a different effect than a press release.

Reaching the right target with your communication and dissemination measures is integral to its success. Do you want to reach 'lead users' for beta testing and prototyping purposes? Do you want to reach the group that buys new gadgets and technologies (the 'innovators')? Or are you focusing on the group that is slower with the purchase of new products? If you're trying to reach a specific demographic or community, will you try to find and reach opinion leaders in that community or will you send mass communication to

try and reach most of the community yourself? You can send out the same message only once, so it is imperative that you send out the right message, through the right channel, to the right people.

Customer feedback mechanisms

An innovation will only be successful if it addresses needs of customers or end users. Since it is very difficult to find new unmet needs or to find trends in customer behaviour, it's important to get much customer feedback, but during development as well as after the initial launch. Feedback mechanisms should therefore be in place. This can for instance be done though online forums, surveys, and test panels. Just as with the dissemination measures, it is import to decide who you want to reach through which medium, and to know what exactly you need to find out.

Technology

Technology description

A description of the technology lets investors know what they are investing in. The challenge is to keep it as short as possible, while still painting the complete picture. It should not be overly technical, but it clearly needs to describe what the technology does, what is different or new about it and why it is relevant and thus addresses an unmet user need.

Novelty and radicalness

As an extent of the technological description, a description of the novelty or radicalness of the innovation is important for investors before they feel confident enough to invest in the innovation. Novelty describes how new and unique the technology is, and in what way it is based on scientific findings. Radicalness indicates the compatibility with current infrastructure. A completely radical technology is not just a new technology that can potentially open up a new market, but it also disturbs the status quo and the way of doing things. Usually with completely radical innovations, new infrastructure and legislation is required, and new stakeholders will arise because of it. Completely radical technologies are very rare however, and it is not always advantageous to have a radical technology. The risks of such a technology not being successful are very high and the required time of development before it is market ready is also quite high. However, the rewards when it succeeds are very high as well. The radicalness of the technology is therefore an important factor in determining which type of investor will be willing to invest.

Technological Roadmap

Most likely, the majority of the time building the company will concern the technological development of the innovation. A clear overview of tasks, milestones and deliverables of this technological development is therefore very important for potential investors. A common way to map this process is through the use of Gantt charts. Important in such a roadmap that there is a clear overview of the different dependencies such as when task C cannot start if task A and B have not finished yet. A healthy development plan has several parallel tasks and not too many dependencies.

Technological Risks

Every technological development comes with risks. Having risks is not a bad thing, but having no clear overview of the possible risks or of the severity and mitigation measures of these risks is. Each risk should be described, the chance of it happening should be indicated (low, medium high) the potential effects

should be described, the severity should be indicated (low, medium high), the proposed risk-mitigation measures should be described and the chance of success of these mitigation measures should be indicated (low, medium, high).

Appropriation regimes

Having a clear overview of your competitors, rivals and future substitutions for your product enables you to determine your appropriation regimes. In other words, how will you make sure you reap the profits of the investments in the technological development? If your product can be replicated within half a year, investors will not want to invest in your product. How will you protect your innovation then? There are a few options for this: having a patent is the strongest protection, but also the most expensive. Furthermore, it is not always possible to apply for a patent (when the technology has already been publicly demonstrated or described for example). Being the very first with a completely new technology can be a protection mechanism, especially when the technology and product are very complex. The requirement of unique assets or resources are also ways to protect the innovation and to make sure that it is not easily replicable. In some cases, secrecy can be a powerful tool (such as Coca-Cola keeping their recipe a secret), but that can be very difficult with technological products and impossible with software. Having a clear overview of your protection mechanisms is essential for investors to feel confident to invest in your company.

Financial

Revenue stream

One of the most important questions an investor will ask you is: how will you make money? It is very important to describe your revenue stream; will people have to pay a monthly fee? Will they buy the product in a store? Will they pay per use? Are there add-ons they can buy later on? Different types of end users can pay for your innovation in different ways. It is important to describe of revenue stream per type of customer.

Cost Structure

An overview of the cost structure is required to be able to determine if your company will be profitable in the end. All of the costs and their type (i.e. fixed or variable, single or continuous) should be clearly described. A part of this is having an overview of every resource you need, including personnel and machinery.

Price Structure

If the costs are known and the revenue streams are discerned and described, it is possible to determine the price of the product. It is important that there are enough profits to account for any unforeseen expenses, and to be able to eventually expand the company, improve the product after launch and to start working or something new when the product is a success. On the other hand, you need to strategically position yourself among competitors, rivals and possible substitutes in terms of pricing. Nobody will buy an expensive product from a newcomer, but a price that is too low could lead to the idea that your product is not of high quality.

