How to design learning tools that entrepreneurs actually use?

Using 3 analytical approaches to bridge the research-practice gap in entrepreneurship.

Frank Mintjes

Master thesis
July 2023

Msc. Strategic Product Design
Faculty of Industrial Design Engineering
Technical University of Delft

TU Delft Delft University of Technology

How to design learning tools that entrepreneurs actually use?

Using three analytical approaches to bridge the research-practice gap in entrepreneurship.

Author
Frank Mintjes

Master Thesis
Msc. Strategic Product Design
Faculty of Industrial Design Engineering
Technical University of Delft

In Collaboration With
Stippl
Coach | Ir. Verhoeven, L.J. (Luuk)

Graduation Committee
Chair | Ir. van Heur, R.J.H.G. (Ruud)
Professor of Human Centered Design at the faculty of Industrial Design Engineering

Mentor | Ir. Coelen, J. (Jeroen)
PhD Candidate & Lecturer of Design, Organisation & Strategy at the faculty of Industrial Design Engineering

July 2023

Preface

14 July, 2023

Dear Reader,

This report in front of you is my final work as a student for the Master Strategic Product Design at the Delft University of Technology. Before introducing the project, I would like to express my graditude to the people who supported me in making this project possible.

First, I would like to thank all of the participants of this project. The openness of the entrepreneurs and their effort in helping me, gave me the opportunity to learn more about their learning process.

Furthermore, I want to express my appreciation to the Stippl team. Throughout the entire time with this team, I have felt incredibly welcomed and have been continuously inspired by their dedication. A special thank you goes to Luuk, your lessons on project management were never boring. Besides the project, I want to thank you for your valuable career advice and life lessons.

Also, I am grateful and lucky with this supervisory team. Thanks Jeroen, for replying on every whatsapp or e-mail within seconds with your critical and honest opinion on my work, Thanks Ruud, for making me realize again that a designer is able to convert knowledge into some useful. Altough, it sometimes might have seem that I forgot I was a designer, I will never forget the example of the 'tovertafel'.

Also thanks Meik, for pushing me to move on when I needed it the most. Also for supporting me and inspiring me with your creativity till the end of the project.

Finally a big thanks to everyone else that I am forgetting to mention in this part. With the support of everyone in this project, I can proudly say that I have completed my graduation project.

Enjoy reading!

Frank

Executive Summary

Entrepreneurship, as a driver of economic growth, involves identifying opportunities and creating ventures. However, the success rate of startups is significantly low, with various sources reporting different failure rates. Common reasons for startup failure include lack of market need, insufficient funds, inadequate team, strong competition and pricing/cost issues. Scholars and practitioners have developed numerous theories and tools to assist entrepreneurs, such as the Value Proposition Canvas, Lean Startup and Customer Development. Despite these efforts, the failure rate of startups remains high, raising doubts about the effectiveness of existing tools.

To improve the success rate of startups, academic research could be used. However within entrepreneurship, academic research becomes detached from practical relevance. This is an issue described in academic literature as the 'Research-Practice Gap'. To address this gap, a "third body" or "design" is proposed as a mediating factor between research and practice. This design could offer prescriptive principles and tools that are useful for entrepreneurs. Currently, such designs are predominantly created by reflective practitioners rather than scholars. This offers certain problems in practice, such as their lack of rigor, limited generalizability, bias and subjectivity and finally lack of theoretical grounding.

This thesis aims to provide scholars with knowledge how to create learning tools that entrepreneurs actually use. As a result, scholars are able to covert their academic papers into desirable action-oriented learning tools. The first part of this thesis analyses this research-practice gap in three ways. First, it conducts a literature research of relevant literature in the domain of learning within entrepreneurship. Second, it researches the perspective of entrepreneurs on the gap by using a qualitative research study. Finally, the author dives into the role of an entrepreneur by solving a case-study for Stippl. This reveals a first-person perspective into the research-practice gap. The conclusions of these three research methods are combined into 4 important elements to implement when creating a learning tool for entrepreneurs.

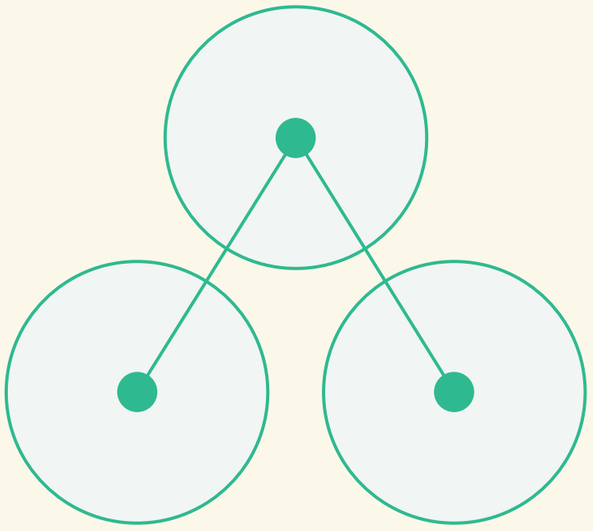
The second part of this thesis converts the analysis into a product to use for scholars. This product does not only provide insights of the analysis, but it also supports scholars in using the important elements within their learning tool. In this part, the thesis identifies the necessary requirements for the product and creates three concept ideas. These concept ideas are tested with scholars to create one final product which implements the 4 important elements for scholars to create relevant learning tools.

This thesis aims to provide scholars with the necessary knowledge to create relevant learning tools. The ultimate goal is to improve the success rate of startups by providing entrepreneurs with desirable and relevant knowledge.

Table of Content

Chapter 1

Introduction



1.1 Introduction to Entrepreneurship Research

Entrepreneurship, the process of identifying opportunities and creating ventures, is a driver of economic growth. Aspiring entrepreneurs embark on a exhilarating journey with visions of transforming their ideas into successful businesses. Unfortunately, not all of these entrepreneurs are successful. There are various numbers that describe the success rate of startups, all with different numbers and definitions . For example, Startup Genome (2022) mentions that about 90% of startups fail. Moreover, Harvard Business Review (2021) describes a failure rate of around two-thirds. Although these numbers are different, it is noticeable that a significant number of startups have problems staying alive, let alone be successful. Therefore, it is interesting to dive into the reasons why they fail. According to 400 post mortems of startups, CB Insights (2021) describes various reasons why startups do not survive. The top 5 reasons exits of: no market need, run out of cash, not the right team, get outcompeted and pricing/costs issues.

These 5 reasons are common knowledge among scholars and practitioners. As a result, countless theories and tools are developed to provide entrepreneurs with best practices to increase their chances of success. Some well known examples of these tools are the 'Value Proposition Canvas' by Osterwalder (2015), the 'Lean Startup' by Ries (2011) or 'Customer Development' by Blank (2013).

Although countless of these theories and tools exists to support entrepreneurs, the failure rate of startups remains significant. As a result, scholars doubt the effectiveness of using these tools in the startup journey (Ladd, 2018; Coes, 2014; Lizarelli et al., 2021; Felin et al., 2020). For example, Lizarelli et al. (2021) describe how using lean startup approaches and its vision on offering rough prototypes, might harm your credibility and business identity. Furthermore, Coes (2014) explains the 'Business Model Canvas' might be focussed to much on the business internally, without being aware of external risks such as competition, market and other environmental factors. Considering these two examples are critics on the some of the most popular tools out there, there is an opportunity to research how these tools could be improved. Which could eventually result in a higher success rate of startups.

Even though there are already countless supportive tools for entrepreneurs out there, Mansoori et al. (2018) describe that there is still an increasing interest in providing prescriptions for entrepreneurs. As a consequence, scholars and practitioners are supplying to this demand by creating more and more theories and tools. However, scholars tend to create theories in complex formats without keeping the end-user, the entrepreneur, in mind. Nonetheless, Frank & Landström (2016) describe that the scholars do agree that interesting research should also be relevant. With this relevance, the degree of applicability of the information or findings is implied. In other words, is the entrepreneur able to use the findings described in the research papers. In entrepreneurship research, the end-user of the research should be the entrepreneur. Provided that entrepreneurship is rather practical, the entrepreneurship research should offer knowledge that can be directly applied into practice. This division in relevance, the practical side of entrepreneurship, and rigour, the scientific part of entrepreneurship, is what sets entrepreneurship apart from more internally focussed disciplines such as physics (Romme, 2016).

In conclusion, the demand for prescriptive tools in entrepreneurship remains high. This results in scholars and practitioners trying to create new methods and tools to support entrepreneurs. However, these tools do not yet seem to lower the failure rate of startups. Thus, this leaves the question if these theories and tools are designed properly.

1.2 The Theory-Practice Gap

The phenomenon of entrepreneurship practice and research as two separate worlds is not left unnoticed by scholars, where it is described as the 'research-practice gap' (Wiklund et al., 2019; Berglund et al., 2018). As they describe, entrepreneurship research started with a strong focus on relevance because it was rooted in real-life issues faced by entrepreneurs. As entrepreneur researchers got more stage in top specialized and general management journals, it shifted a focus to more data and methods. This resulted in a loosing focus on relevance for entrepreneurs. As consequence, research was created that is often too complex, written for specialists in the field, not co-created with entrepreneurs and can not directly be put to use.

To create a solution for this problem, Berglund et al. (2018) suggests that there should be a mediating factor in between the two worlds of research and practice in entrepreneurship. This 'third body', or 'design' as he calls it, could be used to translate between these two. Berglund explains that this 'third body' could provide prescriptive design principles. Berglund et al. elaborate on the fact that this 'third body' is not entirely new. Scholars and practitioners are already creating tools which exist of a workable format for entrepreneurs. Examples of these are books as 'Lean Startup' by Ries (2011) or the canvasses as the 'Value Proposition Canvas' by Osterwalder (2014). However, this role of creating these methods and tools, is currently primarily filled by reflective practitioners instead of scholars. These designs share an action orientated view and embrace the idea that a theory is a tool for business design with the goal to help get things done.

The goal of this 'third body' is to focus more on the usefulness of a theory, rather than only theorizing and justifying. This could be achieved by creating a 'design'. In this thesis, a design can be explained as an object or system intentionally created with a specific purpose in mind. Where creators can utilize their skills, knowledge and creativity to develop a tangible or digital product. In this thesis the word 'design' is used to describe the object in the broadest sense. It is used to describe physical products, but could also be used to describe systems. Since in the world of entrepreneurship a mentorship or startup programme could also be seen as 'design'.

This design can have two goals. First, it contains insights from literature which will support entrepreneurs in their journey. It can in that sense, directly be put to use. Which support the action-orientated view of entrepreneurs. Secondly, this 'third body' could be used to communicate from the entrepreneur to the scholars. It can give insights in the world of practice of entrepreneurs and what their needs and desires are.

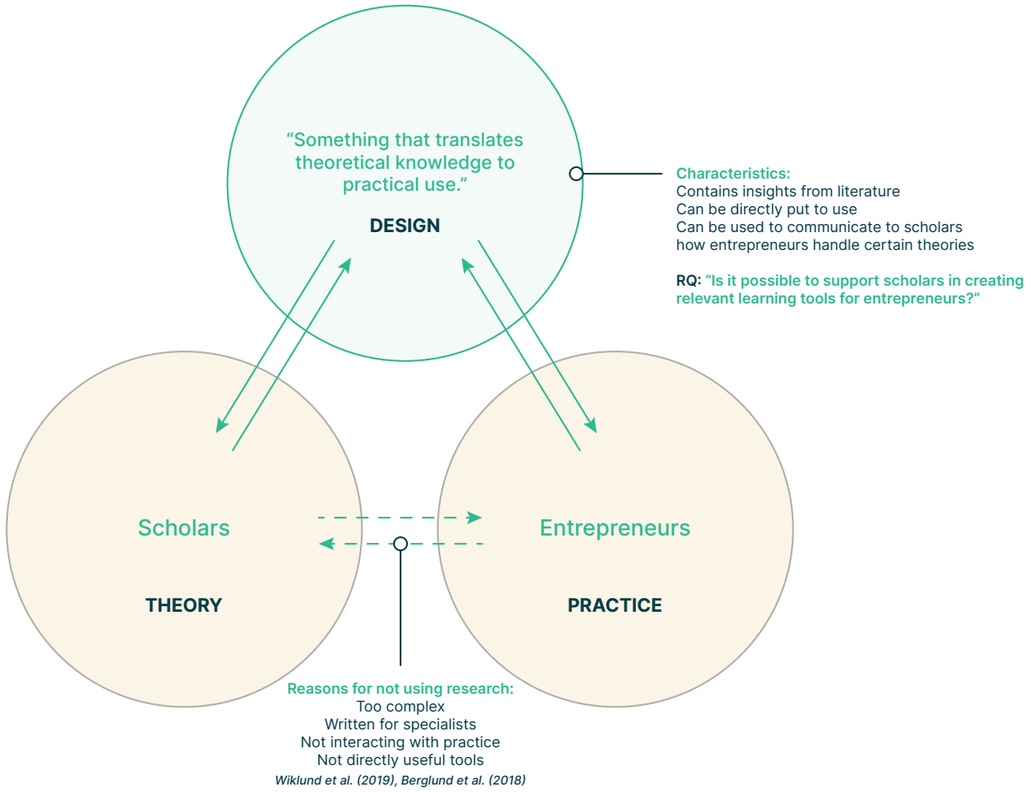


Figure 1.1: The Research-Practice Gap in Entrepreneurship by Wiklund et al. (2019) and Berglund et al. (2018)

1.3 The link between the Research-Practice Gap and Design Science Research

Thus as Wiklund et al. (2019) and Berglund et al. (2018) explain, entrepreneurship should ideally combine rigor and relevance. To do so, entrepreneurship scholars should focus on creating designs that support entrepreneurs. With an emphasis on combining rigor and relevance in creating designs, design science (DS) is proposed as an approach within entrepreneurship (Dimov, 2016). This approach is first announced by Simon (1996) and has longer traditions in other disciplines, such as information systems (Hevner, 2004).

Design science is a method that embraces a problem-solving research strategy and therefore focusses on real-world problems. It further develops knowledge that is translated into actions, processes and systems to guide the end-user in using the knowledge. To do so, it emphasizes the creation of artifacts that serve human purposes. This is similar to the note of Berglund et al. (2018) to create a third world in the entrepreneurship domain which focusses on 'design'. To visualize the similarities between the two, the three stages of design science research by Hevner (2007) is shown in figure 1.2. Where the three pillars are called: environment, design science research and knowledge, Berglund et al. (2018) calls them: practice, design and theory respectively.

Within design science, Romme (2003) explains that entrepreneurship research can focus on developing an underdeveloped pillar of research which focusses on 'will it work?' rather than 'is it valid or true?'. To elaborate, Vincenti (1993) explains that a line can be drawn between engineering and scientific knowledge. Where the former is used for practical utility, to solve particular problems, the latter is developed for the sake of understanding. Therefore engineers use knowledge to design artifacts, while scientists rather use knowledge to derive new knowledge. As entrepreneurship has a nature embedded in practice, creating ventures, it would benefit from designed artifacts which convey knowledge for practice and can be implemented directly for real-world problems.

Although it is recently introduced, there already exist some successful examples of using design science in entrepreneurship. Artifacts such as the Business Model Canvas (Osterwalder, 2004; Osterwalder & Pigneur, 2010) and the Effectuation Theory (Sarasvathy et al., 2008) are examples of using design science in entrepreneurship.

To conclude, in an attempt to solve this research practice gap, it is timely and relevant to consider how entrepreneurship scholars can engage with DS. Given its focus on combining rigor and relevance in using its research method. In the field of entrepreneurship, it is beneficial to steer the future by creating artifacts that explain the link of the present and the past. Thus, entrepreneurship scholars need to be provided with guidance in creating these artifacts.

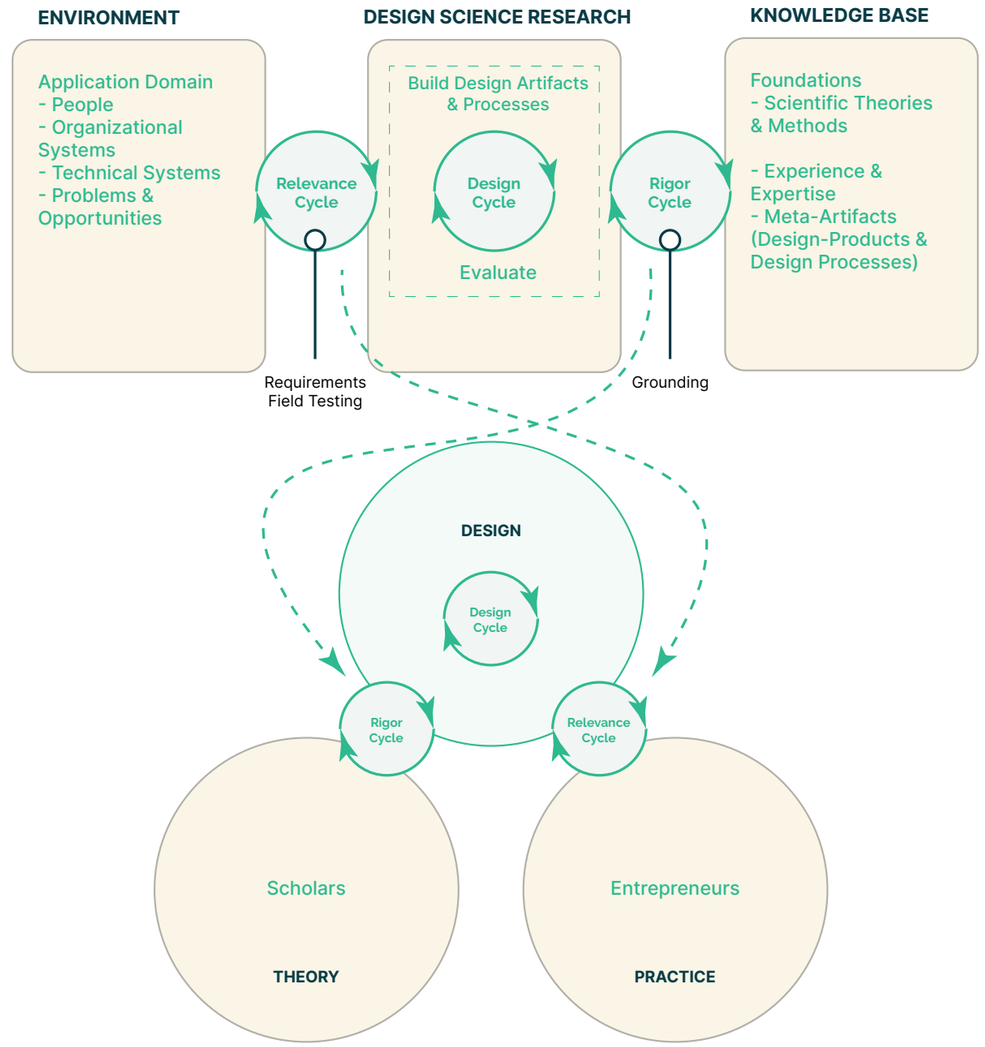


Figure 1.2: Projecting the design science research method on the research-practice gap

1.4 Challenge of This Project

"Is there a way to support scholars in creating relevant learning tools for entrepreneurs?"

This thesis aims to provide a solution for the research-practice gap. According to the research-practice gap, many designs in the entrepreneurship domain are currently overlooked by practitioners. This results in scholars not optimally supporting entrepreneurs and a missed opportunity to decrease the failure rate of startups.

Thus to bridge the research-practice gap, this thesis researches the important elements that are interesting to implement when creating a learning tool for entrepreneurs. Inserting these specific entrepreneurial design elements within design science practices results in a complete tool to support scholars in creating learning tools. The research question that follows is: "Is it possible to support researchers in creating relevant learning tools for entrepreneurs?". As a consequence, this thesis contributes to decreasing the failure rate of startups by enabling scholars to create more relevant learning tools.

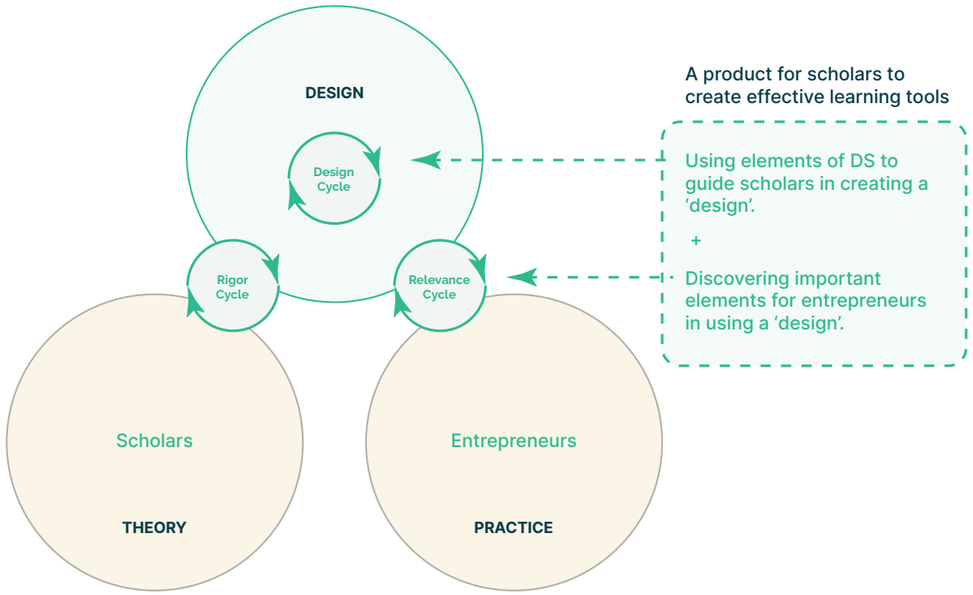


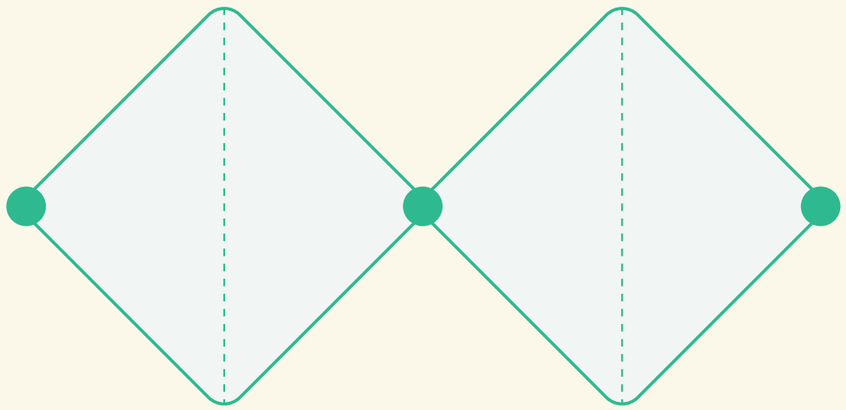
Figure 1.3: The challenge of this project

1.5 Concluding Chapter 1

- Entrepreneurship is a driver of economic growth, but many startups fail to succeed. Common reasons for startup failure include no market need, running out of cash, wrong team, being outcompeted and pricing/cost issues.
- Various theories and tools are created to support entrepreneurs to prevent these issues. However, the failure rate of startups remains significant.
- Literature outlines a 'research-practice' gap which describes the world of research and practice being misaligned in entrepreneurship. This means that entrepreneurs are not using literature in their journey of starting their venture.
- Design science research is proposed as an approach to bridge the research-practice gap in entrepreneurship. Design science focuses on problem-solving and the creation of artifacts that serve practical purposes. Examples of successful artifacts in entrepreneurship include the Business Model Canvas and Effectuation Theory.
- This thesis aims to bridge the research-practice gap by identifying important elements for creating relevant learning tools in entrepreneurship. This results in a set of steps which will support scholars to create revelant learning tools.
- The final goal is to support scholars in creating tools that are desirable to entrepreneurs, decreasing the failure of startups.

Chapter 2

Project Approach



2.1 Project Approach

Although the research-practice gap is mentioned in literature, there has not yet been a study researching a solution for the problem. Hence, this thesis focuses on created a concept to try and solve the research-practice gap. It goes behind the discovery of the problem by providing scholars hands on guidance in creating more relevant learning tools for entrepreneurs.

To successfully bridge the research-practice gap, the thesis is divided into two parts: analysis and develop, as is displayed in figure 2.1 below. These two diamonds are coherent to the widely used 'Double Diamond' developed by the British Design Council in 2005. This model is commonly used in design projects to describe the different phases of a project. It supports a design project to add structure the process, analyse the problem and develop solutions to solve the problem.

The first part of the project will consist of discovering the various aspects of the research-practice gap. To elaborate, all of the elements that are important in using and creating learning tools are researched. This part is essential to collect information to create a set of guidelines in the 'define' phase. These guidelines form the basis of the concept, as they consist of the best practices and essential elements to create a learning tool. The second part of the project focusses on bridging the research-practice gap. The research-practice gap will be bridged by providing support to scholars in creating relevant learning tools. As a consequence, scholars are able to contribute to entrepreneurship success.

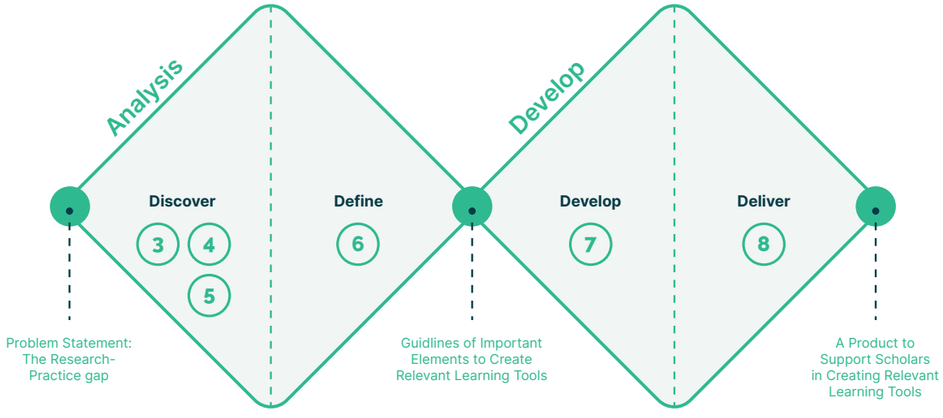


Figure 2.1: The project approach based on the Double Diamond model

2.2 Analysis of the Research-Practice Gap

The first part of the thesis focuses on discovering and defining the problem of the research-practice gap. To successfully analyse this gap, this thesis uses 3 different perspectives. These 3 ways are displayed in figure 2.2. In current literature, the research-practice gap is analysed from the viewpoint of the researcher. However, it is also important to determine the size of the problem from the entrepreneurs perspective.

The accomplish this, the first part of the research investigates the low adoption of entrepreneurial methods among entrepreneurs. First, relevant literature is discussed about how entrepreneurs learn. Subsequently, literature about tools in entrepreneurial learning and their timing is discussed. To conclude, an overview what a learning tool looks like is provided. This is further explained in paragraph 2.2.1.

The next research way explores the perspectives of entrepreneurs regarding their preferences for learning in their current process. This is researched by conducting qualitative research with 6 entrepreneurs. Moreover the qualitative research study is described in paragraph 2.2.2.

Lastly, this thesis utilizes an auto-ethnographic study to describe the entrepreneurial process while experiencing one. Compared to the methods above, this method offers a first person perspective rather than a third person perspective. The goal of this study is to provide an inside perspective in the entrepreneurial process and supports this design process in empathizing with the entrepreneur. This study is supported by theories about Research Through Design and Participatory Design. More can be found in paragraph 2.2.3.

To conclude the 3 research approaches, chapter 6 creates an overview of all of the important elements when creating a learning tool for entrepreneurs. It discusses the various elements and there relevance to this study.

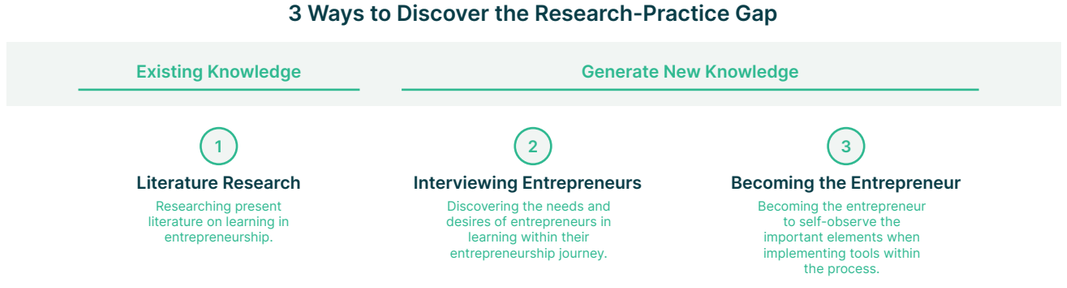


Figure 2.2: Three ways to discover the research-practice gap

2.2.1 What does the literature tell us about entrepreneurship?

The first step in discovering how scholars could be supported in creating relevant learning tools, is to research existing literature. The previous chapter already describes the introduction of the research-practice gap. With the intention of this thesis to bridge this gap, this chapter dives into relevant literature to gain knowledge regarding the context of the problem. It consists of relevant literature on the way entrepreneurs learn, how and when they use tool to learn and finally describes what a learning tool looks like currently. This chapter provides insights in what present literature says about learning in entrepreneurship.

2.2.2 Using qualitative research to discover the perspective of entrepreneurs

While previous studies by Wiklund et al. (2019) and Berglund et al. (2018) have primarily focused on the research-practice gap from the researcher's perspective, little research has been conducted on how entrepreneurs perceive this gap. To gain deeper insights in how to bridge this gap, it is essential to consider the needs and desires of entrepreneurs. Thus, this study aims to uncover the needs and desires of entrepreneurs in learning within the entrepreneurial journey.

To investigate this entrepreneurial standpoint, a qualitative research approach is conducted. By adopting grounded theory as a methodological framework, this study aims to understand the entrepreneurial perspective and contextual elements in which this learning tool needs to be designed. Chapter 4 provides further details on the selection, justification and applied method of the study. This understanding can support scholars in creating their learning tools with a 'relevance-first' mentality.

2.2.3 Becoming the entrepreneur by using Research Through Design

Although the previous paragraph explains how qualitative research can contribute to understanding the needs and desires of entrepreneurs, it remains a third person view on the topic. In order to gain a deeper understanding of this entrepreneurial process, this thesis utilizes auto-ethnographic research in the form of an entrepreneurial case-study. The case-study consists of designing a new value proposition to solve Stippl's short term monetization challenge. The details and results of this case-study are discussed in chapter 5.

This study utilizes a 'research through design' approach. Research Trough Design (RTD) (Frayling, 1993) is a design-led research approach that highlights the creation of artefacts and prototypes as a means of exploring and testing research questions. This approach is particularly suitable in this thesis because it can be used to explore the interaction between entrepreneur and design. Furthermore, it is an approach which involves creation as a central activity, which is used in this thesis to discover the research-practice gap from an entrepreneurial perspective. Finally, it is suitable because Frayling emphasizes that RTD is different from traditional design approaches since it focusses on the creation of knowledge, rather than just the creation of artefact. In this case, with the artefact the value proposition of Stippl is meant. With the creation of knowledge, the process of learning in an entrepreneurial journey is described.

This study describes the entrepreneurial behaviour during a value proposition creation step-by-step, also called an auto-ethnographic study. It enriches this thesis by understanding of important elements of the entrepreneurial process and enables the author to empathize with the entrepreneurs in their perspective.

2.3 Developing a Solution

The second part of the thesis focusses on converting the insights of the problem analysis into a concept solution for the research-practice gap. In this phase, participatory design is employed. Participatory design is a design approach which uses end-users and stakeholder in the process of designing. By involving end-users in the design process, it has a focus on creating more user-centred designs (Ehn, 2008). In this thesis, participatory design can be applied to create guidelines for scholars to create more relevant learning tools. Therefore, this thesis utilizes participatory design by involving scholars in the design process. Furthermore, participatory design is applied by validating the conclusions of the analysis with entrepreneurs.

To conclude, the second part of the thesis creates a concept solution to guide scholars in creating relevant learning tools for entrepreneurs. This concept is based on the guidelines from the analysis and designed by involving scholars and entrepreneurs in the process.

2.4 About the Author

To add context in this thesis, it is important to mention the background of the author. This is because this could have an impact on the interpretation of literature, qualitative interviews and furthermore influence the chapter 5, where an entrepreneurial journey is created.

First, here is a small summary of the background of the author. The author's entrepreneurial journey started at the age of 16 by founding a web design and graphic design agency. Within this company, the author learned the first steps in entrepreneurship. After a couple of years the author dedicated a year to a student-foundation focused on promoting entrepreneurship among students. They did this by organising events and workshops for students to discover and become an entrepreneur. He expanded his journey by working for a startup incubator afterwards. At this startup incubator, work consisted of creating and validating innovations for corporates using a startup mindset. This means quickly validating use-cases and creating a business model. After 1.5 years, the author started a new venture out of a startup course at the university. This startup was focussed around using AI to create a digital sports trainer for padel, a sport which has elements of squash and tennis.

As a result, the author has experience in practicing and facilitating entrepreneurship and a background in the academic world by studying at the Technical University of Delft. This makes it possible to interpret the literature from an academic, as well as a practice perspective. It gives understanding of what an entrepreneur would need in a certain situation.

2.5 Research Questions & Outcomes

As mentioned before, this thesis focusses on analysing the research-practice gap from multiple perspectives and creating a concept solution to bridge the gap. The following research questions support this thesis in identifying the main topics of research:

RQ: **Is it possible to support researchers in creating relevant learning tools for entrepreneurs?**

SQ1: What does present literature say about learning in entrepreneurship?

SQ2: What are the needs and desires of entrepreneurs in learning within their entrepreneurial journey?

SQ3: What are the important elements when implementing learning tools in the entrepreneurial journey?

SQ4: What should scholars do to increase the relevancy of their learning tools?

SQ5: What could a product look like that supports scholars in creating more relevant learning tools?

The research questions are accompanied by expected outcomes. The expected outcomes of this approach will be an overview of relevant literature within the entrepreneurship domain and the research-practice gap. Insights from a qualitative research study describing the perspective from entrepreneurs on the research-practice gap. An auto-ethnographic study describing the creation of a new value proposition for Stippl and the use of entrepreneurial support systems within this process. Afterwards, these results will be converted into insights regarding guidelines for scholars to create relevant artefacts for entrepreneurs. Finally, there is a tool created which will support scholars in the creation of these artefacts. These outcomes will support this thesis in answering questions about the interaction between artefacts and entrepreneurs and how to bridge the research-practice gap. This will contribute to the existing literature about research-practice gap by trying to find a solution within the gap.

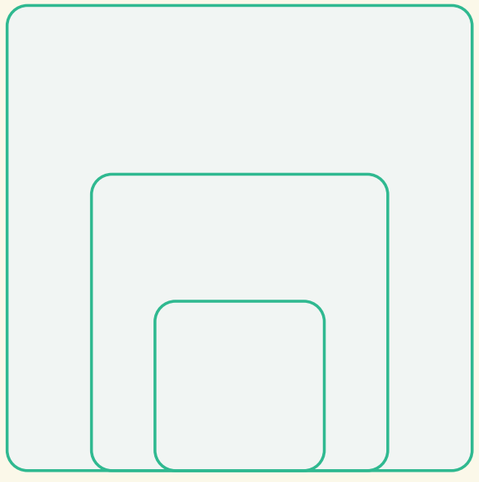
2.6 Concluding Chapter 2

- Although the research-practice gap is mentioned in literature, there has not yet been a study researching a solution for the problem. Hence, this thesis focuses on created a concept to try and solve the research-practice gap.
- This thesis uses a double diamond model as project approach, shown in figure 2.1. The project is split into an analysis and development phase.
- The analysis phase involves researching the research-practice gap from 3 different perspectives: the literature, the entrepreneur and auto-ethnographic. Literature is used to understand how entrepreneurs learn, use tools and what learning tools currently exist. Qualitative research is conducted with entrepreneurs to uncover their preferences for learning. An auto-ethnographic study is conducted to gain a first-person perspective on the entrepreneurial process.
- The development phase focuses on creating a concept solution through participatory design, involving scholars in the process.
- Expected outcomes include an overview of relevant literature, insights from the qualitative research and auto-ethnographic study, guidelines for scholars to create learning tools for entrepreneurs and the creation of a supporting tool.

Chapter 3

Relevant Literature in Entrepreneurial Learning

Literature Research



3.1 Introduction to Literature Research

In order to understand the gap between research and practice, it is important to explore relevant literature regarding learning in the field of entrepreneurship. This chapter answers SQ1: "What does present literature say about learning in entrepreneurship?". This represents the first approach among the three ways to analyse the research-practice gap.

The chapter is split into three parts: learning within entrepreneurship, entrepreneurial support systems & timing and the theory behind entrepreneurial methods.

First, entrepreneurial learning is discovered. This contributes by understanding the cycle in which individuals learn entrepreneurial behaviour. By understanding how these entrepreneurs learn, this thesis gains insights in the various elements to consider while creating a tool within this learning cycle.

The second part explores the resources entrepreneurs use to update their knowledge. It highlights the role of mentors within startups and emphasizes on the importance of timing.

The final part examines the difference in existing methods. It discusses practitioner-based versus theory-based literature. As a result, the advantages and disadvantages of both can be considered when creating a learning tool for entrepreneurs.

Overall, this chapter aims to discover three elements that are important to understand the current situation within entrepreneurial learning.

3.2 Learning in Entrepreneurship

To understand the needs and desires of entrepreneurs, it is important to explore how entrepreneurs learn entrepreneurial behaviour. Something that is not yet fully understood. However, we create programs and tools to support these entrepreneurs. Furthermore Gartner et al. (1999) describe that an increase in entrepreneurial skills and knowledge in the first couple of years can enhance the survival rate in the end. Thus, we agree that the understanding of the learning process is of great importance.

3.2.1 How do entrepreneurs learn entrepreneurial behaviour?

To understand needs and desires of entrepreneurs, it is important to explore how entrepreneurs learn entrepreneurial behaviour. In this case where we want to study the process of entrepreneurship rather than the entrepreneur as an entity, Rae & Carswell (2000) explain we can see entrepreneurship as a dynamic process which focusses on opportunity seeking. In this thesis, their definition is used to describe the concept of entrepreneurship as 'the process of identifying opportunities for creating or releasing value, and of forming ventures which bring together resources to exploit those opportunities'. Within this process learning takes place, which can then be described as 'a dynamic process which enables entrepreneurial behaviour to be enacted'. To know when learning happens, Mumford (1995) proposes the following: `When people can demonstrate that they know something that they didn't know before (insights and realisations as well as facts) and/or when they can do something they couldn't do before (skills).'. Using this definition, learning can be understood to have 3 dimensions: knowing, doing and understanding (Rae & Carswell, 2000). Rae & Carswell add to this that each of the 3 themes is important and have a dynamic interrelationship and therefore are all 3 important within learning to gain knowledge. Thus, to support entrepreneurs in their process, it is important to not only focus on providing knowledge. When learning can be understood to have 3 dimensions, it means that a supporting method or tool should provide to all these 3 dimensions. Therefore, the entrepreneur must also be supported in doing and understanding.

According to Rae & Carswell (2000), an important aspect of learning is 'Active Learning'. They describe that speed to active learning seems to play an important part in entrepreneurial learning according to their interviewees. They add to this that beyond direct experience of failure or success, entrepreneurs valued the use of books and case studies, together with social networking. As Rae & Carswell describe "the ability to learn and use what is learned are clearly essential in developing entrepreneurial capability.". Connecting this theory to the 3 dimensions of learning, it can be concluded that it is important to also experience something, rather than only gathering knowledge. Thus, to support entrepreneurs in learning, the supportive tool has to move beyond providing information to also guide the entrepreneur in using the information. This results in an optimized learning process.

In conclusion:

To conclude this paragraph, entrepreneurs **learn by doing**. It is not just to know how to do something, but to really understand something entrepreneurs must **go through a process.** This can also be compared with active learning, where the entrepreneurs value the direct experience of failure or success as a means to learning.

3.2.2 Entrepreneurial learning is experiential learning

As the previous paragraph describes, learning is not only gathering knowledge. It can be understood to have 3 dimensions and active learning seems to play an important role. This connects to entrepreneurial research and literature, that suggests that much of the learning that takes place within an entrepreneurial context, is experiential in nature (Collins & Moore, 1970; Deakins & Freel, 1998; Minniti & Bygrave, 2001; Reuber & Fischer, 1993; Sarasvathy, 2001; Sullivan, 2000).

A dominant theory in learning scholarship is Kolb's experiential learning theory (1984). Kolb describes learning as 'a process whereby concepts are derived from and continuously modified by experience'. This concept is also called 'experiential learning'. Kolb splits the learning process in two dimensions, which are called 'acquisition and transformation'. These two separate identities describe that this learning process consist of more than only gathering knowledge. Which is in line with the previous paragraph about learning. This also connects with Politis (2005) which also splits these identities and Reuber et al. (1990) who calls this knowledge 'experientially acquired knowledge'. The essence is that to learn, the person must go through a cycle and convert the experience into knowledge. This highlights the importance of practicing theory and sensemaking. Therefore it is emphasised again that supporting entrepreneurs should move beyond the knowledge provision into guidance of the knowledge in practice.

To further elaborate on this experiential learning cycle, Kolb (1984) created a model to understand this process. The model, displayed in figure 3.1, is a theoretical framework to understand how people can learn through experience. Which could support this thesis in understanding the experiential natured entrepreneurship behaviour. According to this model, learning is a continuous cycle that consists of four stages: Concrete Experience, Reflective Observation, Abstract Conceptualisation and Active Experimentation. This cycle or learning is ongoing and individuals can start at any stage, but they must complete all four stages to gain a deeper understanding or their experiences.

In the first stage, Concrete Experience, individuals engage in a new experience or activity that involves sensory and perceptual experiences. In the second stage, Reflective Observation, individuals reflect on their experience and observe it from different perspectives. In the third stage, individuals form abstract concepts or theories based on their reflection, which support hem in understanding and sensemaking of the experience. In the final stage, individuals apply their learning by testing their theories and putting them into practice through experimentation.

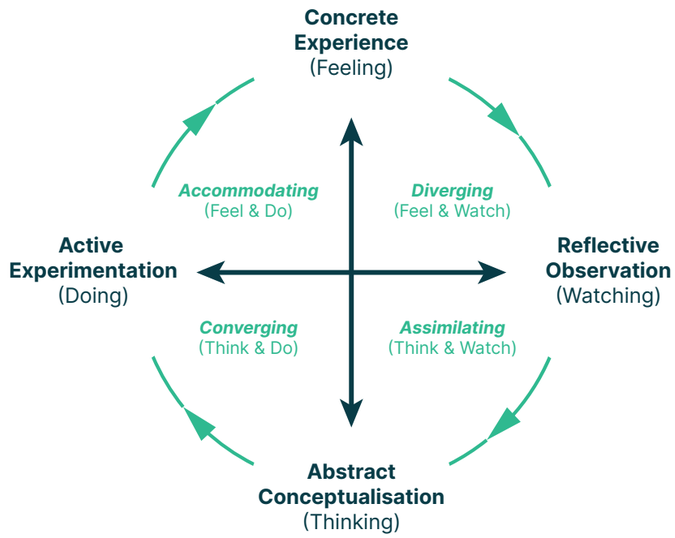


Figure 3.1: Experiential Learning Model by Kolb (1984)

To better understand this experiential learning model within the context of entrepreneurship, a small story could be used.

This story below describes Sarah who wants to start a fashion company. Within this story, the four different stages of entrepreneurship are clarified within context.

Example: Experiential Learning Within the Context of Starting a Business

Once there was an aspiring entrepreneur named Sarah who dreamed of starting her own fashion company. She decided to take the plunge while having very little experience in the business world.

Stage 1: Concrete Experience

At the beginning of her journey, Sarah faced a lot of challenges like raising funds. However she learned a lot from the experience of running her business.

Stage 2: Reflective Observation

A while later, Sarah started to reflect on her experiences and began to realize that her success depended not just on her hard work. It also had to do with her ability to manage her finances and market her brand effectively. Sarah started to seek out mentors who could help her understand the process of running a successful business.

Stage 3: Abstract Conceptualization

With the help of her advisors, Sarah understood more about concepts like branding, marketing, and how her company would fit into the larger fashion industry. She thought up a new strategy to differentiate herself and make smart decisions about where to invest her time and resources.