Revenue forecast

As an extension of the revenue stream, a revenue forecast is important to be able to finally be able to make a profit forecast and a complete financial budget. A revenue forecast requires you to make a well argued (preferably by using market analyses) estimation of the number of products you are going to sell, and when the revenues will be received. When estimating the number of products you are going to sell, it is helpful to think about the scope of your customers. For instance, in the first year you could focus on a geographical area where you are familiar, expanding to the rest of the country the year after if the product is a success.

Profit forecast

With the revenue forecast, and an overview of the cost structure and price structure, it is possible to make a profit forecast. An important part of the profit forecast is to determine which of the costs will increase when you are starting to produce more products, and when there is a need to grow and expand as a company.

Financing scheme

Since there are no revenues when developing the technology and establishing the firm, funding is required to be able to cover the costs. It is therefore important to have a well-argued funding scheme. What are the preferred sources of funding and why are these applicable to your company? Different types of investors and sources of funding have different profiles, with their own interests, behaviour, benefits and downsides. Finding the source of funding that fits your company and needs can be difficult, but it is important to be critical of this aspect since a lack of funding is one of the most occurring reasons why start-ups fail.

Financial Budget

With revenue forecasts, profit forecasts and a funding scheme, an official financial budget can be made. This entails a balance sheet for the development years and two years after product launch, an operating budget for the same period, a liquidity budget for the same period and an investment budget.

Return On Investment

The Return on Investment (ROI) is one of the most common metrics used to determine the value of a company for an investor. The ROI indicates the benefits that an investor can expect when investing in your company. The ROI is calculated as follows: $\frac{Gains - investment}{investment}$. In other words, the relative profits to the total costs of building the company. The ROI is a percentage which should be calculated per year starting from product launch.

For example, if the costs of starting the company is € 200, and the profits are € 325, the ROI is $\frac{€\,325 - €\,200}{€\,200} = 0.625, or\ 62.5\%$. Usually, the ROI of a start-up lies between 25% and 45% in the first few years. Aside from an overall ROI, an ROI should be calculated per investor according to the terms of investment. For instance, in the previous example an investor invested € 125 for 50% of the profits. The ROI for him or her is $\frac{(50\% * €325) - €125}{€125} = 0.3\ or\ 30\%$.

Net Present Value

The Net Present Value (NPV) is another common metric used by investors. Whereas the ROI measures the efficiency of an investment, the NPV measures future cash flow of an investment and incorporates time as a factor. One of the main rationales behind the NPV is that money decreases in value over time. This could be due to inflation or due to interests, for instance. For example, in the latter case, if you pay 10% interest each year, your earnings need to increase by 10% each year to break even. In that case € 1000 profits in year 1 equal € 1100 profits the year after and so on. Or, the other way around, € 1000 profits is only worth € 909.10 if it's earned a year later. This percentage is called the 'discount rate'. If you do not have an interest rate or other discount rate, a standard of 10% is used.

The NPV is then calculated as the combined adjusted cash flows minus the initial investment. In the example above, with a cash flow of € 1000 per year and a discount rate of 10%, the adjusted cash flow is $\frac{€\ 1000}{1.10} = €\ 909.10$ for the first year, and $\frac{€\ 1000}{1.10^2} = €826.45$ for the second year. If the initial investment was € 1500, the NPV over two years is $€\ 909.10 + €\ 826.45\ - €\ 1500 = €235.55$. The calculation of the NPV is then: $\sum_{t=1}^{T} \frac{C_t}{(1+r)^t} - C_0$ with C_t as the cash inflow during year t, C_0 as the investment costs, r as the discount rate and t as the number of years.

Social

Environmental relevance

For innovations with an environmental aspect, it's of utmost importance that the environmental relevance is clearly defined. What environmental problem will the innovation address, and why is it relevant? Including the geographical boundaries of the innovation is also important, since not all environmental are relevant in all geographical locations.

Public acceptance

The success of innovations can be influenced by public acceptance, especially concerning social innovations. If people have a negative image of your innovation, even if it's based on wrong ideas or false statements, they are much less likely to buy your innovation and so are governments. A bad image can be caused by the NIMBY (Not In My Back Yard) effect, an ethical opposition, opinions of certain opinion leaders such as Greenpeace, or the general resistance to change that all people have. Mapping these possible resistances is important before you introduce your innovation to the public. That way, methods of creating legitimacy and thus raising public acceptance of the innovation can be developed.

The overview of possible public resistances, an estimation of the public acceptance and the strategy on creating legitimacy are therefore all part of a good (social) Business Plan.

Expected results

If your innovation has a societal effect, it is very important to describe the expected results, with enough sources to back those estimations up. If you cannot convince people that your innovation will yield these results, people will not buy or adopt your innovation and investors will not feel confident enough to invest in your innovation.

Impact

The World Bank has discerned three different impact categories when concerning climate related disaster resilience: the occurrence of natural disaster (caused by climate change), the exposure of buildings and people to those disasters (worsened by poor planning, for instance), and the vulnerability of materials and societies. An innovation concerning disaster resilience should have a clear description of its effect on these three categories, so that the impact of the innovation on disaster resilience is apparent to governments and investors.

Social Return On Investment

The Social Return On Investment (SROI) is an adaptation of the ROI so that it includes social impact factors. In the calculation of the SROI, the gains are replaced by the social impact value. In other words, $SROI = \frac{Social\ impact\ value - investment}{investment}$. The difficulty here lies in determining the social impact value. Creating a healthier lifestyle will decrease health care expenditures for instance; the decrease in costs can be seen as social impact value. If your company creates 100 new jobs, the wages earned of these jobs can be seen as social impact value. If your innovation prevents the destruction of a village, the material costs of that village can be seen as the social impact value. The SROI is important for social innovations, which are not primarily made to create a profit. To be able to compare the effectiveness between them, and to see if they're worth investing them, the SROI is a helpful metric for investors.

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Appendix C: Business Plan Template

This template serves as a companion to the Business Plan 101 document. It aims to provide you with the necessary handles for putting the lessons learned during the MAF+ and Business Development process to practice, to begin writing your Business Plan. The structure of the template mirrors that of the Business Plan 101 and reflects the categories that have been rated during the quick scan. It is advised to keep the feedback from the Quick scan at hand to provide a guide for which aspects of the Business Plan you already have a strong case, and which section still require more focus.

The template will start with an introduction, where the rest of the Business Plan will be summarized to provide a clear overview to the reader. It might be useful to write this section last, after you have gained a good understanding of what parts of your Business Plan are most important. The sections following this introduction are Strategy, Technology, Financial and Social, as discussed in the Business Plan 101.

Introduction

- Provide a short description of the core idea or innovation.
- Argue the relevance of this core idea or innovation in a well backed up description of the current context.
- Describe the desired and expected effects of the core idea or innovation on the described contextual situation.

Strategy

- Provide a description of the organizational structure, with a discussion of the core competencies of the organization.
- Provide a description of the long term goals of the company with proper argumentation of their attainability.
- Describe the short term goals the organization has set and argue how these will lead to attaining the long defined long term goals.
- Describe the investigated user needs and argue the ways in which the innovation will fulfil them.
- Describe the target market that will be served by the innovation, and provide a proper connection to the identified user needs.

- Provide a short overview of the possible competitors and substitutes to the innovation.

- Describe the advantages of the innovation over its competitors and or substitutes.

- Identify additional assets that are required for the successful introduction of the innovation, and provide a description of how these assets will be obtained.

- Describe the strategy for market introduction, based on the identified target market and short term goals. Also identify possible barriers to entry.

- Describe the dissemination strategy. Keep in mind the defined long term goals that have been established when describing this.

- Describe the mechanisms that have been put in place for customer feedback.

Technology

- Describe the novel technical aspects of the innovation.

- Give a properly backed up argument for why this is novel and what the technological advantage is

- Provide an overview of the planned further development of the technology, and describe the risks involved. Also describe the strategies for negating these risks.

- Argue your strategy for appropriating the technology and preventing easy replication.

Financial

- Give a description of the core business model for the innovation. This includes the revenue model and cost structure

- Describe the price structure, based on the identified target market and the described business model.

- Provide a detailed and well-argued forecast for the revenues, associated costs and the resulting profits. Make sure these build realistically on the previous descriptions and are in line with the long term goals.

- Provide a description of the financing scheme for the early development of the technology. Include a description of possible grants and other sources of income.

- Provide a detailed and well-argued calculation of the Return on Investment and Net Present Value the business represents to the investor.

Social

- Describe the social or environmental relevance of the innovation. Make sure to align this with the identified target market and place it in a well-argued current context.

- Describe the position of the innovation in the public perception. Describe possible challenges and provide a sound strategy for improving legitimacy.

- Describe the desired and expected social or environmental effect of the innovation. Back this up with an estimation of the Social Return on Investment.

Appendix D: The Public-Private Investment and Financing model (PPIF)

1.1 Introduction

Every innovation starts with a good idea or a brilliant technology. However, these things alone will not lead a successful innovation; financial resources are needed to succeed. Obtaining these resources isn't always easy, especially when the innovation doesn't have financial profitability as its main goal, such as environmental innovations. The most important part of obtaining additional funding is a good business case, but it doesn't end there. To truly be able to get your story across, you need to understand the perspective of the investor, whether they're public or private. In the end, it's all about their interests.

Luckily for social innovators (including environmental innovators, whose environmental impact or mitigation measures can be seen as a social benefit), investors do not purely focus on financial gains when deciding whether or not to invest in your idea. While there are still investors that have financial gains as main interest, there has been a rise of social investors in the last few decades. This means that some private investors are acting more alike public funding bodies. On the other hand, the increase of public funding over the years have shifted the role from governments towards that of an investor; they need to be able to assess whether a project is good enough to spend public funds on. In that sense, public funding bodies have begun to shift more towards the perspective of private investors, becoming pseudo-private in the process.