Stage 4: Active Experimentation

Sarah put her knowledge into action and created a business plan. She starts to experiment with new ideas and tries out new marketing campaigns. As she gained more experience, she becomes more confident in her ability to run and grow her business.

In conclusion, Sarah went through all four stages of Kolb's experiential learning model while starting her fashion company. She had concrete experiences that led her to reflect on her practices and observe her situation. She conceptualized new ideas from her reflections, which she then applied and experimented with in her business. These four stages allowed her to grow and develop her business to become the success it is today.

Kolb's Experiential Learning Model also includes four learning styles, which are based on how individuals approach each stage of the learning cycle. The four learning styles are diverging, assimilating, converging, and accommodating. Diverging learners tend to be creative and imaginative, and they excel at brainstorming and generating new ideas. Assimilating learning prefers to work with abstract concepts and theories and tend to focus on understanding the logic and structure of information. Converging learners are practical and problem-solving oriented and enjoy applying theoretical concepts to real-world situations. Accommodating learners are action-oriented and prefer to learn by doing, often taking risks and adapting quickly to new situations. Individuals may have a dominant learning style, but they can also adapt to different styles depending on the situation and learning task.

In conclusion:

One noticeable trait among entrepreneurs is their **preference for a "learn by doing" approach**, which is also described in the previous chapter. This is in line with **Kolb's Experiential Learning Model**. Based on their learning style, entrepreneurs are likely to gravitate towards **the "accommodating" spot,** where they can take action and put their knowledge into practice, allowing them to feel the pulse of their startup. While reflective observation and abstract conceptualization are important for steering the course of a startup and keeping it on track , **entrepreneurs thrive on hands-on experience and practical problem-solving**.

3.2.3 The effect of previous experience in entrepreneurship

Previous entrepreneurial experience has been found to have a noticeable effect on an entrepreneur's success. Within the entrepreneurial learning model, described in paragraph 3.1.2, this would be visible by successfully going through the entrepreneurial cycle multiple times. As a result, an individual's knowledge and capability grows. A study by Hsu (2007) describes how entrepreneurs with prior experience in the industry in which they started their business were more likely to survive and grow their firms. Foss and Klein (2012) add to this that entrepreneurs with prior experience in areas such as finance were more likely to secure funding, leading to increased chances of success. This is because previous experience can support entrepreneurs in gaining a better understanding of the market and identifying opportunities and challenges. Afterwards these entrepreneurs are more capable of developing effective strategies to overcome these challenges.

However, it is important to note that other factors also contribute to startup success. Examples of this are personality traits, access to resources and timing . Furthermore, the benefits of prior experience can vary depending on the industry or context. Nonetheless, the example of the experiential learning cycle suggests that going through the cycle multiple times can enhance one's knowledge and potentially lead to greater startup success.

The effect of previous experience shows that when an individual has moved through the cycle multiple times, this individual is more capable of performing certain tasks. Thus to contribute to entrepreneurial learning, it is important to guide the entrepreneurs through this learning cycle.

In conclusion:

Previous experience can be a way to explain differences between the learning processes of entrepreneurs. Looking back at paragraph 3.1.1, learning is described as **'knowing, doing and understanding'**. This can also been compared by going through the experiential cycle by Kolb one time. Once an entrepreneur learned more about entrepreneurship, he went through the cycle one or multiple times. **Previous experience could be seen as going through this process of learning multiple times.** The way previous experience contributes to startup success is not always the same, as described in the paragraphs above. However, it could give an advantage when starting a company.

3.2.4 Current factors that characterize and limit an entrepreneur's learning process

The paper of Florén (2003) highlights 3 factors that characterize and limit an entrepreneur in its learning process. The first limitation is the lack of time and resources to reflect on experiences, which can be harmful for learning. In the figure of Kolb (1984) this would mean an entrepreneur spends limited time in 'Reflective Observation' and 'Abstract Conceptualisation' and therefore does not successfully learns from its actions. The second limitation describes how entrepreneurs lack colleagues and that this can limit opportunities to learn from other around them. Finally, as entrepreneurs are seen as 'manager' in a later phase of the company, they sometimes hold a dominant role in interpreting event. This way they risk losing face if a mistake is made. Florén suggest that in the long term, an entrepreneur's network can support in developing confidence, provide opportunities for reflection and offer different expert opinions and perspectives, fostering increased knowledge.

In conclusion:

Within Kolb's learning cycle, **entrepreneurs spend limited time in the reflective side.** Or in other words, within 'knowing, doing and understanding', the entrepreneur spends limited time understanding what happened in the 'doing' part. This leads to limited 'knowing' for the next time the entrepreneur will proceed in entrepreneurial behaviour. Two other factors that hamper reflection are not being open for feedback and not having other individuals to reflect with.

3.3 Entrepreneurial Support Mechanisms & Timing

Next to their internal learning capabilities, it is also worth researching when entrepreneurs seek external support to establish their business, and the types of support they seek. One approach to studying this is to review the literature and explore the various perspectives on the types of support that entrepreneurs commonly utilize. This provides context to how and when entrepreneurs use learning tools to support them in their process.

3.3.1 How mentors support entrepreneurs in their process

A support mechanism which is interesting to explore is the use of 'mentors' in entrepreneurship. Although this is not a learning tool which the scholar is able to design, it does provide insights in the way entrepreneurs interact with a tool to support them in their process. Since mentors are a common and desirable support tool for entrepreneur, it is interesting to dive into the details what makes them that desirable.

In this thesis, the term "mentor" refers to someone who provides expert guidance to new-start entrepreneurs, as described by Sullivan (2000). Many times it involves an "experienced entrepreneur (mentor), and a novice entrepreneur (the mentee), in order to foster the latter's personal development" (St-Jean & Audet, 2012). A mentor can be particularly effective in supporting entrepreneurs derive meaning and understanding from their experiences, which aligns with the "reflective observation" and "abstract conceptualization" stages of Kolb's Experiential Learning Cycle. By helping entrepreneurs to reflect on their actions and modify future strategies if needed, mentors play an important role in guiding their mentees towards success.

Thus, it can be concluded that mentors primarily contribute to reflection in the process of the entrepreneurs. However, the nature of a mentor is that it can react to the information provided by the entrepreneur and therefore also contribute by offering tailored information. This is particularly helpful for the entrepreneur since it is time efficient. In conclusion, tailored information and time-efficiency seem important factors when providing support to entrepreneurs. Also support in reflection and abstract conceptualization is desired by entrepreneurs.

In conclusion:

Mentors are a desirable and common way to guide entrepreneurs in their process. They are **particularly supportive to entrepreneurs in the reflection and conceptualization stages** of the Kolb cycle. Also their nature of **providing tailored information and reflective questions is desirable**, because of their time saving effect. Elements that are important to notice for a learning tool are tailored information, time-efficient and support in reflection and conceptualization.

3.3.2 'Just-in-time' and 'Up front' approaches to entrepreneurial learning

To continue upon the previous paragraph, mentors can also contribute to another dimension according to Sullivan (2000). Which goes back to the part where entrepreneurial learning is largely experiential by nature. This means that the entrepreneur encounters specific situations at specific moments in their entrepreneurial journey. To make use of this fact, we must provide entrepreneurs with the right amount of information at the right time. This is where mentors could have a great impact, because mentors could provide feedback at the right moment in time. To elaborate, Sullivan (2000) describes two different approaches to entrepreneurial learning, 'just-in-time' and 'up front'. Sullivan argues the fact that 'just-in-time' advice could be more valuable and effective than an 'up font' menu of training offered to all programme participants. In the latter, it might that some or all materials that are covered could not be relevant to participants in the group.

In conclusion:

In this paragraph, it is mentioned again that **mentors contribute to the just-in-time approach**. This is similar to a combination of time-efficient and tailored information mentioned in the previous paragraph. Thus, it is important to understand the needs and desires at a particular time of the entrepreneur while providing information to that entrepreneur. **Providing all information up front is not desirable by entrepreneurs.**

3.4 The Theory of Methods

In the first paragraph, the various elements of learning are outlined. Also a conclusion was drawn that to learn, an individual must not only gather knowledge but also experience the knowledge in practice. However, it remains important to gather knowledge, which can then be put into practice. One possible solution to gather knowledge within the field of entrepreneurship, is to utilize methods and tools. Similar to other sciences, conducting a literature review before taking action is a common approach. However, in the buzzing world of entrepreneurship, where a lot of decisions need to be made. The scenario where the entrepreneur will spend hours reading necessary information before taking action is not a realistic scenario. Furthermore, this conflicts with the 'action-oriented' nature of entrepreneurs, in which they want to make fast decisions and move forward. This was also highlighted in this thesis by the preferable 'accommodating' spot within the entrepreneurial learning cycle. In practice, there are numerous tools and methods available to entrepreneurs. This chapter will examine these resources while also critically look in their contribution to startup success.

3.4.1 Theory-grounded versus practitioner-grounded literature

Within entrepreneurship, there are several theories that could be used to build ventures. However, when it comes to these theories, they can be either labelled as 'theory-grounded' or 'practitioner-grounded'. Theory-grounded literature is typically rooted in academic research and theoretical frameworks. This literature often describes a deeper understanding of the underlying concepts of a theory and the principles in the field. It also shows connections with other literature and describes a phenomenon from multiple perspectives. Conversely, there is literature based on practitioners. This type of literature is often more focus on the practical application of the theory described. It is based on insights from the field, often from a single founder, and can offer practical insights and real-world examples that can inform and enhance one's practice. It can be particularly useful for individuals seeking to implement strategies or solutions in their own work.

As Berglund et al. (2018) describes, several popular theories in entrepreneurship are practitioner based and are not grounded In theory. These theories are, for example, Customer Development (Blank and Dorf, 2012), Lean Startup (Ries, 2011) and Discovery-Drive Planning (McGrath and MacMillan, 1995). Practitioner-based theories provide a couple of key challenges, such as:

- The lack of rigor: which implies that these methods lack the rigorous research methodologies and analytical frameworks that are typically employed in theoretically grounded literature. This can lead to a lack of clarity and precision in the concepts and theories being discussed.

- Limited generalizability: literature tends to be focused on specific cases or context, which makes it hard to generalize them. In contrast, theories that are grounded in academic literature often aim to be applied in a wide range of contexts to their more universal theories and principles.

- Bias and subjectivity: literature may be influenced by the subjectivity of the individual that produces it. This makes it hard to separate fact from opinion or to assess the validity of the claims being made. This could lead to unwanted consequences when implementing the theory. For example, a memory of a certain process might be different than reality in context.

- Lack of theoretical grounding: Because practitioner-based literature lacks a proper theoretical-grounding it can make it difficult to integrate the findings into broader theoretical frameworks or build further research upon them.

One important notion is that these problems are primarily seen from the scholars perspective. Despite these challenges, the practitioner-based theories remain very popular. This leaves the question if entrepreneurs also experience these, or other, problems when utilizing practitioner-based theories. A reason for this popularity is explained by Berglund et al. (2018) by the action-oriented view of these method. Which is desirable element for entrepreneurs and contributes to the willingness of the entrepreneur to use the method. March and Smith (1995) also describe that the "Entrepreneurial practice calls for prescriptive procedural knowledge, i.e. methods for carrying out particular tasks". Which shares the same idea of more action-oriented literature. Which can be elaborated by Vincenti (1990) which calls it "design instrumentalities that guide action by suggesting procedures, ways of thinking and judgment skills".

In conclusion:

This paragraph mentions some pros and cons about practitioner-based versus theory-based literature. In a summary, **practitioner-based literature lack proper research methodologies, are not generalizable, are subject to bias and difficult to integrate in broader theoretical frameworks**. However, they are action-orientated which contributes to the willingness to use the method. The entrepreneur is seeking for prescriptive methods to guide them in their day to day jobs.

3.4.2 A framework for conceptualizing methods

As a way to assess entrepreneurship methods, Mansoori (2015) created the 'three-tier framework', displayed in figure 3.2 below. It can be used to analyse frameworks and their theories on an abstract and concrete level. The framework consists of three layers logic, model and tactics. To understand this framework it is important to explain the three layers.

First, Logic is the overarching rationale which focusses on the theoretical foundation of the model. It dives deeper into the theories which lay behind a certain method and its assumptions. It does not yet provide prescriptive methods on how to implement a theory or put it to work. As Mansoori explains, 'logic provides direction and sets the general rules and principles'. As logic deals with the fundamental issues in entrepreneurship, it supports entrepreneur is understanding the aim of the method and offers perspective in why to use a certain method.

The second layer is Model. Which can be described as the course of action of the method and proves a set of activities needed to implement the logic. It functions as the overall strategy how to overcome the theory explained in 'Logic' and therefore builds on the upper layer. It generally contains a set of procedures and a sequence of operations to guide the entrepreneur in its actions. It can be seen as the process description in an overview. Mansoori argues the following in 'model': 'Not providing guidelines in the form of sequential steps makes a proposed prescriptive theory harder to grasp and the model more difficult to adhere to.

The final layer is Tactics. This refers to a set of activities, exercises or immediate objectives that build upon the underlying model and logic. These are often described in detail and specify the context of use and the outcome of action. This is the step that makes an abstract theory able to be executed in a concrete form.

To illustrate this figure, Mansoori & Lackéus (2018) compares 6 different popular entrepreneurship methods and their contribution to either of these 3 layers. Their conclusion is that the practitioner grounded methods lack logic and rather focus on model and tactics. On the contrary are theoretical based methods, which are missing tactics according to Mansoori & Lackéus (2018). About this they describe the following 'In order to trigger action, detailed instructions and prescriptions must be given'. This is in line with the 'action-orientated' view described in the paragraph before.

To conclude, in order for a method to be rigorous and relevant, the three-tier framework could be used to assess the method on all 3 layers. To bridge the research-practice gap, it is particularly interesting to review elements that are interesting to design a proper tool for entrepreneurs to learn entrepreneurial behaviour. This results in enabling scholars to be effective in conveying their theories to entrepreneurs effectively.

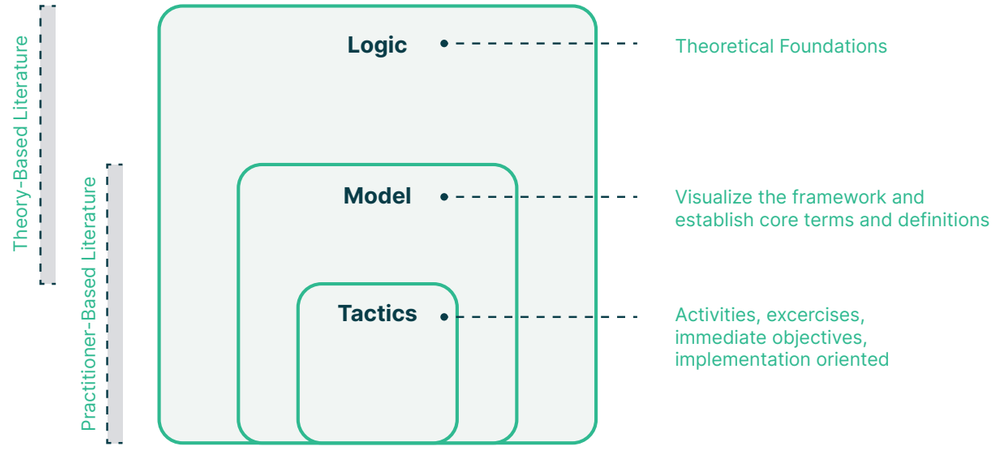


Figure 3.2: The Three-Tier Framework for conceptualizing methods by Mansoori (2015)

In Conclusion:

In the previous paragraph is described how practitioner-based and theory-based literature both have their own advantages and disadvantages. In this paragraph, Mansoori offers a framework to assess methods on being rigor and relevant. Incorporating Logic, Model and Tactics could lead to having the best of both worlds.

3.5 Concluding Chapter 3

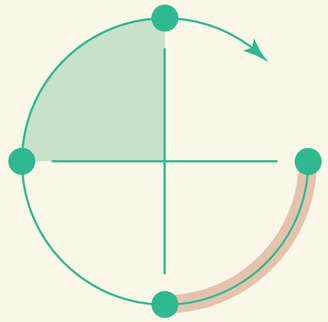
In conclusion, this chapter provides an analysis of relevant literature about learning in entrepreneurship. Therefore it answers SQ1: "What does present literature say about learning in entrepreneurship?". Throughout the chapter, the way entrepreneurs learn is discussed. Together with the timing and interaction of entrepreneurs and support systems. Finally, this chapter highlights the difference between practitioner-based versus theory-based literature.

The first part displays that entrepreneurs learn by doing. This can be visualized in the Experiential Learning Cycle by Kolb (1984). This cycle consists of four stages: Concrete Experience, Reflective Observation, Abstract Conceptualisation and Active Experimentation. Going multiple times through this cycle enhances knowledge, therefore giving the entrepreneur a higher chance of success. Thus, when designing a learning tool, a scholar must consider these 4 stages in its tool. Furthermore, little to no reflection hampers learning. Therefore, a scholar must pay extra attention to designing reflection within the learning tool.

The second part highlights the importance of timing within a support system. Mentors are a desirable option within entrepreneurship, because they particularly support in the reflection and conceptualization stages of entrepreneurship. By providing tailored information with a just-in-time approach, these mentors form a perfect fit with the expectations of an entrepreneur. Thus when designing a learning tool for entrepreneurs, a scholar must consider the timing of its tool. Upfront learning is not desirable by entrepreneurs. Also by incorporating reflective questions within the learning tool can enhance learning.

Finally, there is a difference between practitioner-based and theory-based literature in entrepreneurship. According to researchers, practitioner-based literature lack proper research methodologies, are not generalizable, are subject to bias and difficult to integrate in broader theoretical frameworks. However, their action-oriented nature contributes to the willingness to use the method. Entrepreneurs are seeking for prescriptive methods to guide them in entrepreneurship. Mansoori provides the 'three-tier framework' to emphasize the importance of Logic, Model and Tactics within an entrepreneurship model. Thus when a scholar wants to design a learning tool for entrepreneurs, it is important to use these 3 elements within their learning tool. Especially 'Tactics', which refers to activities, assignments and objectives, is sometimes left out by scholars. Literature describes that this element is the most desirable element for entrepreneurs.

To conclude, this chapter provides this thesis with important insights regarding the creation of learning tools for entrepreneurs. A summary of the insights is displayed on the next page.



Entrepreneurial learning

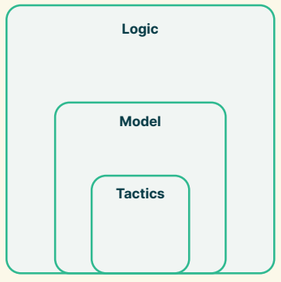
- Entrepreneurs learn by doing (going through the Kolb cycle)
- Going through this experience of learning multiple times can be beneficial to startup success
- Entrepreneurs favour the accommodating spot

Factors that could hamper learning

- Entrepreneurs do not reflect enough
- They are not open for feedback, because of their image as a manager
- With limited colleagues they do not have someone to reflect with

Factors that are beneficial for learning

- Using the right tools at the right moment ('just-in-time')
- Mentors are favourable, because of their ability to stimulate reflection and often provide information just-in-time



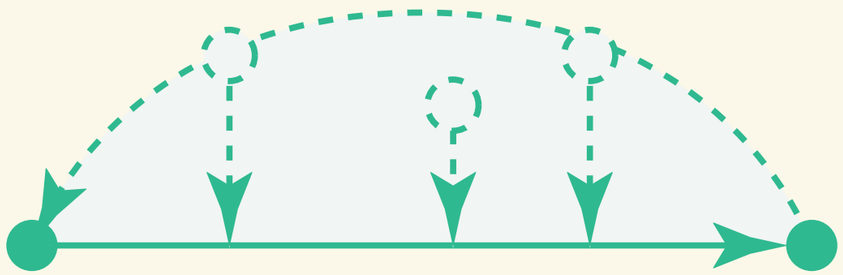
A good method consists of these 3 layers:

- Logic: theoretical foundations on which your method is based
- Model: a visualisation of the framework and establish core terms and definitions
- Tactics: an action-oriented approach, by using activities, excercises, immediate objectives

Chapter 4

Learning Preferences of Entrepreneurs in Practice

Qualitative Research



4.1 Introduction

In order to explore the research-practice gap, it is important to not only examine various literature that describes the gap. It is also important to gain insights from an entrepreneurial standpoint. This is why this chapter contributes to SQ2: "What are the needs and desires of entrepreneurs in learning within their entrepreneurial journey?". This thesis conducts a qualitative study to gain a better understanding of the entrepreneurial processes. Moreover, it provide insights into how entrepreneurs perceive several support mechanisms that guide them in this journey. Chapter 3 provides a comprehensive overview of entrepreneurial learning and the tools used in this process from a literature perspective. Trough the qualitative study explained in this chapter, the current state of entrepreneurial learning is displayed from the perspective of entrepreneurs.

The qualitative study involves interviews with six startup entrepreneurs. It elaborates on the experiences of their startup journey. The following chapters present the context of the dataset, along with details on data collection and processing. Finally, the findings are shared and concluded.

4.2 Method

Chapter 3 explains the different aspects of entrepreneurial learning and tools that could be used to support this process. However, to understand the gap between research and practice, it is not only important to see what is written in literature. It is also important to understand how entrepreneurs perceive the entrepreneurial process. Moreover, it is important to understand how or if they use tools to support them in this process.

To research the experience of entrepreneurs, a qualitative research study is conducted. According to Pratt (2009), qualitative research is well-suited for investigating "how" questions, rather than "how many", and provides valuable insights into the perspectives of the individuals being studies. Creswell et al. (2007) adds that qualitative research can provide an understanding of the context in which a particular phenomenon exists. This is relevant in this thesis as it seeks to understand the entire context of how entrepreneurs utilize different tools, techniques and resources during their journey.

A method to construct a theory from the qualitative research is the "grounded theory" approach. In this approach the theory is "grounded" in data from participants who have experience the process Creswell et al. (2007). This thesis will use interviews with entrepreneurs as a way of data collection which is a common way of data collection within grounded research (Creswell et al., 2007). Identifying recurring patterns or themes in these interviews will be the basis for theory building (Glaser & Strauss, 1967). The approach of grounded theory is focused on discovery theory rather than testing it, making it particularly fitting for this study as it aims to investigate phenomena, such as the research-practice gap, where limited knowledge exists (Glaser & Strauss, 1968).