To make sense of this, and to understand the perspective of the investors, this document illustrates the rise of "social funding" and the main sources for innovations with a strong social (including environmental) aspect to obtain the required financial resources. Firstly, the changes in economic rationales towards a social perspective are described and analysed. Secondly, this document explains what these changes mean for the behaviour of companies and investors alike and how these changes explain the rise of social entrepreneurs and social investors. Lastly, a (public-private investment) framework for frequently used financial instruments for (social) entrepreneurs is given.

1.2 Exploring the economic literature

Ever since the end of the nineteenth century authors have been thinking about the relationship between businesses and society (Jenkins, 2005). Essentially, this debate is about whether businesses should only need to focus on making profit or if they also must take various (social) stakeholders into account (Kercher, 2007). This paragraph gives an overview of the changes in economic thinking.

1.2.1 Traditional economic thinking

In economic literature Adam Smith (1723-1790) is frequently seen as the founder of what is now known as *classical economics*. In his book *The Wealth of Nations,* dated 1776, he describes economics as a science that follows natural laws and is free of human will. A central assumption of Smith is that the pursuit of individual interests would result in the greatest public interest. According to him, free markets have the tendency to regulate themselves by means of competition, supply and demand, and self-interest. As "an invisible hand", a free market will deliver the best outcomes for everyone (Skousen, 2016).

During the Great Depression in the twentieth century, a lot of people wondered if the invisible hand of Adam Smith was actually working. John Maynard Keynes (1883-1946) believed it didn't and was an opponent of the *laissez-faire* attitude that Smith advocated. According to Keynesian politics the government should intervene in times of low borrowing and spending to keep the economy stable and growing (Lawson & Pesaran, 2009).

Keynesianism was very popular until the eighties but the high pressure on public finances in the eighties made the ideas of Adam Smith popular again and were the inspiration for *neoclassical economists*. The *homo economicus* is central in the neoclassical economic theory. People are seen as rational calculating species that only want a maximization of personal interests. Concepts like competition, efficiency, and profit maximization are the core aspects of this theory (Palley, 2005). A famous neoclassic economist was the Nobel Prize in Economics winner Milton Friedman (1912-2006). According to him, the maximization of profit was the primary task of enterprises. Friedman said it was this goal that leads to innovation and improves productivity. In this way, companies have great social utility (Lee, 2008).

1.2.2 A shift from individual to social interest

The resemblance between the three mentioned dominant trends in economic theory is that they all see the maximization of profits as the main goal. This traditional economic rationale is increasingly under pressure due to developments such as growing income inequality and the recent economic and financial crises. Also, the rapid climate change has changed the emphasis on short-term thinking by the homo economicus. According to Indian economist Amartya Sen (born in 1933), individuals do not only act on the basis of rational choice but also on the basis of morality. People take the value they attach to their environment into account and furthermore it is impossible for them to weigh all possible choices to choose the best option (Sen, 1977). Individuals want to take responsibility for their own economic activity, instead of leaving the collective prosperity to the invisible hand of the free market. Values such as brotherhood, social justice and ecological sustainability are leading in economic choices of today's individual because he realizes that in our pursuit of well-being we are fundamentally dependent on each other and on the capacity of the earth (Nussbaum & Sen, 1993). The fact that Sen in 1998 received the Nobel Prize in Economics illustrates that thinking about economics and her characteristics has changed over time.

1.3 Businesses: from maximizing profits to CSR and social enterprises

This shift in economic literature has had its effect on practice in business management and the world of finance, including the interests of investors. This shift has created an opportunity for social (including environmental) enterprises to rise and to attain private (and public) funding. Understanding this shift in perspective is important to better understand the rationale of social investors.

Following the shift in literature, businesses were taking more and more social responsibilities due to increased globalization, a more conscious citizen, the attention of non-governmental organizations (NGOs) and changing perceptions of companies themselves (Jenkins, 2005; WBCSD, 1999). A growing number of businesses have integrated Corporate Social Responsibility (CSR) and sustainability in their company policy. Gradually more and more people pointed to the fact that corporate social responsibility is needed for the efficient functioning of the (global) market and according to a growing public, companies are more successful in the long run by taking a broader responsibility (Kercher, 2007).

Due to the increasing number of complex issues wherefore social innovation is needed, the traditional dichotomy between funders that focus on economic or social goals is thus shifting (Moore et al., 2012; Rexhepi, 2016). Not just large companies see the urgency of taking a broader responsibility by integrating CSR in their business, since social enterprises (SEs) are a fast-growing sector in the economy (Brandstetter & Lehner, 2015).The European Commission (2016) uses the term 'social enterprise' to cover the following types of business:

- Those for who the social or societal objective of the common good is the reason for the commercial activity, often in the form of a high level of social innovation.
- Those where profits are mainly reinvested with a view to achieving this social objective.
- Those where the method of organisation or ownership system reflects the enterprise's mission, using democratic or participatory principles or focusing on social justice.

The goal of SEs is not only to make money, but also to do something good for the world (Bugg-Levine et al. 2012). Another example that doesn't follow the traditional demarcation between funders that pursue social goals and those that pursue profit is a public-private-partnership (PPP). In a PPP public authorities cooperate with private businesses. Together they "aim to ensure the funding, construction, renovation, management or maintenance of infrastructure or the provision of a service through the sharing of investment risk, responsibility and reward between the parties" (Tecco, 2008).

The shift in perception is also present amongst investors. The government, angel investors and charity foundations are traditionally seen as the primary financial supporters to reach social or environmental objectives, but private investors are entering that market as well. However, there are still quite some differences between the interests and most used funding mechanisms of the different types of funders. As an innovator, it's important to understand these differences to be able to identify which type of investor is most applicable.

The first category is the one most widely associated with social investors: governments, foundations and other philanthropists. Examples of funding instruments used by these actors are grants and donations (Moore et al., 2012). These type of funders are driven by philanthropic incentives (Moore et al., 2012; Rexhepi, 2016). The idea is that pursuing social and environmental goals will most likely mean a big risk at a financial loss and therefore are not interesting for private funders (Rexhepi, 2016).

When the risk at financial loss is lower, private investors come into play (Bugg-Levine et al., 2012). Whereas typical funders such as banks, equity investors and venture capitalists still mainly focus on maximizing profits, new types of investors have emerged who are interested in the social aspects of a businesses. Some traditional funders have also changed their interest towards a more social one (Koellner, Weber, Fenchel, &Scholz, 2005). However, private investors still want to be confident that they get return on investment, whether it's financially or socially. Therefore, private investors avoid certain investments with a high uncertainty (Tecco, 2008).

Although it is easy to measure the financial benefit of an investment, it is more difficult to find out how much social or environmental value is created. To help investors and other stakeholders to understand and

manage the social, economic and environmental value of activities, the concept of Social Return on Investment (SROI) has been developed. The SROI framework monetizes social outcomes of an investment and this way reveals the economic value of social outcomes, including environmental benefits. It gives funders a more holistic perspective on the value of social projects (Koellner, et al., 2005).

In summary, investors can be classified based on their incentives and goals and it is important for innovators to find the ones most applicable for them. For some investors making a social impact is their main goal, while others are only interested in making profit. A third category wants to pursue both goals. The SROI framework helps to map the social return on investment for social funders decide if a development project or social business or enterprise is worth investing in.

Priority of Funder	Social Return on Investment		Financial Return on investment
	Just Impact	Impact first/ Impact & Profit	Profit first/ Just profit
Receiver of Funding	Public Sector/ Charity	PPP/ Social Enterprise	Traditional Business
Examples of Possible Funders	Philanthropist, Government, NGO	Government, Impact Investor	Traditional Bank and Investor

An overview of these different kind of funders is shown in table 1, based on their priorities.

Table 1. Overview type of funders and their priorities.

1.4 Funding social finance

Although there has been a huge rise of SEs and start-ups in general, many of them are not successful in the long run. This section describes the traditional pitfalls for start-ups and explains why SEs are especially vulnerable. Afterwards, financial instruments to fund social innovation, and thus help SEs survive, are discussed and presented in a framework.

1.4.1 The financial-social return gap

According to Forbes (2014) 90% of start-ups fail. Scientific research, such as research by Grimaldi et al (2011), Wennberg et al (2011) and Ortín-Ángel & Vendrell-Herrero (2014), shows that start-ups based on new technology (New Technology Based Firms, of NTBFs), even have higher death rates. This is especially true for firms based on academic research, due to the novelty and radicalness of their technology. CB Insights (2014) analysed 101 start-ups, to find out why they failed (figure 1). The lack of funds, the number two reason on the list, can be tackled by developing a good investment plan and having the right support or guidance to do so. Funding is especially important in the long run. A common term amongst start-ups is the 'valley of death' (Osawa & Miyazaki, 2006). While most start-ups can obtain funding for testing and developing their prototype, funding is hard to obtain during a commercialization, when results are still little and finances are low. It is therefore of utmost importance that there is a funding strategy in the early development stages of a new firm.