4.2.1 Sampling

In this research, 6 different entrepreneurs are interviewed. The participants were selected using convenience sampling within the personal network of the author. This made it possible to interact with the participants in a comfortable setting in a short time span. All of the founders studied at the Technical University of Delft, therefore some of the startups also have a technical aspect within their product. An overview of the entrepreneurs that are interviewed is shown in table 4.1. Details about the entrepreneur are explained below.

Entrepreneur A

Entrepreneur A started a company 2 years ago. The company is build around the concept of selling surgical tools to Sub-Saharan Africa. The tools are affordable yet high-quality due to their approach of removing several intermediate traders in the supply chain. The venture is started with 3 founders with little experience. The participant in the study founded one start-up before in a different market (b2c cooking startup). The entrepreneur follows a study in Technical Policy and Management, this study has no entrepreneurial related topics in its curriculum. Therefore, this study concludes that the entrepreneur had no background information about entrepreneurship or how to start a venture.

Entrepreneur B

The second entrepreneur started with one co-founder and created a VR haptic glove in 2017. With this glove the user could have a real sensation of feedback while being in a virtual world. The entrepreneur had no background in entrepreneurship before starting this company. However, the participant in this study has a background in Industrial Design Engineering. Since the author also followed the same study, from experience there can be concluded that some elements of this study could be highlighted as important. For example, one aspect of this study is to learn how to perform user studies and create user centric products. This could influence some of the experiences of the entrepreneur since this is often also a large part of the entrepreneurial journey.

Entrepreneur C

Entrepreneur C started a company in reducing stress by offering breathing rhythm therapy. The company started 2 years ago with 3 founders. The founders were first-time founders. This founder also studied Industrial Design Engineering, which could influence the previous experience of this entrepreneur.

Entrepreneur D

Entrepreneur D started a company in creating an optimized bicycle light which luminates on the legs of the cyclist and therefore provides more safety. The startup started with 2 founders. The participant in this study has a background in Industrial Design Engineering. As explained at entrepreneur C, this could influence some of the experiences of the founder. Besides the study background, the entrepreneur had no experience in entrepreneurship.

Entrepreneur E

This participant created an application that changes the way users can use a smartphone application to date someone. They offer an application that matches individuals and sets them up for a date without the users chatting with each other. The startup started with a rather large team of 7 founders with diverse backgrounds. However, the participant in this study has a background in Industrial Design Engineering. Just as entrepreneur C and D this could result in a different experience in starting a company.

Entrepreneur F

The last participant in this study started a company in reducing the time you spend on your smartphone. They offer an app and a physical tag which helps you to eliminate the time you spend useless on apps. It locks apps so they can not be used anymore and unlocks wants you have a certain key. The founder studied Industrial Design Engineering and had no experience in starting a company before.

4.2.2 Data collection & processing

The data is collected using semi-structured interviews. Semi-structured interviews is common within qualitative research projects and are often the sole data source (Dicicco-Bloom & Crabtree, 2006). The reason of using semi-structure interviews is that the questions function as main guidance in conducting the interview. However, the questioned are designed as open-questions to leave room for the interviewer to use laddering as a method to gain a deeper understanding. Before the interview, the set of guidance questions is created, which is displayed in appendix X. The interviews were one on one sessions with one of the founders and were conducted using face-to-face meetings, phone calls or video calls. The interviews lasted between 23 minutes and 44 minutes.

It is also important to address the potential weakness of this method of data collection. A danger of this method is that it could contain the 'interviewer effect', which is explained by Denscombe (2010) as the amount and kind of information the participant is willing to share. Also it could be subject to 'demand characteristics' as explained by Gomm (2004). This means that the participant would give answers that he expects to be useful in this research. However it is difficult to exclude these weaknesses completely, this thesis tries to eliminate these weaknesses the best as possible. By, for example, using laddering to come to the true meaning behind an answer.

The interviews were recorded using a recording app on the phone. This resulted in 6 recordings and a total of 3 hours and 23 minutes of audio. Afterwards, the recordings were automatically transcribed using MS Office 365 transcribe tool. Finally, the text is imported into Atlas.TI to code the transcripts.

Entrepreneur	Problem Space of Startup	# of Founders	Startup Age	Experience as Founder	Study Background
A	Offering medical devices to Sub-Saharan African countries	3	2 years	Little Experience	Technical Policy and Management
B	Creating a VR haptic glove	2	6 years	First-Time	Industrial Design Engineering
C	Medical stress reduction tool	3	3 years	First-Time	Industrial Design Engineering
D	Bicycle light with improved safety	2	3 years	First-Time	Industrial Design Engineering
E	Dating app without chat	7	3 years	Little Experience	Industrial Design Engineering
F	Reduce smartphone usage	2	3 years	Little Experience	Industrial Design Engineering

Figure 4.1: Overview of the 6 different startups that are interviewed

4.2.3 Data analysis

To analyse the transcript, the coding method of Corbin and Strauss (1990). They describe that in order to perform grounded theory research, three layers of codes need to be created. The first layer is closest to the data, meaning that there is not yet any interpretation of the data with connections to the literature described in chapter 3. This is also called ´open coding´ within grounded research and is the first step in the analysis process. This is because it is important to let the data speak and to prevent bias in forming the data to the literature.

Afterwards the second layer of codes adds categories that are closer to the literature that is described in chapter 3. This second step is also called ´axial coding´, where connections are being made between the codes to organize them into categories.. This is interesting because now it is possible to discover connections between the data and the literature. The codes are afterwards loaded into Miro to create a visual categorisation of the codes.

The final step consists of selective coding, where the categories are connected to one theory. This final step is displayed within the discussion part of this chapter.

A total of 187 codes are relevant in this study, these are categorized into 12 categories within 5 main themes.

4.3 Findings

This chapter shows the findings of the qualitative research study. It elaborates on several categories that were found to be important in the coding process. Findings focus on the previous experience of an entrepreneur, the entrepreneurial process and how it develops over time, the use of mentors as support, the methods and tools for entrepreneurs and finally the timing of support mechanisms. All of the findings are displayed in table 4.2 below.

1. Previous experience of the entrepreneur	2. From novice to experienced entrepreneur	3. Using mentors as support	4. Using methods and tools as support	5. The timing of support tools
1.1 Startup experience	2.1 The desire to be action-oriented and experience entrepreneurship	3.1 Background experience of mentors	4.1 The preference for action-oriented tools	5.1 The timing of support tools
1.2 Study background	2.2 The abandoning of methods	3.2 Specific use-cases of mentors in entrepreneurship	4.2 Being told what to do step-by-step	
	2.3 Reflection in the process	3.3 Mentors as a support in reflection	4.3 Real-world insights	

Figure 4.2: The different categories of codes used for the analysis of the interviews

4.3.1 Previous experience of the entrepreneur

When interviewing the various entrepreneurs, their previous experience was one of the topics to interview. As described in paragraph 3.1.3, previous experience plays a role in the success of an entrepreneur in some aspects of the startup. In this study it is interesting to look at this previous experience from the entrepreneurs perspective. In table 4.1 is a summary of the various study backgrounds of entrepreneurs. Besides study background, it is also interesting to know if certain entrepreneurs already have entrepreneurial experience. This is also highlighted in table 4.1.

These factors are interesting, because it displays how different entrepreneurs view various methods and tools, for example. When reflecting on their entrepreneurial process, it is important to understand if the entrepreneur already had background knowledge or experience which could influence the reflection on the entrepreneurial process. For this thesis, it gives an indication whether there are differences in what entrepreneurs need in their process, based on their previous experience. This could support scholars in differentiating between various entrepreneurs and their needs and desires.

Startup experience

When researching if the participants had previously started a company, only entrepreneur A had started a real company before. Entrepreneur E and F mention they had some experience with customer validation before within other venture creating activities. However, this never turned out to be a real venture. Entrepreneur B mentions that some experience was gained by working for a startup. However, it is difficult to draw conclusions from the amount of learning that took place within working for this startup. Entrepreneur C and D mention they started out with no prior entrepreneurial experience before starting their company.

It is interesting to continue with entrepreneur A, who had startup experience before. The entrepreneur mentions that he took part in one real startup before. This startup had sales and existed for a couple of years. The entrepreneur reflects on his experiences by saying the following:

Entrepreneur A – 00:00:42 – Quote 1

"Then I started by own startup. I scaled it to a certain size, but it wasn't that scalable. I did it less professionally. However, I did learn a lot from it. It was way less complex. […]. It was a way different startup though. There is a whole difference between chirurgical equipment with an international supply chain and a private dining company with a Dutch supply chain."

This part is interesting because it is in line with the literature described in paragraph 3.1.3. An entrepreneur can be more successful if gained experience in a entrepreneurial process for example. This implies that a method or tool needs to focus on guiding entrepreneurs throughout the whole entrepreneurial process, therefore gaining more experience. However, as entrepreneur A also reflects, two startups could be in two entirely different markets. This brings new challenges and learning opportunities within a different field.

Study background

As shown in table 4.1, only entrepreneur A has a different study background than the other entrepreneurs. Within the interview entrepreneur A also discusses that his background in Technology, Policy and Management does not give him any prior knowledge about customer validation, entrepreneurship processes or any of that kind. From this quote, it can be concluded that entrepreneur A only gained experience in entrepreneurship by starting its first venture. In the rest of this study it is important to note that its experiences in starting a company is all learned within the process of starting a company.

Interviewer – 00:04:41 – Quote 2

"Let's talk about Technology, Policy and Management. Did you gain any experience in client interviews or anything in that kind?"

Entrepreneur A – 00:04:51

"No not really."

Interviewer – 00:04:53

"So did you gain more experience during the entrepreneurship process or..?"

Entrepreneur A – 00:04:58

"Yeah yeah, also because I'm particularly interested in psychology, how people think and consumer behaviour. I'm just thinking all the time 'how can I understand my customer?'."

The other entrepreneurs all studied a bachelor's degree in Industrial Design Engineering at the Technical University of Delft. This bachelor's degree is based on creating user centric products. Courses include elements of interviewing customers, stakeholder analysis, competitor analysis and more. Some of these could be very relevant within the entrepreneurial process as well. This is something that entrepreneur C also highlights in the following piece. This implies that these entrepreneurs already have experience in certain elements of starting a company. Therefore, they did not learn everything while starting a company. This could have influenced the method and tools these entrepreneurs looked for during their entrepreneurial process. Furthermore, it could have influenced the way these entrepreneurs used and reviewed these tools and methods.

Entrepreneur C – 00:06:59 – Quote 3

"[…]. Well also as a product designer. Within Industrial Design Engineering and the mind-set you get thought there is all like 'put the user in the centre of the product'. Fall in in love with the problem and talk to the user as fast as possible."

Entrepreneur E started a company with 6 co-founders from various background. However, there were a couple industrial designers among this group. The rest were other engineers. The following fragment highlights how these 'Industrial Design Engineers' with their background in entrepreneurial elements could influence the entrepreneurial process. This emphasizes that not every novice entrepreneur is the same, since elements of entrepreneurship are also learned elsewhere. This makes it important to realize that there are differences in entrepreneurs, their background, and how they would perceive methods and tools. Furthermore, in this qualitative research study, this implies that the answers given about these entrepreneurial processes are also subjective to prior experience in entrepreneurship.

Entrepreneur E – 00:04:51 – Quote 4

"I think that, especially in the beginning, the Industrial Design Engineers were thriving. They made the course, while that is now not really the case anymore. Now more the analytical and strategic people are on the front-line. Not that Industrial Design Engineers are not strategic, but in the beginning when everything is still very vague, the Industrial Design Engineers are at their best."

In conclusion:

To conclude, prior experience can change the way you perceive methods and tools.

However, not all entrepreneurial elements are learned during the entrepreneurial process. Entrepreneurs in this study also learned various entrepreneurial elements during their study period. When designing learning tools for entrepreneurs, it is important to realize that not all entrepreneurs have the same needs and desires. Therefore, it is important to realize who your audience is when creating a learning tool.

4.3.2 From novice to experienced entrepreneur

One notable aspect in the interviews is the willingness to approach situations differently based on their past experience. Several entrepreneurs mention the value of stepping out of their comfort zones and taking action in the early stages of their startup. Also called the 'just-do-it' mentality. Although sometimes this failed, the entrepreneurs still benefitted from the valuable lessons learned within this process. From the coding categories 'just-do-it', 'experience' and 'reflection', conclusions are drawn regarding the sub-research question. This results in the following paragraphs: 'the desire to be action-oriented and experience entrepreneurship', 'the abandoning of methods' and 'reflecting within the process'. These paragraphs emphasise the importance of realizing the needs and desires of the entrepreneur within different stages of the learning process. This could support the scholar in creating its learning tool by providing different pieces of information.

<u>The desire to be action-oriented and experience entrepreneurship</u>

An attitude commonly associated with entrepreneurship is the 'just-do-it' mindset. As many practitioners would say 'you will never build a startup from behind the desk'. This mindset was also prevalent among participants in this thesis. When questioned about their methods, participants frequently mentioned their 'gut feeling' as a tool. This emphasizes the action-oriented element of methods and tools. This desire is noticeable in several quotes. For example, Entrepreneur A talks about the following:

Background information – Quote 5

In this piece the interviewer and entrepreneur talk about how the previous start-up was business to consumer while the new start-up is business-to-business. The interviewer asks if the participants used new methods or reformed old methods to make sure that the new process would be suitable for business-to-business.

Entrepreneur A – 00:22:35

"Well to be completely honest, we just tried stuff. It is not like I grab the book for the Lean Startup and literally start to define the experiments. Like I would say 'I am now going to do the Wizard of Oz experiment'. It is more from the idea 'I am just going to test it'. Make a brochure and send it out. See how people respond. You can spend endless hours trying to think about your startup, in reality things will never be correct. For new propositions and ideas, it is that mind-set that works."

In this quote, it can be concluded that this entrepreneur wants to spend as little time as possible reading methods in how to create its startup. This quote also highlights the experience part of entrepreneurship. To continue, learning in entrepreneurship could be seen as developing itself through experiences. In this thesis, experience is defined as a an event or series of events that an entrepreneurs undergoes or participates in. Action-oriented tools can guide the entrepreneur in going through these experiences by focusing on the 'doing' part of entrepreneurship.

In the interviews, it was noticeable that all of the participants answered that they would do things differently now, than they used to do in the beginning. This implies that entrepreneurs gathered more knowledge than before, because of their experiences in the process. Thus, the entrepreneur learned by experience. The following quotes showcases how these entrepreneurs needed to experience a certain theory before understanding it:

Entrepreneur F – 00:08:22 – Quote 6

"We always heard like 'you have to understand your customer, you have to be really specific etc.'. We only really start to understand this when we experienced this and went through this process. Otherwise it was just some external knowledge that I knew existed, but now I realise way more how it works."

Entrepreneur A – 00:09:21 – Quote 7

"We started out with a product and manufacturing and now we are purchasing our product and distribute it. A total pivot. You only test this by doing and experiencing."

In conclusion:

Learning in entrepreneurship is only possible by experiencing the theory provided. For a scholar designing a learning tool, this would imply that the tool must also guide the entrepreneur in the ´doing´ phase. This is different than only providing information. Entrepreneurs prefer exercises or activities that guide them through the process of using the theory.

<u>The abandoning of methods</u>

Thus, experience plays an important role in learning for these entrepreneurs. Step-by-step guidance in 'what' to do in this process would be a logical way to support these entrepreneurs. However, in the interviews in also becomes clear that this does have some limitations. Especially in the beginning of starting a company, this vision of step-by-step guidance is desirable. However when the entrepreneur becomes more experienced in the entrepreneurship process, they seem to abandon methods.

Entrepreneur E mentions, for example, that in their startup they use ´build-measure-learn loops', as is described in the book 'Lean Startup' by Eric Ries. At the start of their entrepreneurship journey, the entrepreneur describes they used to be very careful

following the rules of this method. As the startup progresses, the startup just gave their own twist to the methods rather than following the method step by step. This highlights the part that when an entrepreneur becomes more experienced with their entrepreneurship process, they tend to let go of methods.

Interviewer – 00:19:39 – Quote 7

"You immediately mention build-measure-learn loops. Is this something you did this way from the beginning or?"

Entrepreneur E – 00:19:48

"Yes, I think we used it from the beginning. And I think we still do."

Interviewer – 00:19:54

"And did you use to write it all out and not anymore or something?"

Entrepreneur E – 00:19:48

"No no, so now I'm not totally conscious that we are in build phase for example and now we are in a learn phase. You are still sort of running tests. For example, always an A/B test to see what performs best. Quantitative and qualitative, we make a decision to roll it out to everybody."

Entrepreneur D also used a method in the beginning of the startup. In one quote becomes clear that this entrepreneur really values theories and method. However, once asking about these methods, it becomes clear that this person doesn't really use these methods anymore. The entrepreneur does talk about how you sometimes use methods subconsciously. This highlights the importance to realize that entrepreneurs use methods differently in a further stage of their entrepreneurship journey.

Interviewer – 00:17:40 – Quote 8

"For example such a Business Model Canvas, you said you used that during your entrepreneurship course. Are you still using that or how are you dealing with that now?"

Entrepreneur D – 00:08:22

"No not really no. But I should actually. I do not really use those frames anymore. However, I do think I use them subconsciously though. Because, you notice with, for example, partners and cashflows etc. I just do something, but I do not literally fill in that canvas anymore no."

In conclusion:

To conclude this part, it seems that entrepreneurs in earlier stages of their company have different desires than in later stages of their company. It can be concluded that experience in entrepreneurship influences how an entrepreneur uses methods and tools. Step by step guidance is more important in the earlier stages of entrepreneurship, compared to later stages.

<u>Reflection in the process</u>

During the learning process of an entrepreneur, reflection also plays an important role. Multiple entrepreneurs in this study mention reflection in their interview. It is noticeable that entrepreneurs use reflection to move forward in their startup journey. Reflection can therefore be seen as a tool on its own. Entrepreneur A emphasizes this in the quote shown below. This entrepreneur mentions that besides using tools, reflection was the way to move his entrepreneurial journey forward.

Interviewer – 00:14:24 – Quote 8

"You mentioned earlier that, for example, the Lean Startup was very important in your process. […] Can you name anything that you used in your process to support you in moving forward?"

Entrepreneur A – 00:14:51

"I notice in working with a team, that sometimes you are in the manager role. Sometimes I just need to sit down, think, and say to yourself 'What are we currently working on? And is this currently important?'. Also I try to sit together with the team once a month or sometimes every two weeks to check our priorities. […]. 'What do we need to focus on? Are we really doing that?' And also within the team. 'What are you doing exactly right now?'. It does not really have a concrete format."

From this quote, it can be concluded that after experiencing something in the entrepreneurship journey, the entrepreneur likes to reflect on the events that occurred. Afterwards, the entrepreneur creates a new plan to move forward. Therefore, it is emphasized that after experiencing events in the entrepreneurship journey, reflecting and creating a new plan closes the loop of learning. To elaborate on the role of reflection within this process, the same entrepreneur highlights the importance of reflection.

Background Information – Quote 9

Entrepreneur mentions he forgets to reflect on his findings sometimes, because he doesn't have time.

Interviewer – 00:20:48

"[…]. Okay interesting. What do you think is so valuable about reflection?"

Entrepreneur A – 00:22:35

"You get more aware of the lessons you have learned. And you can bring the value that you have developed earlier along. A lot of people, not necessarily entrepreneur, do not know why they are doing something. They do not know what they want to achieve in their career for example. In entrepreneurship, if you see that one thing in your business appears really constant, you know for sure that that is your vision and mission. We completely pivoted in our business, but our target audience and end-goal really remained the same."

Thus, from these quotes it becomes visible that reflection plays an important role in entrepreneurial learning. Therefore, within methods and tools there is an opportunity to be supportive in the reflection process of entrepreneurs. The following quote of

entrepreneur E showcases how a certain tool supports the entrepreneur in their reflective process. Afterwards, the entrepreneur is able to iterate on the learnings and proceed its entrepreneurship journey.

Entrepreneur E – 00:04:09 – Quote 10

"At one moment we printed cards. On these cards you write the hypothesis you wanted to test, the experiment how you are going to test it, the result and the conclusion. After the conclusion, you could start again with the question: 'what are we going to test now?'. We hang the cards on the wall and this way we sorted created our own method. Like if we encounter any problems with our test we could look at them and see 'how can we do things better from now on?'."

Whereas, entrepreneur E mentions that this method supports them in reflecting and learning, Entrepreneur A explains that this reflection does not occur in methods that this entrepreneur uses. The entrepreneur explains how the Business Model Canvas, once it is filled in, is never looked at again. This would hamper the learning process, as the entrepreneur is not iterating on its previous findings. This is explained in the following quote:

Entrepreneur A – 00:17:01 – Quote 11

"I think that all the tools are useful at a certain moment in your journey. The difficult part is that it either takes very long to use the tool or that you fill in the tool but never reflect on it again. Take the Business Model Canvas for example, it is useful to fill it in once. However, it is even more useful to reflect on it over and over again if it is right."

In this quote, the entrepreneur mentions that reflection would benefit its use of the Business Model Canvas. However, in practice a lot of entrepreneurs do not reflect on this tool. As mentioned earlier, entrepreneurs want to spend limited time everything besides ´doing´. Therefore, it is questionable if this quote by entrepreneur A is realistic. To continue, if designing a learning tool for entrepreneurs, it is noticeable that reflection is desirable by entrepreneurs. However, it should be designed with care or entrepreneurs will not use It in their process.

In the following quote, entrepreneur A continues on why it would be beneficial for the entrepreneur to reflect on methods rather than re-create one. It emphasizes once again that reflection is an important step in the learning process. Moreover, tools provide an opportunity to support entrepreneurs within this process.

Entrepreneur A – 00:18:10 – Quote 12

"For example at this company were I worked. We were all just new starters writing business plans and all. But at some point, 3 months later, we figured out that the business plan was not going to work out. So instead of iterating on this business plan, we erased it all and started over. We also did this with our time planning. Making adjustments to your old planning is way more valuable for learning than creating a planning over and over again. It makes you think about every change you make, every decision and makes your more conscious about your learning. Sometimes you see that ideas you had earlier were very valuable for example."

In conclusion:

After the ´doing´ step, reflection seems to be an important step in closing the loop of entrepreneurial learning. Entrepreneurs already use reflection their process. These entrepreneurs also mention that they value reflection. Methods and tools could provide the opportunity to support entrepreneurs in this reflective process. Some tools already incorporated reflection, however it is noticeable that this needs to be designed with care. To continue, learning tools should incorporate reflection to optimally guide entrepreneurs in their learning process.

4.3.3 Using mentors as support

Within this qualitative research, all of the 6 participants mention they used a form of mentorship in their startup process. This emphasizes the assumption that mentors are a desirable support tool within the entrepreneurial process. Therefore, it is important to discover what makes these mentors so valuable.

As mentioned before, in this thesis a mentor is also referred to as someone who provides expert guidance to new-start entrepreneurs, as described by Sullivan (2000). In all of the interviews, participants were positive about mentors in their startup journey. All of the participants used mentors in a 1 on 1 setting. In this part, the different aspects about mentorship is mentioned. Starting with the background experience of the mentor. Afterwards, the specific ways a mentor is used is mentioned. Finally, a part is written about how the mentor could be used as a way of reflecting in the startup process.

<u>Background Experience of Mentors</u>

As someone who gives expert guidance to new-start entrepreneurs, a mentor is often an experienced entrepreneur. This is something the participants in this study also mentioned to be important when searching for a mentor. When a mentor has a specific background, they could contribute to the startup with specific information. The following quote showcases the background of the mentor at the situation of entrepreneur B.

Entrepreneur B – 00:07:07 – Quote 13

"In our startup process we have had several mentors. So first we had a mentor, which was fine, but was not really industry relevant. However, it was a really experienced entrepreneur so he really pushed us to go to startup events et cetera."

Interviewer – 00:07:52

"Did this mentor thought up these events from his own experience?"

Entrepreneur B – 00:07:56

"Yes, really from his own experience. He also didn't ask any money, just a bottle of wine a week. So that was perfect for us as a startup."

In the previous quote, the mentor supported the startup from his own experience. However, this information could have also been provided using books or another tool. Therefore, it seems that the interaction between the mentor and the mentee is particularly important. This is also noticeable in the following quote by entrepreneur C. In this quote it is mentioned that the experiences of a mentor are interesting to read. Therefore, it could also be that this real-world example of the mentor is what makes it interesting to entrepreneurs.

Interviewer – 00:16:35 – Quote 14

"The things you mention about LinkedIn seems interesting. What did you call it? And what kind of subjects are you particularly interested in? Are these experiences or?"

Entrepreneur C – 00:16:49

"Yeah, it is mostly successful entrepreneurs that share tips like, these were our steps to start our business. And most of the times this is really high over and abstract. Sometimes it is a small tip like: 'first do your product-market fit and after this you invest in marketing', or something like that. It can already solve a lot of question for you, because sometimes you are attracted to do the opposite. Something simple like this can already help and is enough for now."

Interesting about this previous quote is the recurring theme of mentors mostly sharing experiences from the field in simply, easy to digest, pieces of information. Thus, the background of mentors is therefore important to convey the message. Primarily because these mentors show a 'real-world' example by providing these pieces of information. This is also shown is the last quote of entrepreneur F, where this entrepreneur really explains how important the background of the mentor is.

Entrepreneur F - 00:24:17 – Quote 15

"For me the actual realisation about the theory of entrepreneurship came when I did [certain entrepreneurship programme]. There were a lot of founding-stories from entrepreneurs who followed this programme 10 years ago, for example. These entrepreneurs are founders of very successful companies now and came to share the stories about their founding years. What they had learned and which mistakes they had made. They were hammering on these same mistakes. Maybe it is just because you need to hear it from the right person. You just need to experience the process of entrepreneurship yourself before you really understand how it works. [x]. I also did [another entrepreneurship programme], where the people that guide you through the process were not entrepreneurs themselves. This just makes it hard to understand and believe what they are saying, because they didn't went through the process themselves."

In conclusion:

In mentorship guidance of entrepreneurs, it seems that the background of the mentor plays an important role. Mentors are almost always experienced entrepreneurs themselves, which helps them to give insights from the field. Therefore they provide 'real-world' perspectives when giving advice. It also supports them to convey their message and be displayed as a reliable source for mentorship. To conclude, when designing a learning tool, it seems important to add real-world examples to offer perspective on the item that you are trying to explain. When using an example, it could be beneficial to use a widely known example, this also supports the tool in conveying the message.

<u>Specific Use-Cases of Mentors in Entrepreneurship</u>

Because mentorship in entrepreneurship is very popular, it is interesting to see in what ways a mentor contributes to the startup process. The previous paragraph highlights how mentors guide entrepreneurs by using their background to convey the message. However, in this quote by entrepreneur C it becomes visible that mentors can also support the entrepreneur in directing the ideas of the startup.

Entrepreneur C – 00:12:24 – Quote 16

"At first, mentors guided us in using a specific method in our entrepreneurship journey. They guided us in using 'Disciplined Entrepreneurship', which is a step-by-step plan to start your company. In this process they guided us by answering questions about this method, for example. Secondly, it is really about tempering your ego. Your own bias or how you will call it. I still always have the feeling that my first idea is my best idea, and that is just not always the case. Our mentor could really easily or creative try to ask questions about your idea and push you to check your idea in reality and practice instead of just developing it. They are very good at opening your eyes and 'build the right thing', instead of 'building things right'. They are very good at keeping your focus."

This guidance that entrepreneur C describes in the previous paragraph, is also described by entrepreneur F in the next quote. It highlights the importance of asking the right questions before starting on a specific journey. Out of experience, mentors can be very good at asking these reflective questions. Which emphasizes once again, that an entrepreneur values the reflection part of entrepreneurship. This next quote shows entrepreneur F and the initial phase of their company. It highlights the reflective questions of the mentor.

Entrepreneur F – 00:08:27 – Quote 17

"Yes the mentorship really helped us. We had a weekly meeting with the mentors and one of them ask a lot of good questions. He had seen a lot of startups in this early phase, which makes him able to directly ask the right questions. This made us question our process a lot, like if we were doing the right things or were asking the right questions. Or maybe even if we were building the right product. This made us think if there were other possibilities to achieve the same goal. So this coaching was really supportive for us."

Sometimes it is not only the general questions and processes a mentor uses to support an entrepreneur. The mentorship could also be used for specific knowledge. In the previous paragraph, quote 13 already highlights that this entrepreneur mentions the fact that the mentor was not industry relevant. Although, it is not always the specific use-case of mentorship, the mentor could provide the entrepreneur with specific knowledge about certain fields. This would imply that providing the entrepreneur with the right information at the right time is also an important part of a mentor. Entrepreneur C mentions in the following quote how a mentor supported their entrepreneurship journey in providing specific knowledge.

Entrepreneur C – 00:14:58 – Quote 18

"In the beginning of our journey, we used a lot of mentors and coaching sessions. I could advice to startups that you really want this in the beginning. And sometimes, it is also just very practical advice. Like what kind of legal structure do I need for my company. All kind of practicalities that we needed more in the beginning than now."

However, other entrepreneurs mention that this was not only useful in the beginning of their startup journey. Entrepreneur E mentions, for example, that they use a specific board of advisors to guide their startup on specific topics. People that are chosen to take a seat in this mentorship board have specific backgrounds and knowledge to guide their journey in an optimal way. The following quote elaborates on this:

Entrepreneur E – 00:11:16 – Quote 19

"We do also have a board of advisors for example, that is super useful."

Interviewer – 00:11:28

"And why do you think this is useful? What makes it extra valuable?"

Entrepreneur E – 00:11:28

"We chose specific people with specific backgrounds to have a seat in this board. We prepare this meeting with a lot of care. The meeting consists out of very specific themes on what we really needed input on. These people have specific experiences in these areas. It is also very useful that they are connected to us for a longer period. We now started for over a year with the 3 same people in this board and you really progress with them. Instead of starting over every time again."

Interviewer – 00:12:11

"And is it this specific knowledge that adds a lot of value or how do I see this?"

Entrepreneur E – 00:12:19

"Yeah, and also opposing opinions for example. We have someone from [company x], for example, who is adding a lot on user experience and app design. […]. We have someone from [company y], which is very data-driven and totally not on brand and product for example. Way more on optimization and conversion. These two people add a lot of different opinions and therefore have a lot of discussions. We just listen and see what is best for us."

In this final part, it can be concluded that sometimes the entrepreneur needs specific information to continue its journey. Mentors are a great way to acquire this information, because they are time-efficient and are able to provide information 'just-in-time'. Therefore, it can be concluded that a designed learning tool needs to be 'just-in-time', use real-world examples and time-efficient. With the last part meaning that an entrepreneur does not need to spend a lot of time to digest the information in the learning tool.

In conclusion:

Mentors are a desirable means for startup guidance. These mentors offer guidance, reflective questioning and specific knowledge to support startups. The reflective questioning is an important asset of mentors which is interesting to design into a learning tool. Furthermore, mentors are desirable because of their time-efficient way of providing information. This information is often tailored to the needs and therefore 'just-in-time', which makes it directly applicable to startup founders. Also mentors guide through their own previous experience, which allows them to give real-world examples.

Mentors as a support in reflection

The previous paragraph shows different use cases for which a mentor is used, according to the participants. However, what was noticeable when coding the interviews is the way mentors offer support. Often it could be seen as a way of reflecting on what is done by the entrepreneur.

The following quote highlights how a mentor is supporting entrepreneur A by prioritizing tasks together. In this quote, the mentor only gives a couple of questions which makes the entrepreneur reflect on his own process:

Entrepreneur A – 00:13:29 – Quote 20

"For me a big trap is that I want to do too many things. In that case a mentor is there to ask me 'What is currently the most important to you? What happens if you stop doing this right now? What are the consequences?'. "

Besides this reflection, entrepreneur A also mentions that a mentor can help you to get out of your tunnel vision. By supporting the entrepreneur in his reflective practice, the entrepreneur can realize what they are really doing at that certain moment.

Entrepreneur A – 00:12:28 – Quote 21

"With your startup, you quickly get isolated in your team and you get into a tunnel vision. You get stuck into a certain task and sometimes you are just prioritizing wrong things. At some point, I noticed this in my previous company. We simply did not scale anymore. We were busy trying to fix the small stuff. If

you do not have a mentor in this, it can take very long before you are realising you are not making progress anymore. A mentor can support you in realizing this."

The other way around works as well for this entrepreneur. He mentions that he is a mentor himself right now and notices stuff at other startups. After this he starts realizing these things at himself as well.

Entrepreneur A – 00:14:02 – Quote 22

"Now I am a mentor at other startups, I'm having conversations and am surrounded by other startups. I see other startups do things and make mistakes. Sometimes it is just easier to see things at others, which helps to realize them at your own startup as well."

In conclusion:

This reflective practice can be particularly interesting, because it emphasizes again on the importance of reflecting in the entrepreneurial process. A mentor spends a lot of time asking reflective questions to the entrepreneur, which appear to be really helpful. This could contribute to the creation of a learning tool by providing reflective questions within the learning tool.

4.3.4 Using methods and tools as support

Within entrepreneurship, methods and tools are often use to give entrepreneurs tips and tricks or to guide them in the right direction. In this paragraph, the important elements of methods and tools are displayed.

The preference for action-oriented tools

One prominent observation within the interviews was the preference for action-oriented tools. It was interesting to notice that every participant had used a method or theory to structure the process of their startup. Most of the participants used a method, because it was thought in a course or entrepreneurship programme. These courses and programmes use these action-oriented methods because they can guide the entrepreneur to go and develop their startup right away.

Entrepreneur A mostly used the Lean Startup as a method. After reading the book, the entrepreneur talks about how the 'just do it' mentality of the method is something the entrepreneur appreciates. The entrepreneur uses this as a main method in his entrepreneurship journey, which is described in the following quotes.

Interviewer – 00:08:14 – Quote 23

"So you talk about the book Lean Startup, why? Why is that book so important to you?"

Entrepreneur A – 00:08:22

"Because he really quickly makes the statement 'just try something'. And you also have the saying of, I think it is Jeff Bezos, who says 'realise if it is a one-way or a two-way door. If your decision can be reversed by going back through that door, just try it. If the door only goes one-way, think strategically.' It is exactly that mindset that makes me think that it the difference between entrepreneurs and people with just an idea. Because people with just an idea are never going to test those and figure out if their idea is good or bad. Eventually, you realise this by testing your idea."

This part about getting told what you should do supports participants in finding there way in the vague beginnings of their startup. Also getting out there and try it is something that is valuable according to the participants in this study. In the following quote, entrepreneur A talks about the book 'The Lean Startup' and how there was also a course explaining the principles of this book. The entrepreneur elaborates that the course added the 'do it' part to the theory, what made it more useful than just the book. This emphasizes again how the action-oriented view of a method is very important to the entrepreneur.

Interviewer – 00:19:11 – Quote 24

"And in this case, when you also participated in a course. Do you think that this course added a lot of value or could you have just read the book?"

Entrepreneur A – 00:02:37

"Well in this case I think it added a lot. We had to do a lot of things in practice. Also there was a professor with a lot of experience which started 3 startups already and became a venture capitalist. And there is a big group of people doing the same things around you. And everybody is focussed around a different idea, but you can really easily discuss your progress with them. You can see what the problems of the other founders are which gives a sense of community. This also makes you able to reflect on your own process. So to conclude, I think it added a lot. The only problem with this format is that you try to fit in the whole process of creating a company within 5 study points or something. This doesn't give you the time to reflect on your first findings. In real life you are always tweaking your company and iterating on the first models."

In conclusion

Entrepreneurs mention their desire for action-oriented tools in structuring their startup process. Many tools used in entrepreneurship courses contribute to direct 'doing', which optimizes the learning process. For example, the Lean Startup method could directly be implement into the startup process and therefore is particularly useful for entrepreneurs.

Being told what to do step-by-step

All participants in this interview followed, either an entrepreneurship course in university, or participated in an incubator programme. With the latter a structured initiative designed to support and nurture early-stage business is meant. In this thesis, the participants followed a programme which contains a lecture/ workshop combination once a week about various topics. Combined with peer to peer feedback and an assigned mentor to guide their process.

This quote highlights the elements in an entrepreneurship course thought in university. It is a combination of mentorship, lectures, peer-to-peer and reading material. The combination and how it is handed to you is what is valued of this entrepreneurship course. To elaborate, the step-by-step guidance throughout the course while using various materials supported the entrepreneur in always having a sense of what to do. Also the advantage of such a course is that information could sometimes even be provided 'right on time', meaning when you as a startup need it the most. More about this is explained later in the paragraph 'timing'.

Entrepreneur E – 00:02:37 – Quote 25

"In this entrepreneurship course, you get more concrete tools, I think. Or at least, there is more of a path laid out by a kind or course coordinator. So you have a better understanding of what is expected of you, like doing a certain number of problem interviews and filling in Business Model Canvasses. So there are more tools that you will use. And you learn a kind of theory about how ideal the process of entrepreneurship should look and it is up to you to do it in practice. And you only learn how it works by doing it like 3 times on your own in practice I think."

In conclusion:

In this part, it is noticeable that this individual was a novice entrepreneur with no sense of what to do in the process. In this early stage of learning entrepreneurship, it was particularly supportive to get to know what to do step-by-step. This course also provided a way to get information and support 'just-in-time' which is also value. This emphasizes that getting told what to do step-by-step is indeed relevant when just getting to know entrepreneurship.

Real-world insights

When interviewed about what kind of tools they used in their startup journey, many participants answered books. However, books can be used for different kind of use-cases. In the responses this differed from participants reading books to learn about methods, soft-skills, hard-skills and biographies. This first quote of entrepreneur F highlights the motivation of the entrepreneur to read books. In this quote, it is recognizable that this entrepreneur talks about how books are used for different topics, like methods but also soft-skills.

Entrepreneur F – 00:11:43 – Quote 26

"I did read a lot, because I realized that I didn't knew a lot of the topic of entrepreneurship. After this, a lot of it comes down on experience and gut-feeling."

Interviewer – 00:12:00

"And talking about books, what kind of books do you remember that really supported you in your process?"

Entrepreneur F – 00:12:08

"Yes, so like the one I told before 'the mom-test' helped me out a lot. Also other books about, for example, 'the Lean Startup' of Eric Ries. Just the regular entrepreneurship books. Also one I really enjoyed was 'the making of a manager', because I suddenly became a sort of manager role."

Thus, within books it becomes clear that the books at more the format in which the entrepreneur wants to learn. However, a lot of entrepreneurs mentioned biographies. Which makes it interesting to discover why participants value biographies. The following quotes all mention that they value insights from the real world as examples of how something could be done.

Entrepreneur E – 00:07:43 – Quote 27

"Yes so a lot of biographies, because they are stories about somebody really did something in the real-world."

Entrepreneur A – 00:11:30 – Quote 28

"If talking about books, there are many. What I do really like though are autobiographies or that kind of books. It shows what is done in the past. This puts a lot of things in perspective about management and strategies."

Thus, resulting from talking about books is that a lot of participants enjoy the real world examples. It puts a lot of theories and methods in perspective and offers a real world example.

To continue on the conclusion of the last paragraph, also within podcasts a lot of participants valued the use of real-world examples. In the following quote, entrepreneur F mentions how a certain podcast supported their startup in providing information about money raising. Also again in one of the last sentences the entrepreneur call the podcast a 'hands-on experience', which can be linked to the action-oriented view.

Entrepreneur F – 00:27:48 – Quote 29

"I do listen to a lot of podcasts indeed, interesting that you mentioned that. For example, when it comes to fundraising, I have listen to The Pitch Podcast. I don't know if you're familiar with it, but it's a podcast where an entrepreneur meets with around 4 or 5 investors. It's not a staged scene, but a genuine discussion about money. Afterwards you hear the investors talking once the entrepreneur has left. You learn a lot about what investors find important and what they look for. I've listened to all the episodes of that

podcast and I have found it really informative. It's kind of hands-on experience where you can really put yourself in the shoes of both the entrepreneur and the investor, so you can see from both perspectives what was good or not good about the pitch. So, I really like that podcast."

In conclusion:

To conclude, books and podcasts provide real-world examples and perspective on the tool that is discussed. Also when searching for the books that are mentioned in the interviews, they are primarily easy to read without complicated language. They offer many examples and context around a certain theory. This also counts for the podcasts that were mentioned in the interviews. Thus, to design a comprehensive learning tool for entrepreneurs, tone of voice and examples are essential elements to make the tool interesting for entrepreneurs.

4.3.5 The timing of support tools

In the interviews, timing of several supportive tools also played an important role. Various participants mention the fact that in, for example entrepreneurship programmes, the use of a pre-made programme was not that useful. The quote of entrepreneur E highlights this in the following quote:

Entrepreneur E – 00:17:55 – Quote 30

"A large part of entrepreneurship is entrepreneurs sitting in a classroom. But you have to realise it needs to be timed right. We got some classes about finance, for example. Or some classes about sales. But, this is totally not tailored to your needs at that specific time. And that leads to not really valuable outcomes. It just shows you some new knowledge and an idea that knowledge on this subject exists. However, if you do not directly use this it makes it difficult."

Also another entrepreneur mentions things about timing of various items in the entrepreneurship process. This first quote shows what could be difficult about upfront learning. The entrepreneur realizes that not all support mechanisms are useful at every moment.

Entrepreneur C – 00:20:29 – Quote 31

"For now I know enough about what I am doing and I'm conscious about all the activities that we are running at the moment. I know what is right at this moment and sometimes a podcast is just far away from that process. Or it is just not in the same phase of what I need at that moment."

In the second part of this conversation. The entrepreneur mentions that actionable insights would be a solution for this problem in the following quote.

Entrepreneur C – 00:21:19 – Quote 32

"I think those general tips and tricks in a LinkedIn post are very tangible and efficient. Sometimes a podcast of an hour is just not totally right at that moment. You might just listen to it because you are interested and you will always learning something from it. However, it is not really concrete knowledge at that point. Like really actionable insights."

Timing might be different for all startup. However, in the interviews the entrepreneurs also highlighted several things that were interesting in the beginning of starting their company that is not really interesting anymore. This highlights the point there are different needs of an entrepreneur in the beginning and later phases of a startup. This quote of entrepreneur F displays the realisation of the entrepreneur that there was different knowledge of entrepreneurship in the beginning compared to now. Also this entrepreneur talks about the value of guidance in this process.

Entrepreneur F – 00:21:19 – Quote 33

"I think for me it is hard to realise what knowledge I had when I started the company. What I did and didn't know. Because looking back, I would give other answers. But I think in [entrepreneurship course], there was very good guidance that focussed a lot on validation. Talking to people was really the focus of [entrepreneurship course]. The mentor gave all kind of examples on that topic which made a lot of sense to me. You do not have a company if there are not people that want to buy your product. That is where it begins and end."

In conclusion:

To conclude, pre-made programs are not useful. A supportive tool should be designed in such a way that is implementable right away. This also means that a tool should be designed for a certain entrepreneur in a certain context. All on all, these different entrepreneurs have different desires and needs at a certain point in their entrepreneurship journey.

4.4 Discussion

Within this study, several conclusion come to light about the needs and desires of entrepreneurs when wanting to use learning tools. These conclusion are further described in this chapter. Furthermore, they are categorized into 4 categories: 'Novice vs. Experienced Entrepreneur', 'Reflection in Entrepreneurship', 'Real-World Perspective' and 'Action-Oriented methods'. In table 4.3 below, the various code categories of the previous paragraphs are linked to the 4 conclusion themes in this discussion. Some code themes appear multiple times in the table, because they add to multiple conclusions.

Novice vs. Experienced Entrepreneurs	Reflection in Entrepreneurship	Real-World Perspective	Action-Oriented Methods
Startup experience	Reflection in the process	Background experience of mentors	The desire to be action-oriented and experience entrepreneurship
Study background	Specific use-cases of mentors in entrepreneurship	Specific use-cases of mentors in entrepreneurship	Specific use-cases of mentors in entrepreneurship
The abandoning of methods	Mentors as a support in reflection	Real-world insights	The preference for action-oriented tools
Being told what to do step-by-step			Being told what to do step-by-step
Timing			Timing

Figure 4.3: Different categories linked to conclusions

4.4.1 Novice vs. Experienced Entrepreneurs

The first interesting finding, is the difference between a novice and an experienced entrepreneur. All of the entrepreneurs in this study, participated in a startup for 3 years or more. Thus, when asking questions about their process, a lot of participants directly started to reflect to the earlier days as an entrepreneur. The first code categories conclude that prior experience can change the way the entrepreneur perceives methods and tools. This prior experience does not necessarily need to be entrepreneurial experience. Elements of entrepreneurship could have also been learned elsewhere. As a result, a novice entrepreneur does not necessarily have the same needs and desires as another novice entrepreneur.