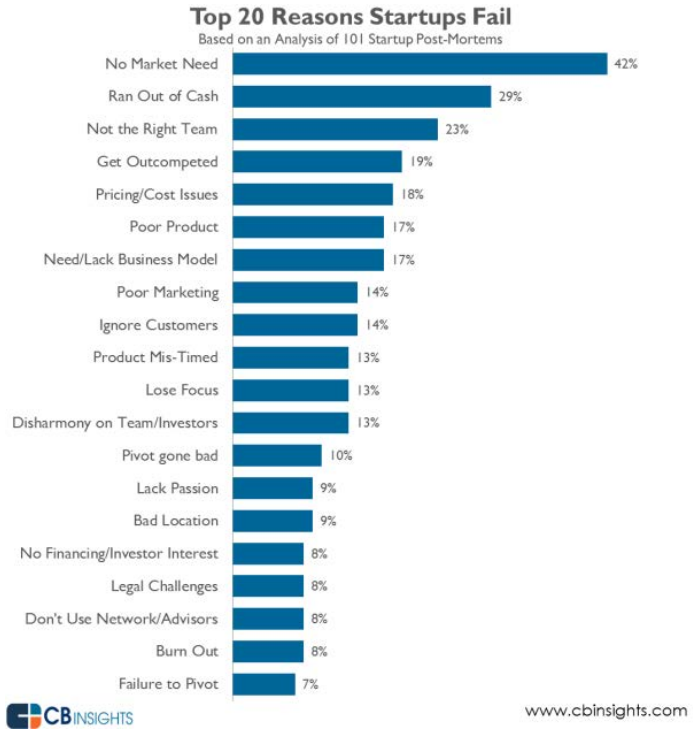

Figure 1. Reasons why start-ups fail (CB Insights, 2014).

According to Moore et al. (2012) investment in innovation, and especially in social innovation, carries a higher risk in terms of ROI than investment in more established products, processes or organizations. Bugg-Levine, et al. (2012) and Moore et al. (2012) state that a lot of social enterprises merely rely on grants or donations, but this is not a sustainable business model. A lot of social enterprises therefore do not make enough money to fund themselves entirely. This results in the so-called financial-social return gap (Bugg-Levine, et al., 2012). The yields of social innovations are very valuable (protection, health, clean water, the environment), but the costs to reach these outcomes are bigger than their monetary return. However, businesses need financial resources to start up, grow, and go to scale (Brandstetter & Lehner, 2015; Moore, Westley & Nicholls, 2012).

1.4.2 Frequently used social finance instruments

As stated, SEs need financial resources to survive. The rise of a social perspective has created relatively new funding options for social enterprises. It is important for innovators to have a sustainable business model, which means that some funding mechanisms are more important than others.

A range of traditional financial instruments are possible for social entrepreneurs. Examples according to the literature are grants, venture capital and microfinance (Bugg-Levine, et al., 2012). *Grants* are amounts of money which are mostly given by angel investors, NGOs and the government for specified purposes (Tekula, 2016). A company can also finance investments on the private market via *venture capital.* This means that capital is exchanged for company shares. While a bank requires a collateral, the venture capitalist obtains a share of the company in which it invests. For investing in a high risk enterprise, the investor receives a relatively high yield (Bijlsma, et al., 2015). Furthermore, via *microfinance* starters or

existing companies that want to (re)start a business but who cannot get a loan from the bank can get small loans (Bijlsma, Van Veldhuizen, & Vogt, 2015).

These traditional financial instruments for start-ups are especially helpful in the early stage of development. They can help enterprises to become financially viable and scale their operations (Tekula, 2016). But on the long term the abovementioned resources are not a sustainable source of money, since they do not pose recurring income (Bugg-Levine, et al., 2012). To be able to survive, innovators need a business model which has recurring and predictable sources of finance.

To achieve not only social but also a financial return, social enterprises and PPPs use "social finance" (Rexhepi, 2016). Social finance is a manner to channel private capital towards social innovation that benefits the public interest (Moore et al. 2012). Also, social finance secures its own sustainability by being profitable (Rexhepi, 2016). This is why microfinance, although it tries to deal with poverty, isn't seen as a form of social finance. Microfinance is a form of crediting and social finance is a form of investment (Rexhepi, 2016). Rexhepi (2016) captured the place of social finance in figure 2.

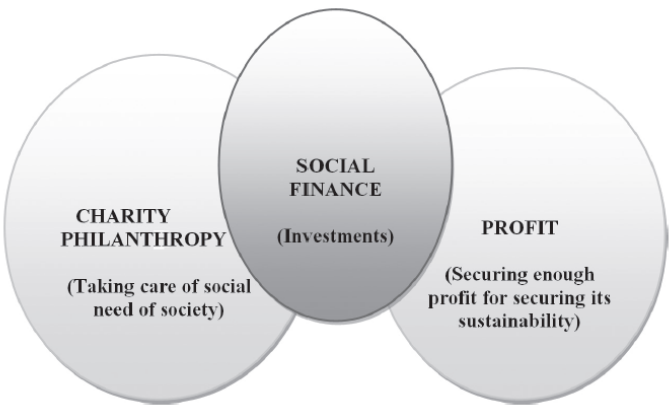

Figure 2. Different funding incentives: the role of social finance (Rexhepi, 2016)