Moreover, it can be concluded that experience in entrepreneurship influences the way how an entrepreneur uses methods and tools. From this study, it appears that in earlier stages of entrepreneurship an entrepreneur has more preference for a step-by-step approach compared to later stages of entrepreneurship.

To conclude, there are differences between novice and experienced entrepreneurs in knowledge gathering. When designing a learning tool for entrepreneurs, it is important to realize the characteristics of the end-user. One aspect could be that a novice entrepreneur needs more guidance in the tool compared to a more experienced entrepreneur. Another finding is that entrepreneurs seem to abandon methods once they are familiar with the method and gained more experience in entrepreneurship.

In Conclusion:

- A background with entrepreneurial elements like customer validation or product development can be beneficial, especially in early stages of a startup
- In early phases of entrepreneurship, all participants in this study value the use of methods and frameworks. In later stages, they do not
- After experience, you do not follow methods literally, but rather give your own interpretation.

4.4.2 Reflection in Entrepreneurship

Another finding is about reflection in entrepreneurship. Although, there is one code category named 'reflection', reflection appears in multiple code categories in different forms. First is the code category 'reflection' itself. In this category, entrepreneurs mention the importance of reflection in their process. For example, Entrepreneur A mentions how you sometimes just need to sit down and reflect on what you are actually doing. Entrepreneurs also highlight the importance reflection has for learning in this process. In this category, entrepreneurs also mention the importance of reflecting within a method. The reason is that you learn more while iterating rather than using new methods over again. This way you can really measure your progress.

The limited time to reflect in entrepreneurship courses, is something that is hampering the learning process according to the entrepreneurs. This is shown in code category 'Courses/Incubator Programmes'. This emphasises even more that going through a full Kolb cycle is important and also valued by entrepreneurs. This offers opportunities, because it also shows that entrepreneurs are willing to reflect, which could improve their learning process.

In the code category 'Specific Use-Cases of Mentors', it is also shown that mentors offer a great opportunity for reflection. Many of the questions that mentors ask to their novice entrepreneur, could be seen as reflective questions. This means that the entrepreneur starts to think about the process and therefore a new opportunity for learning is created.

In Conclusion:

- Entrepreneurs value reflection, it gives support in learning
- Within a method, it is important to

reflect on the method rather than use it once
- Limited time for reflection, in entrepreneurship courses, hampers learning
- Mentors can be used as support in reflection by asking reflective questions

4.4.3 Real-World Perspective

Starting a company is dependent on many context factors. This sometimes makes it difficult to give step-by-step guidance to entrepreneurs, because reality might be different than expectations. Entrepreneurs mention in this study that they prefer real-world perspective within support mechanisms for entrepreneurship. In the first category, 'Background Experience of Mentors', one entrepreneur mentions that having a successful entrepreneur give you advice helps to convey the message. This is because it shows that is works and puts the method used in perspective. It also supports in giving more context and shows complications when using a certain method. In this same category it also shows that a real-world perspective could support entrepreneurs in using his experience in starting a company, to guide the novice entrepreneur.

This is also apparent in the second and third code category, which are 'Books' and 'Podcasts'. In both of these categories, entrepreneurs mention the fact that the context around a certain story or method could really help to imagine how this would support their own company. In books and podcasts, entrepreneurs also mention they like auto-biographic stories. This adds to the previous notion that they prefer perspective and context around a certain story.

This offers the opportunity to add a real-world example to methods and frameworks to make it more comprehensive and trustworthy to entrepreneurs.

In Conclusion:

- A mentor with a background in entrepreneurship is most valuable.
- Books and podcasts give real-world insights and more perspective on the methods described.

4.4.4 Action-Oriented Methods

The notion that entrepreneurs like to do and see what will happen is something that appears in many sections of this thesis. It was also visible in the qualitative research study in this chapter. It starts at the code category 'just-do-it', where entrepreneur mention there preference for going out of the building and experiencing something. As entrepreneurs want to do something right away, it is important to give them concrete steps how to do so. Holistic methods and frameworks might be hard to interpretate and put to work right away. This is also what entrepreneur A mentions in this code category.

Also within 'Experience', this notion on action-oriented methods becomes visible. To elaborate, the entrepreneurs in this section also mention by going through a process and experiencing it, you will learn. By receiving guidance in the beginning of this process, entrepreneurs will quickly learn what will work best for them.

In 'Timing', it also becomes visible that this 'just-do-it' approach leads to entrepreneurs wanting to get the right tools at the right time. As mentioned before, their preference is to go out of the building right away, thus the method or tool can be connected to this mindset by giving the entrepreneur tools to quickly test and do something. This only works if the entrepreneur gets the tools to do a certain task at a certain time. To distribute these tools and methods, mentors can be of great support by providing the right support at the right time.

As an example, the code category 'Courses/Incubator Programmes' shows that upfront learning in these programmes is not appreciated. This connects with the previous piece that entrepreneurs want to experience a certain tool right away. By learning upfront the entrepreneur can not directly put the learnings to practice. In this courses/incubator programmes, the 'get out of the building' mindset is highly appreciated. Learning by doing connects well to this mindset.

As conclusion, in creating an entrepreneurship tool, it is important to design the tool in such a way that entrepreneurs can directly do something with the tool. This is implied by the 'action-oriented' nature of the support mechanism.

In Conclusion:

- Entrepreneurs mention the desire to receive 'action-oriented' methods
- Going through a process and experiencing it is the way to learn.
- The 'just-in-time' approach is valued, rather than upfront learning. Once an entrepreneur can use something right away, this support learning. Mentors are a good tool to support this
- Entrepreneurs value entrepreneurship courses and incubator programmes in early phases of their startup. Upfront learning here is not useful. The 'just-try-it' mindset is valuable.

4.5 Concluding Chapter 4

In conclusion, this chapter discovers the use of learning tools from an entrepreneurial perspective. Therefore, it contributes to SQ2: "What are the needs and desires of entrepreneurs in learning within their entrepreneurial journey?". This chapter conducts a qualitative research study and summarizes the results into 4 important elements in creating learning tools for entrepreneurs.

The first element highlights the difference in novice versus experience entrepreneurs. A novice entrepreneur has more preference for step-by-step learning than an experience entrepreneur. Thus, a scholar should consider its target audience while creating a learning tool.

The second element shows that reflection is desirable by entrepreneurs. This connects to chapter 3, where reflection is also seen as an important part in learning. As a result, a scholar should implement a form of reflection when designing its learning tool.

The third element emphasizes on the use of real-world examples while explaining a method or tool. This supports the tool in conveying its message and helps the entrepreneur to understand the method or tool in context. Thus, a real-world example is beneficial to implement in a learning tool.

The final element displays the importance of creating 'action-oriented' methods and tools. This connects to chapter 3, where also is described that entrepreneurs have a desire for prescriptive methods including activities, exercises and immediate objectives. Also considering the right time to provide a tool to a certain entrepreneur supports the 'just-in-time' mentality. To conclude, a learning tool should implement an 'action-oriented' approach and consider once again its target audience by providing the tool 'just-in-time'.

Novice vs. Experienced Entrepreneurs

- A background with entrepreneurial elements like customer validation or product development can be beneficial, especially in early stages of a startup
- In early phases of entrepreneurship, all participants in this study value the use of methods and frameworks. In later stages, they do not
- After experience, you do not follow methods literally, but rather give your own interpretation.

Reflection in Entrepreneurship

- Entrepreneurs value reflection, it gives support in learning
- Within a method, it is important to reflect on the method rather than use it once
- Limited time for reflection, in entrepreneurship courses, hampers learning
- Mentors can be used as support in reflection by asking reflective questions

Real-World Perspective

- A mentor with a background in entrepreneurship is most valuable.
- Books and podcasts give real-world insights and more perspective on the methods described.

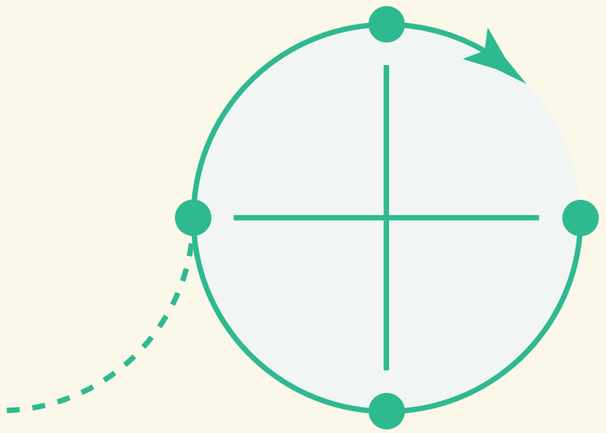
Action-Oriented Methods

- Entrepreneurs mention the desire to receive 'action-oriented' methods
- Going through a process and experiencing it is the way to learn
- The 'just-in-time' approach is valued, rather than upfront learning. Once an entrepreneur can use something right away, this supports learning. Mentors are a good tool to support this
- Entrepreneurs value entrepreneurship courses and incubator programmes in early phases of their startup. Upfront learning here is not useful. The 'just-try-it' mindset is valuable.

Chapter 5

Becoming the Entrepreneur

Research Through Design



5.1 Introduction to Becoming the Entrepreneur

In order to explore the research-practice gap from different perspectives, this thesis goes beyond an external examination of the gap. To provide a deeper understanding of the entrepreneurial process, the author dives into an entrepreneurial journey itself. This provides a first-person perspective and provides an answer to SQ3: "What are the important elements when implementing learning tools in the entrepreneurial journey?"

One rationale for this approach is to minimize the potential interview-bias that might occur within the qualitative interviews. Interview-bias can lead interviewees to tailor their responses to align with the interviewer's expectations. As a results, entrepreneurs might tell different stories about their entrepreneurship journey because of this bias. Furthermore, it also supports the author in empathizing with the entrepreneurial perspective on the research-practice gap.

To address this problem, this thesis conducts auto-ethnographic research methods, which allow for a detailed description of the entrepreneurial process and the identification of important elements which could contribute to the creation of learning tools. This research method is also referred to as 'Research Trough Design' (RTD). Research Trough Design (RTD) (Frayling, 1993) is a design-led research approach that highlights the creation of artefacts and prototypes as a means of exploring and testing research questions. This approach is particularly suitable in this thesis because it can be used to explore the interaction between entrepreneur and design. Furthermore, it is an approach which involves creation as a central activity, which is used in this thesis to discover the research-practice gap from an entrepreneurial perspective. Finally, it is suitable because Frayling emphasizes that RTD is different from traditional design approaches since it focusses on the creation of knowledge, rather than just the creation of artefact. In this case, with the artefact the value proposition of Stippl is meant. With the creation of knowledge, the process of learning in an entrepreneurial journey is described.

The thesis focuses on the case study of Stippl. Chapter 5.2 provides an introduction to Stippl and outlines the challenges faced by the organization. Subsequently, the following chapter explores relevant methods and theories that could be applied to address the Stippl case. Chapter 5.4 provides a week-by-week account of the entrepreneurial journey, offering insights into the process itself. Afterwards, discussions are drawn regarding the use of various literature or support mechanisms in this case scenario. The last chapter highlights learnings for the rest of the thesis.

5.2 Introduction to Stippl, a Travel App with Rapid Growth

This chapter gives an introduction of Stippl, a travel app with rapid growth. It describes how it started and the details of the company. Afterwards, the challenge of Stipp is explained

5.2.1 From Launch to 50k users in 6 months

A few years back, one of the founders of Stippl noticed a personal pain point. He realized that creating a perfect travel plan involved a lot of tasks such as taking notes in your phone, saving multiple hotel websites, creating an Excel sheet for your travel itinerary, and having a separate packing list. It was quite cumbersome to do all these tasks individually. Upon researching tools to solve this problem, there were hardly any options available, and the few that existed did not work well. This asked for the launch of a new product that would solve the problem of difficult trip planning.

The founders of Stippl jumped on the opportunity to create an all-in-one travel app. It enables users to create their own journey and caters to every aspect of travel planning, whether it be a long vacation or a weekend getaway. To accomplish this, the app contains a travel planning tool, in which the user is able to plan the journey itself. Including adding places, ways of travel, accommodation and things to do & see. Besides the planning tool, the app also incorporates a way to keep track of expenses before and during the trip, it contains a packing list option so you never forget anything and offers sharing options so you can co-create your journey with friends. Currently Stippl is creating a way to easily discover new countries by offering featured places and pre-made journeys.

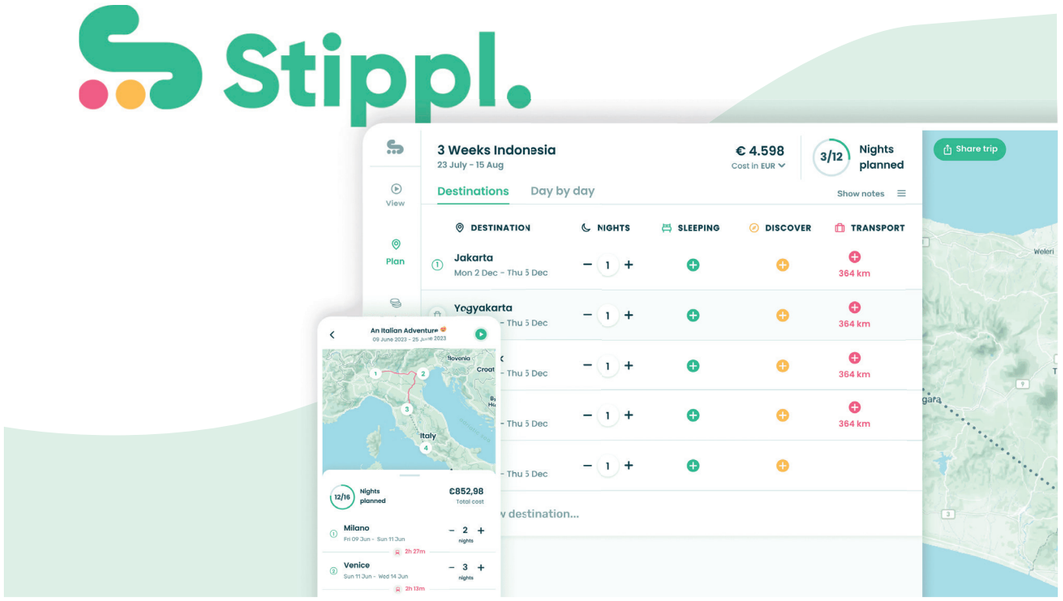


Figure 5.1: Overview of the Stippl application

Since their launch in 2022, Stippl experienced rapid growth of its user base. The total number of users which increased from 7.147 on January 2nd to 50.382 on June 4th, a remarkable growth of 605% over 21 weeks. Figure 1.2 illustrates this growth in the early months by presenting a detailed breakdown of the weekly growth. The bars track the total number of new users who registered each week, while the line graph depicts the growth rate of new users as a percentage of the total user base. The line shows an average week on week growth rate of 8.9%.

The company's current strategy is centred around attracting a large user base within the travel industry. To achieve this, Stippl is focussing on the user-experience of their tool. The reason is that Stippl believes that if the user-experience is right, users would not churn. Having limited human resources as a startup company, focussing on user-experience means prioritizing it above other activities.

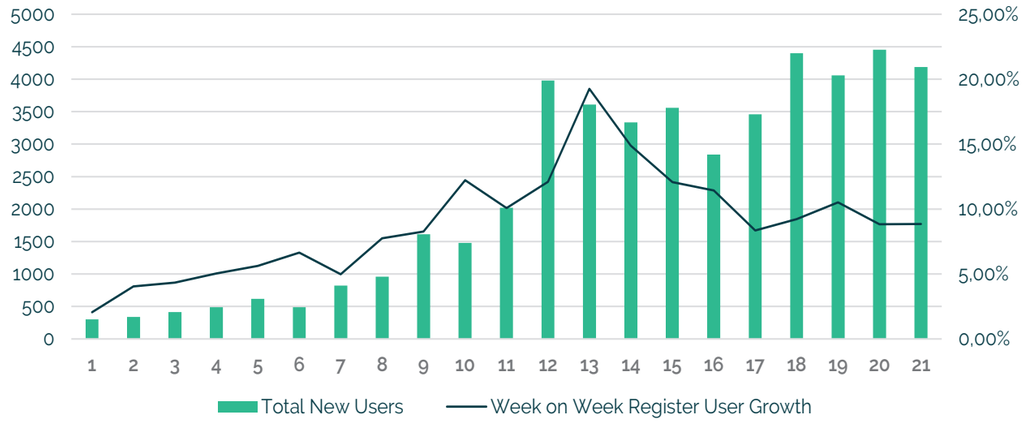


Figure 5.2: Growth numbers of Stippl per week

5.2.2 Stippl's short term monetization challenge

To analyse the current business of Stippl, ventures are often described in 'business models'. These business models describe how a venture captures and delivers value (Afuah & Tucci, 2003; Morris et al., 2005). In literature the definition of a 'business model' differs from how a business makes money to definitions that describe how a firm is internally and externally structured (Rappa, 2002; Betz, 2002; Magretta, 2002; Chesbrough & Rosenbloom, 2002; Chesbrough, 2010; Johnsen et al., 2008). However, probably one of the most used frameworks is the 'business model canvas' by Osterwalder & Pigneur (2010). In order to get a quick overview of Stippl's business, and the experience of the author with the canvas, the business model canvas is used.

In the Business Model Canvas a business model is described as "the rationale of how an organization creates, delivers and captures value". The framework consists out of 9 building blocks that interact with each other. In this part, all 9 blocks are displayed to give a clear overview of Stippl as a company and to further elaborate on the strengths and weaknesses of the current business. Table 1.1 below explains all of the building blocks. To ensure mutual agreement on the business model of Stippl, the canvas will be pre-filled and afterwards checked by the founder of Stippl.

Customer Segment	The customer segment building block defines the different groups of people or organizations an enterprise aims to reach and serve.
Value Propositions	The value proposition building block describes the bundle of products and services that create value for a specific customer segment.
Channels	The channels building block describes how a company communicates with and reaches its customer segments to deliver a value proposition.
Customer Relationships	The customer relationships building block describes the types of relationships a company establishes with specific customer segments.
Revenue Streams	The revenue streams building block represents the cash a company generates from each customer segment (costs must be subtracted from revenues to create earnings).
Key Resources	The key resources building block describes the most important assets required to make a business model work.
Key Activities	The key activities building block describes the most important things a company must do to make its business model work.
Key Partnerships	The key partnerships building block describes the network of suppliers and partners that make the business model work.
Cost Structure	The cost structure describes all costs incurred to operate a business model.

Table 5.1: The 9 different building blocks of the Business Model Canvas by Osterwalder

Figure 5.3 displays a Business Model Canvas overview of Stippl. As mentioned before, the current strategy of Stippl is centred around user-experience. This can be seen in several building blocks, such as in 'key resources', 'value proposition' and 'customer relationships'. Because of the current focus on user-experience, the focus drifted away from finding a revenue model which will make Stippl profitable on short-term.

Currently, income is generated from the so called 'affiliate model'. This model is based on "Click Through Bookings", this term describes the action of a user browsing and reserving accommodations on Stippl's partner booking site due to the platform's influence. In the business model this is shown in 'revenue streams' and the partners are displayed in 'key partnerships'. The current problem of Stippl is that this model has so far not proven to provide enough revenue with the current amount of users. To elaborate, the cost for acquiring users is currently higher than the amount of revenue per active user. Another problem with this revenue model is the difficulty in measuring Stippl's impact on the booking process. For example, this difficulty could arise when a user notes down the accommodation's name and chooses to make a direct booking on the

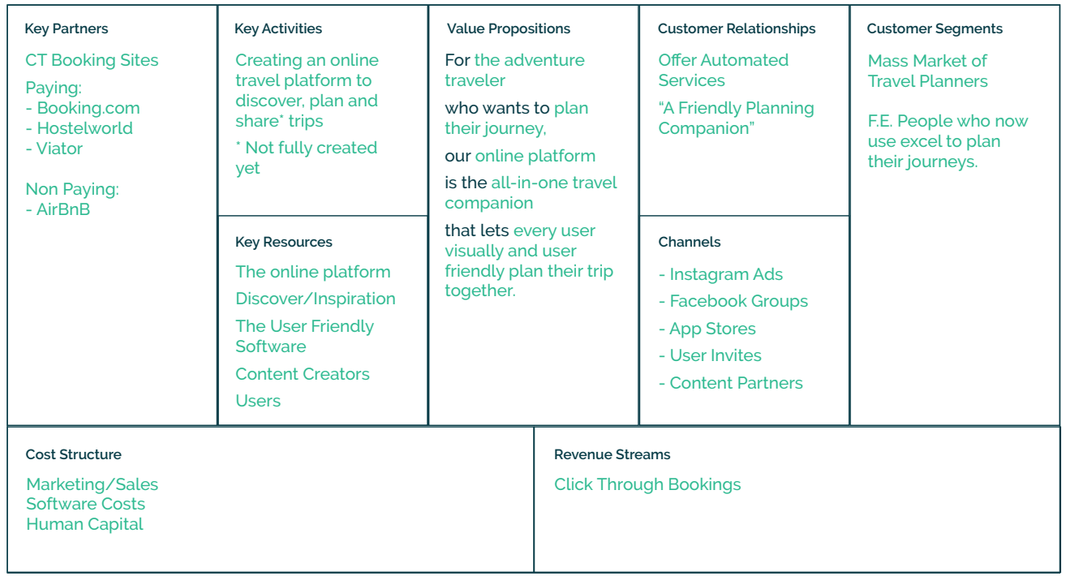


Figure 5.3: Projecting Stippl in the Business Model Canvas by Osterwalder

booking platform at a later time. Furthermore, this revenue model leaves Stippl reliant on three booking sites for revenue and therefore is dependent on those. This leaves room for other revenue models to be explored.

As mentioned before, Stippl's current strategy is to create a spotless user-experience. This leaves some revenue models out of the picture because they would hamper the user-experience, such as paid features or third-party advertisements. The reason behind this strategy is to grow the user-base of Stippl as fast as possible. With a large user-base, the current revenue model of affiliate bookings would work. However, since Stippl is a fairly young company, there is not yet a lot of data available about customer behaviour regarding hotel bookings or seasonality for example. With the latter, the influence of holiday seasons on the behaviour of app usage is meant. Furthermore a large user-base could make room for more revenue model potential. Examples of these revenue models are featured accommodations, pre-made journeys or data monetization. These models will be explained in the next paragraph.

However, in the mean time Stippl needs to focus on achieving viability and therefore needs to create a short term revenue model. Because Stippl does not want to

hinder product growth, new customer segments must be discovered. This option offers Stippl a way to tweak certain product aspects to cater a new customer segment. Stippl suspects these opportunities might be at the business-to-business side. However, Stippl did not yet prioritise exploring this side in their current strategy. This thesis aims to explore the value propositions in the business-to-business side of Stippl. To implement this new revenue model, Stippl would need to identify a new customer segment and develop a cohesive value proposition that aligns with their needs.

5.2.3 An attempt to solve the monetization challenge

As the founders of Stippl were building on the product, a lot of brainstorm session came across. These sessions resulted in various business ideas for the future. Some ideas yet need to be discovered. However, there are some business ideas that could be implemented in the future, but not directly now. Below are some of these business-to-business value propositions that Stippl has thought up:

- Advertisements:

  Stippl's platform offers an opportunity for accommodations, restaurants, bars and tourist attractions to advertise their services to specific target audiences. Which means the user sees personalized recommendations while planning their trip. However, this revenue model requires a significant user base to be effective, so the first priority remain attracting more users.

- Paid Content:

  Another potential revenue model involves using specialized content creators which develop pre-made travel itineraries that users can purchase. However, this model faces a 'chicken-egg' problem, where the content creators need a large user base, while the users are dependent on receiving more content.

- Data monetization:

  In the future, Stippl could potentially generate additional revenue by monetizing the journey planning trends data and sharing it with news websites, trend-analysts and industry trackers. This revenue model has no direct impact on the current product, but relies on a large user base to generate meaningful data quantities.

Another value propositions that Stippl was curious in, is a collaborations with hotels and hostels. One of the features of Stippl is to let users discover certain areas within their application. This is something that could potentially be connected with hotels, which share the same end-goal. In this thesis, the hotel proposition will be discovered. With the main question: 'Is there a collaboration possible between Stippl and hotels or hostels?'. This could potentially result in a new revenue stream for Stippl.

5.3 Resources to Solve Stippl´s Short-Term Monetization Challenge

The previous chapters explain various parts of successful methods and entrepreneurial learning. In this chapter it is important to look at elements within the case of Stippl. What kind of elements are out there that are useful for the use-case of Stippl. In this case a new revenue stream must be created. Several ways can lead to a new revenue stream, such as monetizing existing assets or to create a new product or service. In paragraph 5.2.2 is described that Stippl is currently focussing on keeping the current product as user-friendly as possible and a monetization model does not fit that current strategy. That leaves the option of a new product or service to be explored. In this case the most suiting option is to tweak the current product, to create a kind of new product, to cater to a new customer segment. Thus, a new or altered product must be created for a new customer segment.

5.3.1. A new product for a new customer segment

In order to create a new or altered product for a new customer segments, there are various methods and tools available. However, the success of the product ultimately depends on the customer. Therefore, the first step in creating a new product is to understand the customer and their needs. This highlights the importance of a customer-centric approach. According to Christensen et al. (2007), customer buy products or services because of their delivered value. Specifically, customers buy products to address a certain pain point or job they need to solve in their lives. Based on this concept, Ulwich (2016) developed the 'job-to-be-done' (JTBD) framework. This is a useful approach for identifying customer needs by understanding what they are trying to achieve.

Once the desired 'jobs' of the customer have been identified, the next step is to define the value proposition. Osterwalder et al. (2014) define the value proposition as "the benefits that customers can expect from your products and services." They created the 'Value Proposition Canvas' as a strategic management tool for designing, testing, building, and managing products and services. This canvas can be used together with the 'Business Model Canvas' (Osterwalder et al., 2010), making it an ideal tool for designing a new value proposition for this thesis. The 'Value Proposition Canvas' is illustrated in Figure 5.4 below.

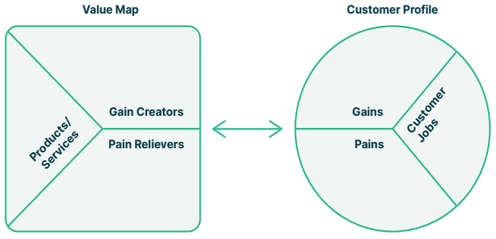


Figure 5.4: The Value Proposition Canvas by Osterwalder et al. (2014)

5.4 Step by Step Descriptions

In this chapter, the results of trying to solve the short term monetization challenge will be shared. The chapter is subdivided in the various steps that are taken during the process. In the steps is described what thoughts were active in the process and which factors influenced the process. In the next chapter, more is explained about the tools and support mechanisms that were used in the process.

5.4.1 Learn more about the customer

As a first step in finding a new monetization channel, the outlines were created for the customer. As described earlier, Stippl wanted to focus on the collaboration of Stippl and hotels. The first thought that came to mind was to look up alternative solutions on the internet. One of the tools was to look online to look at photos of the front desk

In Conclusion:

- Customer segment is hotels & hostels
- Desk research of what is already out there

5.4.2 Concepts and revenue model ideation

After conducting desk research, the process continued by developing an initial concept. My aim was to envision the potential offerings I could provide to hotels and explore the various options available. This approach would allow me to directly present my ideas to the hotels I planned to visit.

To ensure a systematic and organized process, the book 'Value Proposition Design' by Osterwalder & Pigneur (2014) was used. The book offers step-by-step guidance on creating a compelling value proposition. As I hadn't utilized this resource previously, I recognized the importance of introducing more structure into my value proposition creation process. One other reason was to create a better grip on the information I had gathered to smoothen out the value proposition process and direct the process on valid arguments.

In Conclusion:

- Initial concepts were thought out
- To structure this process, the book 'Value Proposition Design' by Osterwalder & Pigneur (2014) was used

5.4.3 Figure out the problems of the customer first

Next was a feedback meeting with Luuk (founder of Stippl). With a background in Industrial Design Engineering and the creation of Stippl, he acquired a lot of experience in creating and validating value propositions. In this meeting, Luuk pointed me to the fact that we do not know anything about our customer. Creating pre-made concepts has no use if we do not know anything about our end-user. To continue, we first need to know everything about our end-user and the problems it faces. If we can discover pains, we can try to see if we could be a fitting solution.

In Conclusion:

- After a feedback meeting, the realisation was made that we first need to identify the pains of our customer
- This is only possible by interviewing the hotels and figuring out what they currently experience

5.4.4 Trying out one hotel first

After the realisation of the need to interview hotels, one hotel was directly visited. However, due to the absence of a well-structured plan, the interview took on the tone of a sales pitch. The intention was to discover the hotel's perspective on incorporating Stippl, but the lack of a clear concept and interview guide hampered the collection of useful insights.

In Conclusion:

- Without a proper interview guide, the visit to the hotel did not result in valuable customer insights. Rather talk about their current situation, in stead of a future concept for them.

5.4.5 Setting up an interview plan to interview several customers.

Creating open-questions is something that is thought in Industrial Design Engineering, my background. As was mentioned in the previous step, going to the hotels without a plan resulted in no valuable information. To continue interviewing customers, Luuk and I set up several points that we interesting to ask during a visit to the hotels. Also mentioning you belong to a company is not a good idea, rather tell them you are doing research on a certain topic. The following questions were created to learn more about: 'how do guests of a hotel navigate around the area?'

- How do people know what they can do in the area?
- How often do people ask what they can do?
- Do you refer people to specific places?
- What do you recommend in such cases?
- Do you encounter any issues with this?
- Why do you refer people?

Furthermore a list of hostels is created. Hostels were chosen because of a gut-feeling that the guests would fit better into the customer-segment of the initial Stippl user. Which could be defined as 'A young adventures travel planner'. Hostels are a place where young people often share their travel experiences, which would the customer of Stippl.

In Conclusion:

- Create a set of questions that could guide you through the process of getting to know your customer. Identify their pains and current situation.
- Do not mention you are there because of a company, rather tell them you are

doing research.

- Hostels are chosen over hotels because of their fit with the initial customer segment of Stippl: 'A young adventures travel planner'.

5.4.6 Collecting results and writing down the main insights

In order to collect the necessary information, I visited 10 hostels located in Amsterdam and Rotterdam. During these visits, I used open-ended questions as a tool to steer the conversation. Laddering techniques were used to delve deeper into the underlying reasons for guiding people in the area. All of the hostels were willing to provide insights into their current practices.

Notes were taken to capture the insights per hostels, which were later combined to identify consistent patterns and responses. Based on this analysis, a final conclusion is drawn and a comprehensive presentation is prepared for Stippl. The results are summarized below:

<u>About the problem</u>

- If guests stay in a hotel, they almost always already know what they are going to do during their stay
- They hardly ask anything to the receptionist
- If they ask something, it is primarily about restaurants
- Hotels mostly just send them to nearby restaurants or famous restaurant streets
- They do ask questions about how to get somewhere
- Mostly about how far something is
    - How to get from one place to the other
    - How to buy tickets for public transport

<u>Existing Solutions:</u>

- Guests mostly use their phone to look things up online
- A hotel offer flyers at the reception. Guest hardly look at these, only when they are bored and waiting for a taxi for example
- There are paper maps given out by the city for free
- 'Minicards – Maximum Information' makes a card carousel with discount coupons at nearby highlights. This is placed for free at hotels.

Conclusion:

- 10 hostels in Amsterdam and Rotterdam were visited to collect information
- Open-ended questions and laddering techniques were used to guide conversations
- Combined research to identify patterns and draw a final conclusion for Stippl

5.4.7 Working out a business case

Developing a solid business case was the next step in this process. Because results of the interviews alone does not give the full picture on the potential of the idea. Since time is scarce at Stippl, every hour must be worthwhile. To create a business case, I used some findings of the internet to look up how many accommodations exist in Amsterdam. I set the sales price on €20 per month, since this felt realistic regarding the urgence of the solution. Next, I created the table shown below (table 5.2) to show the potential this value proposition would have moneywise. Another option would be to pursue this options because of exposure in hotels and hostels. This would result in more users, which could indirect result in more revenue. Also this business case is created to show the potential in this direction, shown in table 5.3. The findings alone are not good enough to create a decision to continue or discontinue with the value proposition. Therefore, there must also be an initialisation about how much value this could deliver for Stippl. Since time is always scarce at a startup.

- Number of accommodations in Amsterdam (CBS, 2023) = 500
- Average amount of people sleeping in Amsterdam per night = 53.300
    - Total rooms in Amsterdam (CBS, 2023) = 41.657
    - Average occupancy rate in Amsterdam (pre-covid)= 85.3%
    - Average amount of people per room (quick guess) = 1,5

Conclusion:

- Developing a solid business case was the next step in the process as the interviews alone couldn't provide a comprehensive understanding of the idea's potential
- The business case is presented in table 5.1 and table 5.2, where the latter shows a business case for exposure instead of revenue.

Amount of Hotels Covered	Price per Month x Hotels	Monthly Recurring Revenue
2%	€20 x 10	€200
5%	€20 x 25	€500
10%	€20 x 50	€1000

Table 5.2: Amount of monthly revenue Stippl could make with the hotel proposition

	2% of the Guests Scan the Stippl Code	5% of the Guests Scan the Stippl Code	10% of the Guests Scan the Stippl Code
At 2% Hotel Coverage	640 clicks p/m	1599 clicks p/m	3198 clicks p/m
At 5% Hotel Coverage	1599 clicks p/m	3998 clicks p/m	7995 clicks p/m
At 10% Hotel Coverage	3198 clicks p/m	7995 clicks p/m	15990 clicks p/m

Table 5.3: Amount of clicks Stippl could acquire with the hotel proposition

5.4.8 Having a go or no-go meeting about the business case

To conclude if we would proceed with the value proposition, a meeting was arranged to talk about the progress. In this meeting the results were shared of the hostels. Because of the limited value for Stippl at the moment, a conclusion was drawn to not continue with the proposition for now. This decision had two factors. The first factor was that the problem was not big enough for the hostels, so the desire for a new innovation was not urgent. This makes it difficult to sell. Secondly, to acquire hostels, there needs to be active recruitment of hostels to join the platform. Currently, Stippl does not have the resources to fulfil this position.

Conclusion:

- A meeting was held to discuss the results regarding the hotel proposition
- Considered the limited value for Stippl at the moment, it was concluded that the propositions would not be pursued at this time
- This decision was based on two factors. The problem addressed by the proposition was not significant enough for the hostels, resulting in a lack of urgency for a new innovation and making it challenging to sell
- Active recruitment would be required to join the platform, but Stippl currently lacks the resources to fulfil this role.

5.4.9 Writing future recommendations and limitations

To make sure valuable insights regarding this value proposition would not get lost, the results are summarized into a document. In this document, the results mentioned before are described. However, what is even more important are the limitations of this research. Since Amsterdam and Rotterdam are not a representation of the entire world. In future endeavours, Stippl could choose to target more 'remote' hostels. Since Amsterdam and Rotterdam are both cities, which results in a lot of restaurants and services close by.

Conclusion

- The valuable insights were placed in a document to prevent them from getting lost
- One of the limitations of this customer discovery is the focus on only Amsterdam and Rotterdam, which are both dense and Dutch cities. An exploration into other market, for example more remote, could be conducted

5.4.10 Redirecting course

One of the learnings of the interviews is that tourists are often guided to certain tourist information offices. Also called DMO (Destination Marketing Organization). A pivot would be to try to interview these organisations. This resulted in asking the same research questions to another customer segment. Also taken the learnings from the previous customer discovery, this process must go smoother and quicker.

Conclusion

- One of the findings was that a lot of tourists are redirected to tourist offices. This is an interesting next step to pursue the customer discovery
- This process should go smoother and quicker because of experience

5.5 Discussion: Findings as Entrepreneur

In this entrepreneurial process, several elements are worth noting. Most of these elements also appeared in the qualitative research study. These elements include the 'just-do-it' mentality, mentorship, tools, reflection and experience. This chapters aims to provide more context and interpretation of the events.

5.5.1 The just-do-it mentality

In the beginning, it becomes evident that the project takes off immediately without a proper plan.

This can be seen as the 'just-do-it' mentality, a characteristic that was also observed in the qualitative research study. Entrepreneurs often experience the excitement of initiating something new and are eager to take immediate action. In this chapter, this is displayed in steps 1 to 3. During these steps, the project starts with desk research and conceptualisation, although it later becomes clear that this might not be the most effective process. As a result, adjustments are made to the process. Step 4 shows more of the 'just-do-it' mindset, as it involves engaging with the customers directly and looking for direct feedback. A typical event in the entrepreneurial process.

5.5.2 Mentor meeting:

As the project was initiated by Stippl, meetings with the team were necessary to monitor progress. However, these meetings can also be seen as mentorship sessions. During these conversations, Luuk takes on the role as mentor, leveraging his entrepreneurial experience to provide guidance to me, the novice entrepreneur. Especially in step 3, his support was particularly valuable, where a realisation emerges that assumptions about the customer should not be made without a proper understanding of the customer's challenges and actions. This guidance involved reflecting on the current process and afterwards creating a well-structured interview guide. This is shown in step 5 of the process. Luuk's mentorship empowered me as an entrepreneur to ask to right questions and gain a deeper understanding of the customer.

5.5.3 Tools:

Within this entrepreneurial process, two tools could have proven useful. The first tool is the Value Proposition Canvas, shown in paragraph 2 of this chapter. This framework provides an overview of the insights learned from interviews and facilitates the creation of a customer-product fit. However, since the project did not continue beyond the interview stage, the Value Proposition Canvas did not contribute to the process. Nonetheless, if the project had continued further, this canvas could have assisted in concept development and validation.

Another potentially helpful tool is "The Mom-Test" by Fitzpatrick, which offers a method for creating a well-designed interview guide. This practitioner-based book emphasizes asking questions about the customers current situation and problems that occur, rather than talking about a potential solution. This approach supports entrepreneurs in discovering the customer's profile. While this tool could have supported the project, it is worth noting that the current process

involved iterative improvements to the interview guide through practical experience. Thus, valuable lessons were learned without dedicating time to reading a book, emphasizing the significance of the 'just-do-it' mentality and mentorship in the entrepreneur's learning journey.

5.5.4 Reflection:

Reflection is also visible in this case-study. For example, in step 3, where the realisation is made that we need to do something different based on reflecting on prior experiences. This can be compared to Kolb's experiential learning cycle, where step 1, 2 and 3 represent a complete cycle within this model. More is explained in the next paragraph. Another example is seen in step 4, where reflecting on the interview leads to an improved interview method.

5.5.5 Experience:

The final element that was visible in the case study, is experience. Also explained slightly in the previous paragraph, parts of this process could be visible within the experiential learning cycle. In this process, three examples of this cycle can be visible.

1. The first cycle: looking up things online

The first loop through the experiential learning cycle of Kolb, is visible within step 1-3 of the entrepreneurial process. In this process, the just-do-it mentality leads to immediate learning and reflection. Below the various steps are explained of this cycle:

Abstract Conceptualisation:

The process starts by using the Value Proposition Canvas as a main tool to guide the process. In this canvas the first step is to discover the customer.

Active Experimentation:

With a minimal strategy, the process continues in the 'active experimentation' stage to research hotels online. What are alternative solutions and how can we create a concept for this customer segment. A first couple of concepts are thought up.

Concrete Experience:

During the process, it became noticeable that to create these concepts we needed to know more about the customer. This gave the 'feeling' that it was not the right method and there were some flaws In the customer discovery part of the process.

Reflective Observation:

By reflecting on the first part of the process together with Luuk, the realisation was made that there was little known about the customer in this case. We first needed to dive into the customer's problems before we could think about solutions.

Abstract Conceptualisation:

With these insights, a new plan was created to interview the customers. Interviewing the hotels would be the solution to this problem.

2. The second cycle: interview without a plan

After the realisation that the customer needed to be interviewed, the process continued by directly going out of the building. Below are the various steps in this process:

Active Experimentation:

As mentioned before, the process continued by directly going out of the building. This could also be seen as 'doing-it'. In this step, one hotel was interviewed without a proper interview plan.

Concrete Experience:

While conducting the interview, it became clear that this was not the way to collect information of the hotels. It felt like a sales pitch and the experience overall was not good.

Reflective Observation:

By having a 'mentor meeting' with Luuk, we figured out that there needed to be some changes in the plan. That going out of the building without a proper plan was not the way to go.'

Abstract Conceptualisation:

Afterwards, a new plan was made up and a set of guidance questions were created. The rest of the hotels were researched before and selected.

3. The 3rd cycle: designing a value proposition

Above, the various small cycles are described. However, the project as a whole could also be described in a Kolb cycle. Below are the various steps in this project as a whole:

Active Experimentation:

The project started out by 'just-doing-it'. This resulted in some minor iterations and some adjustments in the course.

Concrete Experiment:

During the process, the minor changes were made because it did not feel like the right way to go. This feeling also helped to realize that the process could be a little bit optimized.

Reflective Observation:

Finally, this lead to reflecting on the process as a whole. First interviewing customers to discover their problem is something that did not go exactly right the first time. Also creating some interview guidelines and going out of the building directly to talk to customers is something that was learned in the process

Abstract Conceptualisation:

These learnings could be taken to the next step. Where the customer is slightly tweaked, but the process of getting to know the customer stays the same. This could lead to a better process in the end. The next time a user research study is conducted, it can be done more efficiently.

5.6 Concluding Chapter 5

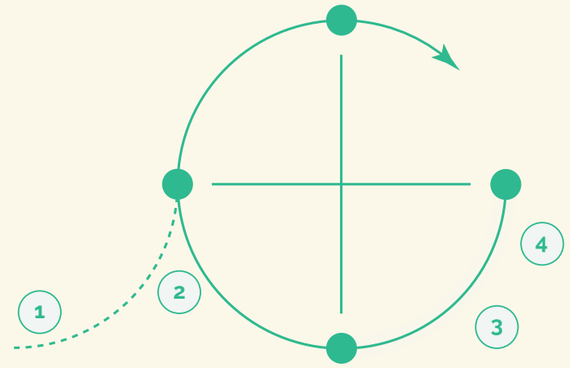
By using the case-study of Stippl, this chapter provides a first-person perspective on the research-practice gap in entrepreneurship. It contributes to this thesis by answering SQ3: "What are the important elements when implementing learning tools in the entrepreneurial journey?". Throughout this chapter, several key insights are uncovered, which are summarized as follows:

First, entrepreneurs are driven by excitement to 'do-it'. Thus, when designing a learning tool for entrepreneurs, it is important to provide exercises or activities right away. Do not let the entrepreneur read too much text when providing these tools.

Second, reflection is important. Thus, this emphasizes once again that a scholar should design a way of reflecting within its learning tool. This was also concluded in chapter 3 and chapter 4.

Third, reflection can also occur when drawing from the experience of others. This is one of the reasons why mentorship is desirable in entrepreneurship. Therefore, using reflective questions is a way to support entrepreneurs in reflection. Use these reflective questions when designing a learning tool for entrepreneurs.

To conclude, this chapter aligns with the findings of the qualitative study. It emphasizes the significance of action-oriented tools and reflection as crucial elements when creating learning tools for entrepreneurs. By highlighting these aspects, scholars can better support entrepreneurs in their learning jour-ney and therefore effectively bridge the research-practice gap.



1. The entrepreneurial process is driven by a desire to engage directly in the experiential learning model's "doing" phase. In this case study, this part was fuelled by excitement and a strong eagerness to learn immediately.

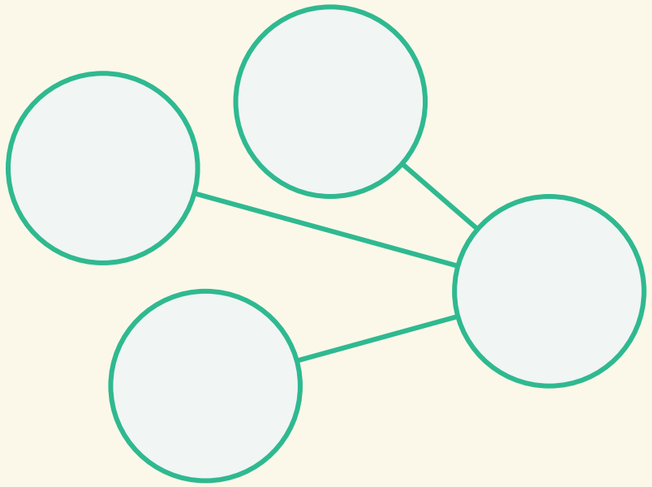
2. When providing entrepreneurs with supportive tools, it is crucial that these tools can be used right away, allowing entrepreneur to quickly move into the "doing" phase. Practical and tangible tools enable direct implementation, eliminating the need for extensive method analysis.