Social finance covers a spectrum of approaches, such as impact investing, government finance and mission-related philanthropic investment (Moore, et al., 2012). Bugg-Levine, et al., 2012 have made an overview of social finance instruments that are frequently employed which usually reduce the risk for investors, making them more inclined to invest. These are:

Social Impact Bond (SIBs) and Development Impact Bond (DIBs)

SIBs are an example where a public sector agency hires a third party and only finances a project when certain outcomes are achieved. This way the government is sharing the risk with the company that is responsible for the execution of the project (Tekula, 2016). A DIB uses the same principle as an SIB but involves development agencies. DIBs have a more global focus (Brandstetter & Lehner, 2015). An impact bond model deals with the risk that public or donated money will be spent ineffectively (Rexhepi, 2016).

Crowdfunding

Crowdfunding is an alternative for obtaining finance where there are no financial intermediaries. A group or a person who wants to start a project, but has no starting capital asks a large audience for small contributions. Together, these small amounts of money of a large amount of sources sum up to a large total (Bijlsma, et al., 2015; Lehner & Nicholls, 2014). Crowdfunding is a broad concept that includes different funding possibilities. Firstly, money can be donated. This is mostly the case when a project has purely philanthropic objectives. Sponsoring is also a possibility. The investor receives a non-financial reward from the social entrepreneur. Thirdly, it is possible for a social entrepreneur to loan an amount of money from an investor and pay it back with rent. Lastly, an investor can participate in the project of the social entrepreneur. The investor profits from the value increase of the social enterprise in exchange for providing the start capital. While crowdfunding can be used to fund projects with a high risk, some crowdfunding platforms will only provide the funding if the development goals are met. This makes it less suitable for high-risk enterprises, since the entrepreneurs themselves will most likely be not able to cover the costs if the development goals are not met.

Loan guarantees

A loan guarantee is the promise of one party to take over the debt obligation of a borrower if the borrower defaults. Loan guarantees are sometimes issued by charity foundations to enterprises, rather than direct funds, as an efficient way to give enterprises more-certain funding (Bugg-Levine, et al., 2012).

Quasi-equity debt

To combine the properties of equity and debt some financial instruments are developed whereby yields of the investment are dependent of the organization's financial performance (Bugg-Levine, et al., 2012). Where debts for with a set interest and payback period, the quasi-equity debt depends on the financial performance of the organisation. If the expected financial performance discussed when providing the quasi-equity debt is not achieved, a lower (or even possibly no) financial return is paid back to the investor. This reduces the risk that enterprises have if their performances are still uncertain. Because of this, this kind of funding is very suitable for social enterprises. On the other hand, if the enterprise performs better than expected, a the enterprise will have to pay a higher financial return to the investor. For the investor, this is the reward for the higher risk he or she has taken.

Grouped financing

When an enterprise has a broader portfolio, or is integrated in a PPP for instance, it can ask for grouped financing. Instead of asking funding for one project or partner, it asks funding for the parent company or the PPP. In this way, the different projects or the different partners of the PPP do not each have to find their own source of funding. It also decreases the risk for the investor, increasing the chances of convincing them to invest. After all, their risk reduces because their investment is spread out over a portfolio (PPPLab, 2016). With grouped finance the scale of a financing scheme can also increase whereby the transaction costs for the borrower (the enterprise or PPP) reduces (because they do not have to find their own funders).

Blended funding

Blended funding means the *"strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets"* (World Economic Forum, 2015). In other words,

blended finance means that innovators use the fact that they have attained public funds, such as a grant, to convince private investors to invest as well. It reduces the risk for private financiers, because a part of the risk is carried by a public organization. Private investors thus become co-financers of your enterprise instead of carry the entire risk themselves. The public funder can guarantee to cover the first losses. Another reason why investors are more inclined to invest in an enterprise if a public body has already committed to funding the enterprise, is that the public body has already evaluated the enterprise and has thus deemed it valuable. This 'leveraging' of private resources with public funds is sometimes the reason that governments design instruments specifically for co-financing (PPPLab, 2016). These design instruments usually require a signed letter of commitment of private investors in case the funding is granted by the public body.

Revolving funds

A revolving fund is an (often public) fund which can provide financial assistance to enterprises just like a regular grant or fund. However, the repayments on the issued capital from the enterprise flow back into the fund. This makes replenishment and allocation of the fund in to a new project possible, making this type of funding a highly predictable and thus sustainable source of income since the fund cannot 'dry up'. These funds are generally made available to social enterprises or for a certain sector. A revolving fund could be an interesting funding mechanism, especially since it often provides funding on more favourable terms than commercial loans or equity (PPPLab, 2016).

1.4.3 Public-private investment framework

As discussed, because of their combination of pursuing social and economic objectives, SEs can use a wide pool of financial instruments. The different options mentioned can be confusing and it can be difficult to see which one is most suitable. Looking at the characteristics of these instruments, they differ (1) in the degree of risk they bring for the funder and (2) in the degree they generate revenues on the long run (in other words, how sustainable they are).

Based on these two characteristics, the different aforementioned funding mechanisms can be placed in a public-private investment framework (figure 3). This is not an exhaustive framework, but it gives an overview of the most commonly used funding mechanisms. Funding mechanisms with a low level of sustainability (bottom of the framework) are useful to kick-start an enterprise, but an innovator needs to have a sustainable source of income, with trade (the actual selling of products and/or services) as the most sustainable and healthy source of income. As a rule of thumb: the longer the enterprise develops, the higher it should be in the framework. It is also very wise to combine different sources of finance. The risk tolerance determines if you should attract a public funding body (high risk tolerance) or a private one (low risk tolerance).

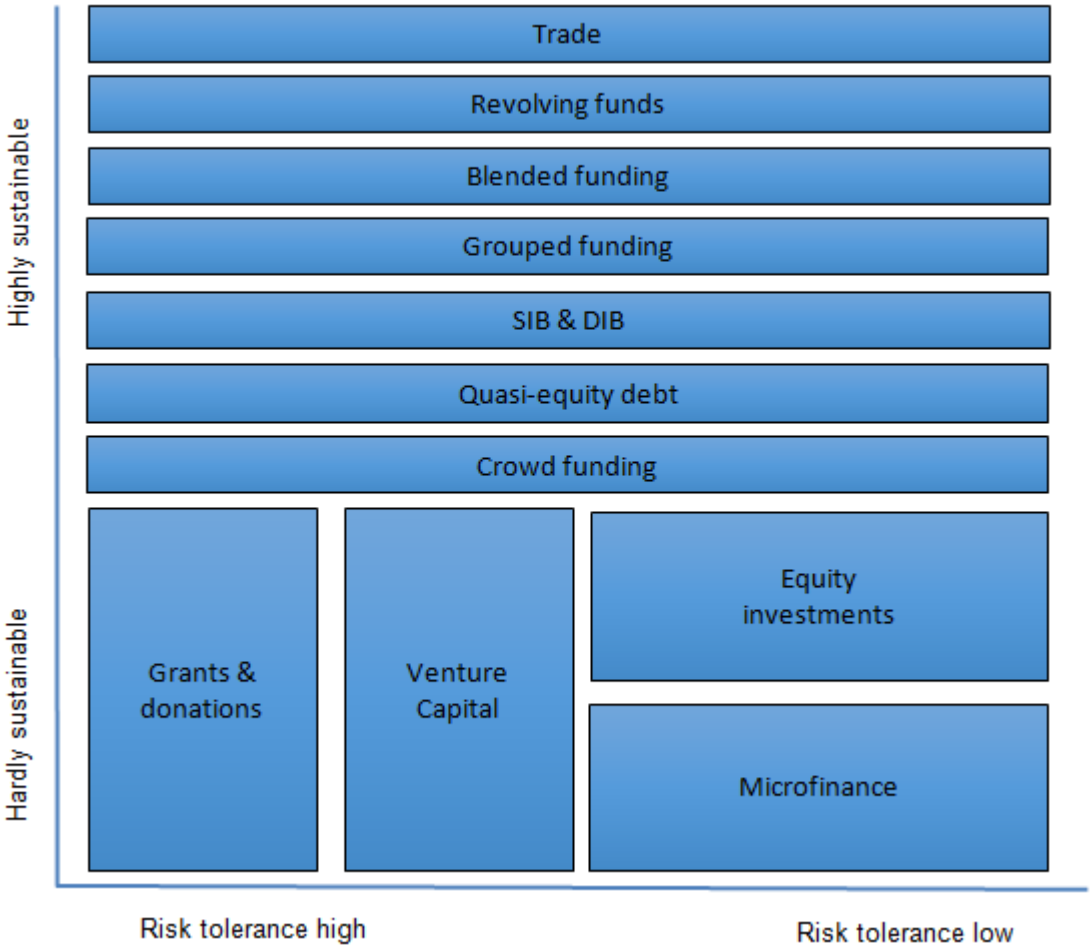

Figure 3. The public-private investment framework.

1.5 Conclusion

This document has described the perspective of investors, so that innovators have a better understanding of the different characteristics and motivations of sources of funding. Because of this, innovators can better decide where their pitch or business proposal should focus on. Additionally, this document discussed different funding mechanisms and provided a public-private investment framework which can be used to determine which sources of funding an innovator could and should have.

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