3. Reflection is important as it is a means for process correction. By examining the previous steps taken, entrepreneurs can draft a new path based on their findings and insights.

4. Support in the form of reflection can enhance the entrepreneurial process. Drawing from the experience of others can enrich their own journey. Mentorship serves as an excellent means of accessing such support and leveraging external wisdom to refine the process.

Chapter 6

Connecting the Chapters



6.1 Combining the 3 Research Approaches

The first part of this thesis focusses on analysing the research-practice gap. Therefore, it researches 3 perspectives of the gap and highlights important elements to solve this gap. In this chapter, the conclusions of the 3 perspectives are merged to create one set of guidelines to proceed with. This set of guideline is then used to guide scholars in creating relevant learning tools for entrepreneurs. Thus, this chapter contributes to SQ4: "What should scholars do to increase the relevancy of their learning tools?".

The following paragraphs show the 4 important elements that scholars should incorporate in their learning tools. As a result, scholars can bridge the research-practice gap in entrepreneurship. The 4 important elements consists of 'Entrepreneurial Learning', 'Know your Audience', 'Action-Oriented Tools' and 'Reflection'. These 4 elements are explained by first providing the various conclusions and chapters they derived from. Afterwards, the discussion provides more information on the important element. Finally, a conclusion is drawn to indicate what the scholar should do to improve its learning tool.

6.2 Entrepreneurial Learning

6.2.1 Learnings Used

3

- Entrepreneurs learn by doing (going through the Kolb cycle).
- The entrepreneurial cycle exists out of 4 elements: Doing, Feeling, Reflecting, Abstract Concept Building.
- Going through this cycle multiple times can be beneficial to startup success.
- Entrepreneurs favour the accommodating spot.

4

- Going through the process and experiencing it is the way to learn.

5

- The entrepreneurial process is driven by a desire to engage directly in the experiential learnings model's "doing" phase. This part was fuelled by excitement and a strong eagerness to learn immediately.

6.2.2 Discussion

Entrepreneurial learning can be visualized with the Experiential Learning Model by Kolb, as explained earlier in chapter 3. As shown in the literature, and also confirmed by the qualitative study, entrepreneurs learn by moving through this cycle. Going through this cycle multiple times could be beneficial to startup success.

This model consists out of 4 elements within the cycle. Active Experimentation, Concrete Experience, Reflective Observation and Abstract Conceptualisation. By considering these elements within an entrepreneurial tool, an optimized learning process could be created. However, the designer of the artefact needs to keep in mind that entrepreneurs tend to favour the "Accommodating" spot within the Experiential Learning Cycle. This means that entrepreneurs favourably spend more time within the 'do & feel' phase of the process and therefore less time reflecting and conceptualising. An entrepreneur is therefore also driven by a desire to engage directly in the "doing" phase when starting a journey. Therefore, it is important to realize that spending many hours explaining complex theory is not a good start when trying to support entrepreneurs in their journey.

When designing a learning tool, for example, the learning tool could exist of various elements. First, elements in the ´doing´ phase could be created, such as concrete activities, exercises or immediate objectives. Similar to what Mansoori explains in his ´Three Tier Framework´, described in chapter 3. Afterwards, the entrepreneur can feel what it is like to use these tools in practice. Then a reflective exercise can be created. This enables the entrepreneur to realize its process and what did or did not work. Finally, overarching theory could be explained which lets the entrepreneur think about the theory and adjust it to its needs.

In Conclusion:

- Design tools and activities, while keeping all 4 stages of the Experiential Learning Cycle by Kolb in mind. By going through all these 4 stages, the entrepreneur will optimize its learning process.
- Entrepreneurs will not start by reading endless pieces of information where a certain theory comes from, but rather start to use the tool immediately. Therefore create a short explanation with direct activities, exercises and immediate objectives.

6.3 Know your Audience

6.3.1 Learnings Used

3
- Beneficial for learning: using the right tools at the right moment (‘just-in-time).

4
- In early phases of entrepreneurship, all participants in this study value the use of methods and frameworks. In later stages, they do not.
- After experience, you do not follow methods literally, but rather give your own interpretations to the method.

6.3.2 Discussion

The next learning might be a logic one, but often overlooked. Entrepreneurs are different. Many times frameworks and tools are designed for ‘the entrepreneur’. However, with different backgrounds and skillsets, ‘the entrepreneur’ in a simple form does not exist. In literature, there is often a notion of the ‘just-in-time’ mentality for entrepreneurial tools. This does not mean that the entrepreneurial process is a linear, pre-made programme, which just needs to insert the right elements at the right time. It can rather be interpretated as ‘entrepreneurs are different and need different tools and methods to move on’. This might be difficult to convert to concrete actions while designing an artefact for entrepreneurs. However, from the qualitative research study it can be concluded that in early-stages, entrepreneurs have a bigger desire for step-by-step guidance or action-oriented tools. In later stages, entrepreneurs handle from experience and therefore use more overarching methods than to follow a method step-by-step. It could also be concluded that in early-stages, entrepreneurs look for guidance into the entrepreneurial process. Whereas, in later stages, the entrepreneur looks for specific information. This could contain information such as: ‘how to hire people’, ‘how to build a company culture’, ‘how to effectively grow my company’.

In Conclusion:

- Identify the intended reader before creating the artefact. Think about in which stage the information that is created is desired and conclude if information needs to be created to follow step-by-step or more overarching.

6.4 Action-Oriented Tools

6.4.1 Learnings Used

3
- A method must contain Logic (theoretical foundations), Model (core terms and definitions) & Tactics (action-oriented – activities and exercises)

4
- Entrepreneurs mention the desire to receive ´action-oriented' methods.
- Once an entrepreneur can use something right away, this supports learning.
- Real world insights support entrepreneurs in getting more perspective on the methods described.

5
- Short explanation of the tool so the entrepreneur can directly try it.
- Just-in-time tool and entrepreneur can directly 'do'.
- As quickly as possible go to "doing".

6.4.2 Discussion

In all 3 research approaches, one notion was recurring multiple times. Designed artefacts for entrepreneurs must be action-oriented. In chapter 3, there is a reference to the 'Three-Tier Framework' of Mansoori. In which is explained that a well designed method contains 3 elements. Logic, which is the theoretical foundation on which a method is based. The model, which is a visual representation of the method, together with the core terms and definition. And finally, what is also referred to as being 'Action-Oriented', the tactics. In this part, activities are given together with exercises and immediate objectives for example. An essential part is that this is all 'implementation oriented', meaning the entrepreneur can use the knowledge in a practical format right away.

Entrepreneurs talk multiple times about this desire within the qualitative study. Also designing a tool to be used right away, rather than first needing to read several parts to understand the model, is very desirable by entrepreneurs. This also shows up in chapter 5, by becoming the entrepreneur. In the Kolb model this can be explained by designing the artefact to move directly into the 'do & feel' phase.

The designed artefact could also be supported by real-world examples. Within the qualitative study, entrepreneurs mention that real-world examples help to convey the message. It also offers more perspective on how methods are used in practice, therefore also making them more comprehensive.

In Conclusion:

- Designed artefacts must contain an element which is action-oriented. This is also displayed in the 'Three-Tier Framework' by Mansoori as 'Tactics'.
- Designed artefacts must be designed in such a way that entrepreneurs can move directly into the 'feel & do' phase of the Entrepreneurial Learning Cycle by Kolb.
- Designed artefacts could also be supported by real-world examples to support these in conveying the message, offering more perspective on the theory in practice and therefore making them more comprehensive.

6.5 Reflection

6.5.1 Learnings Used

3

- No reflection could hamper learning
  - Entrepreneurs do not reflect enough
  - They are not open for feedback, because of their image as a manager
  - With limited colleagues they do not have someone to reflect with

4

- Entrepreneurs value reflection, it gives support in learning.
- Within a method, it is important to reflect on the method rather than use it once.
- Limited time for reflection in entrepreneurship courses, hampers learning.
- Mentors could be used as support in reflection by asking reflective questions.

5

- Reflection is important as it is a means for process correction. By examining the previous steps taken, entrepreneurs can draft a new path based on their findings and insights.
- Support in the form of reflection can enhance the entrepreneurial process. Drawing from the experience of others can enrich their own journey.
- External Support in reflecting can help the entrepreneur.

6.5.2 Discussion

The final element which is interesting to conclude from the 3 research approaches is reflection. As is explained in chapter 3, little to no reflection could hamper the learning process. Reasons for limited reflection in entrepreneurship could be simply not reflecting enough, not being open for feedback because of the image of a manager or having a limited amount of people around to reflect with.

From the qualitative study, there can be concluded that entrepreneurs are also willing to reflect in their process. Current tools and courses sometimes lack a reflection element, hampering the learning process. Within such a tool, entrepreneurs explain they would rather reflect on the tool than create it over and over. Improving the chance to learn from the process.

Within practice, reflection is often used as a form of process correction. Thinking about the previous process could lead to an improved process in the future. This could be even more fruitful by having someone to reflect with. Learning from others is also a proper method to reflect on own work. Therefore, mentors can be a valuable asset within entrepreneurship. Mostly, because of their ability to have an external perspective on processes, which makes reflection easier. Also reflecting on a process from own experience is a valuable aspect.

In Conclusion:

- Incorporate reflection into the learning tool to optimize the learning process.
- Little to no reflection could hamper the learning process.
- Entrepreneurs are willing to reflect in their process. They would rather reflect on their tools than to recreate one. This improves learning from their processes.
- Within practice, reflection is often used as a form of process correction. As it already occurs quite often, it is easy to jump in this opportunity.

6.6 Concluding Chapter 6

This chapter concludes the analysis phase of this thesis. It does so by providing 4 important elements that scholars should incorporate in the creation process of their learning tool. Therefore, this chapter contributes to SQ4: "What should scholars do to increase the relevancy of their learning tools?". These 4 elements form the basis of the develop phase of this thesis. The following 4 elements are important when creating a learning tool for entrepreneurs.

First, entrepreneurs learn by experience. By using the Experiential Learning Cycle by Kolb, the 4 stages of experiential learning can be visualized. When creating a tool for entrepreneurs, it is important to consider these 4 stages in the design process to optimize learning for entrepreneurs.

Second, not all entrepreneurs are the same. Therefore, it is important to know in what stage your target audience is in. A novice entrepreneur would benefit more from step-by-step guidance compared to an experienced entrepreneur.

Third, design action-oriented tools. From the analysis of this thesis, it can be concluded that entrepreneurs prefer tools that directly move to action. Thus, design activities and exercises that can be used right away. Furthermore, entrepreneurs have a desire for real-world examples of your tool. This helps to convey the message of your method or tool and supports entrepreneurs in understanding it.

Finally, reflection is important. Little to no reflection hampers the learning process for entrepreneurs. Besides that, entrepreneurs mention a desire for reflection on their process. Thus, it is important to design reflection within the learning tool for entrepreneurs.

To conclude, these 4 elements can contribute to creating a relevant learning tool for entrepreneurs. The next phase converts these 4 elements into a product that scholars can use to incorporate these 4 elements.

Entrepreneurial Learning

- Design tools and activities, while keeping all 4 stages of the Experiential Learning Cycle by Kolb in mind. By going through all these 4 stages, the entrepreneur will optimize its learning process.
- Entrepreneurs will not start by reading endless pieces of information where a certain theory comes from, but rather start to use the tool immediately. Therefore create a short explanation with direct activities, exercises and immediate objectives.

Know your Audience

- Identify the intended reader before creating the artefact. Think about in which stage the information that is created is desired and conclude if information needs to be created to follow step-by-step or more overarching.

Action-Oriented Tools

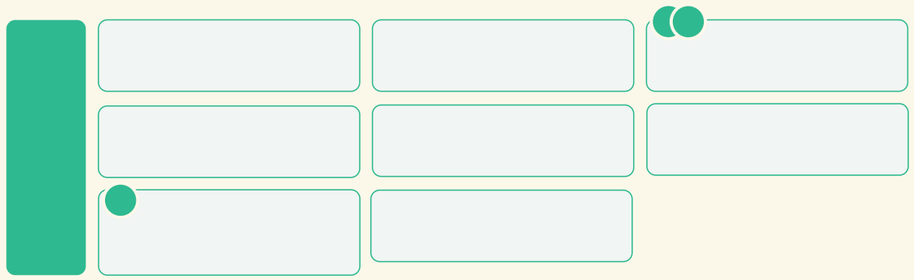
- Designed artefacts must contain an element which is action-oriented. This is also displayed in the 'Three-Tier Framework' by Mansoori as 'Tactics'.
- Designed artefacts must be designed in such a way that entrepreneurs can move directly into the 'feel & do' phase of the Entrepreneurial Learning Cycle by Kolb.
- Designed artefacts could also be supported by real-world examples to support these in conveying the message, offering more perspective on the theory in practice and therefore making them more comprehensive.

Reflection

- Little to no reflection could hamper the learning process.
- Entrepreneurs are willing to reflect in their process. They would rather reflect on their tools than to recreate one. This improves learning from their processes.
- Within practice, reflection is often used as a form of process correction. As it already occurs quite often, it is easy to jump in this opportunity.

Chapter 7

Developing 3 Concepts



7.1 Introduction

This study aims to guide scholars in bridging the research-practice gap in entrepreneurship, as illustrated in figure 7.1. Chapter 1 explains the research-practice gap in entrepreneurship, therefore laying the foundation for this thesis. This is illustrated at number 1 and can be seen as the 'why' in creating a solution for the research-practice gap.

This thesis continues by analysing various important aspects in entrepreneurial learning. It emphasizes the importance of understanding the needs and desires of entrepreneurs when developing learning tools. By using 3 research methods, four essential elements have been identified, which are concluded in chapter 6. These factors serve as guidance for scholars in creating relevant learning tools for entrepreneurs. The analysis is illustrated in figure 7.1 with number 2.

The final part of this thesis focuses on converting these insights into a set of steps to guide scholars in implementing these 4 elements within their learning tools. Therefore, this chapter contributes to SQ5: "What could a tool look like that supports scholars in creating more relevant learning tools?". This is illustrated at number 3.

Chapter 7 and 8 both mention 'product'. With product, the tool that guides scholars into creating their learning tool is implied.

It is important to note that this initial chapter does not yet incorporate the design science principles, as they were introduced in a later phase of the project.

To summarize, this chapter focuses on ideating ways to convert the 4 essential elements into actionable steps. It develops 3 concepts which are validated with a scholar. Afterwards, one concept is chosen and further developed in chapter 8.

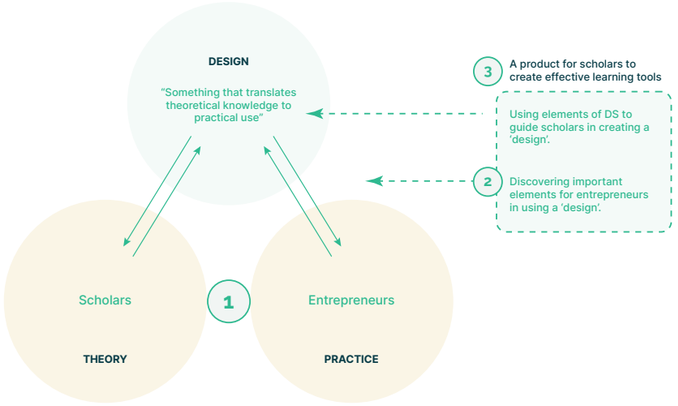


Figure 7.1: The 3 steps that are used to bridge the research-practice gap

7.2 The Ideation Phase

To generate ideas for a product to support scholars in creating relevant learning tools for entrepreneurs, the ideation process was split into three phases. In the first phase, I used the research question to define elements which were interesting to dive into. Using these elements, a second ideation followed. Which is used to generate ideas that could be relevant to use in the product. Afterwards, these elements were clustered and ranked based on their relevance to the initial research question. In the third phase, ideas were generated to decide on the format of the product. Finally, all three phases will be concluded and validated with a scholar.

7.2.1 Ideating on support, scholars and creating

The initial research question is 'What could a tool look like that supports scholars in creating more relevant learning tools?'. In this question, the emphasis is placed on the words 'support', 'scholars' and 'creating'. To continue, a brainstorm is conducted to ideate on these 3 words. All interesting elements identified during the brainstorm are visualized in figure 7.2. One particularly notable element was the purpose behind the piece of literature that is written by the scholar. This tool focusses on scholars who have the purpose of pointing their research directly towards entrepreneurs. In other words, these scholars are trying to convey a message with the entrepreneur as the end-user. Other scholars seek to expand the overall knowledge of entrepreneurship without targeting entrepreneurs directly. Therefore, this product aims to assist scholars who are dedicated to convey an entrepreneurial process or method to entrepreneurs.

Within this group of scholars, there are two subgroups. The first subgroup consists of scholars who already have the idea of creating a designed artifact, think about a canvas or exercises/activities. The second subgroup does not currently have plans to create a separate designed artifact. Instead, this subgroup focusses more on the 'logic' and 'model', referring to the 'Three Tier Framework' of Mansoori (2015). However, it is essential for this second subgroup to realize that entrepreneurs will not read a paper or large chunks of text. They rather rely on short introductions with immediate activities and interaction. Thus, creating a separate designed artifact is essential. As a result, both of these subgroups share the challenge of converting their research paper into a user-centered format.

Scholars also share some characteristics regarding their way of working. Usually, a scholar spends large amounts of time researching its theoretical foundation before creating conclusions. Thus, there can be concluded that the scholar can spend some time to research how to translate its findings into a comprehensive designed artefact. For this product, it offers opportunities to explain the 4 elements of an interesting designed artefacts in a broad context. However, scholars also need to be convinced of the academic background of these 4 elements. Thus, this 'evidence' also needs to be explained broadly.

Then finally 'creating' was one of the three interesting elements to discover. As is explained before, the scholars are trying to create a 'user-centered' designed

artifact or learning tool. As is thought in the study of Industrial Design Engineering, the best user-centered products are designed by incorporating the user in the creation process. This is also in line with Berglund et al. (2018), which explain that one of the elements to bridge the research-practice gap, is for entrepreneurs and scholars to communicate about their needs and desires. This results in interesting elements in the discovery of 'creating' with elements such as 'talking with the user', 'testing with the user' and 'using co-creation methods'.

What could a tool look like that **supports** **scholars** in **creating** more relevant learning tools?

Elements	Highlights from the Brainstorm	Conclusion
supports	Understandable, Convincing "Evidence", Broadly Explained	Broadly explain content supported by sources and research
scholars	Targetted at Entrepreneurs, Already Creating an Artefact, Creating Theory without Thinking About Relevance	Scholars are trying to convert literature into user-centric artefacts
creating	Talking with Users, Testing with Users, use Co-Creation Methods	Invite entrepreneurs into the artefact creation process and co-create

Figure 7.2: Results from the initial brainstorm

7.2.2 Which elements could be used to explain how to create a user-centered learning tool?

The second brainstorm element consist of generating ideas for the concept. Ideas that could contribute to supporting these scholars. The previous paragraph concludes that there are elements which are particularly important to support scholars, resulting in a new brainstorm: "How can we support scholars in creating a user-centric artefact". The brainstorm started by freely brainstorming about all relevant aspect regarding this brainstorm question. Afterwards, these aspects are categorized within 5 groups. These groups are: information & examples, collaborate with entrepreneurs, rate your designed artefact, reviews, citings & downloads and finally experts & peer-to-peer. The categorisation and belonging elements are displayed in figure 7.3 on the next page.

The following step is to rate these groups with regards to the initial research question. Using coloured stickers, the author and a co-designer ranked the groups by choosing one group which fitted the following questions best. The goal is to rank these groups on 4 elements of the previous paragraph. Firstly, which groups fits the overall question best (pink)? Then, which group contributes most to the element 'supports' (purple), the element 'scholars' (orange) and finally the element 'creating' (light green).

It can be concluded that a combination of information, examples and a way to stimulate co-creation is the most optimal to support scholars in creating their artefacts. While the other groups might not be irrelevant, it is best to focus on the most important elements within the first concept creation.

How can we support scholars create a user-centered learning tool?

Information & Examples	Collaborate with Entrepreneurs	Rate your Designed Artefact	Reviews, Citings & Downloads	Experts & Peer-to-Peer
Examples why it is important	Co-creation sessions with ent.	Create a success measure	Gather reviews on your artefact	Expert knowledge about artefacts
Explained by a spiderweb on the 4 elements	Test days to test the artefact	A checklist to check all elements	How many ent. download your artefact	Side by side research with scholars
Vlog to explain and review artefacts	Workshops with entrepreneurs	A rating system for your own artefact	How many times does your framework gets cited by others	Focus groups of scholars in the same theme
Online blog which gives feedback	Case day with entrepreneurs			Multi-disciplinairy review teams

Figure 7.3: Elements that could be used to guide scholars in creating user-centered learning tools

7.2.3 How do I reach scholars with important elements

Maybe the most important questions is how to reach the scholars with my information. Thus, what is the boundary object of my product. While the set of information and a way to stimulate co-creation, the object and how to display this information remains undiscovered. Together with another Strategic Product Design student, a new brainstorm is conducted to research the various formats in which the information could be provided to the scholar.

To effectively brainstorm many ideas, a creative brainstorm technique is used which is a derivative of the 'thinking hats'. First, personas of scholars are brainstormed. In this brainstorm, six different personas are created. The personas consists of:

- I read a lot scholar
- I discuss with peers scholar
- I am an entrepreneur scholar
- I ask a lot of (open) questions scholar
- I am a never-ending searcher for information scholar
- I try a lot of new things to discover scholar

To continue, the brainstorm used the main question: 'In what format do I present the information to the scholar?'. Every 5 minutes, a new brainstorm started for another persona. Therefore the brainstorm lasted 30 minutes in total.

The brainstorm resulted in 84 ideas, categorized among 6 different personas of scholars. The results of this brainstorm are displayed in figure 7.4.

84 ideas of how to present the information of the learning tool elements to scholars

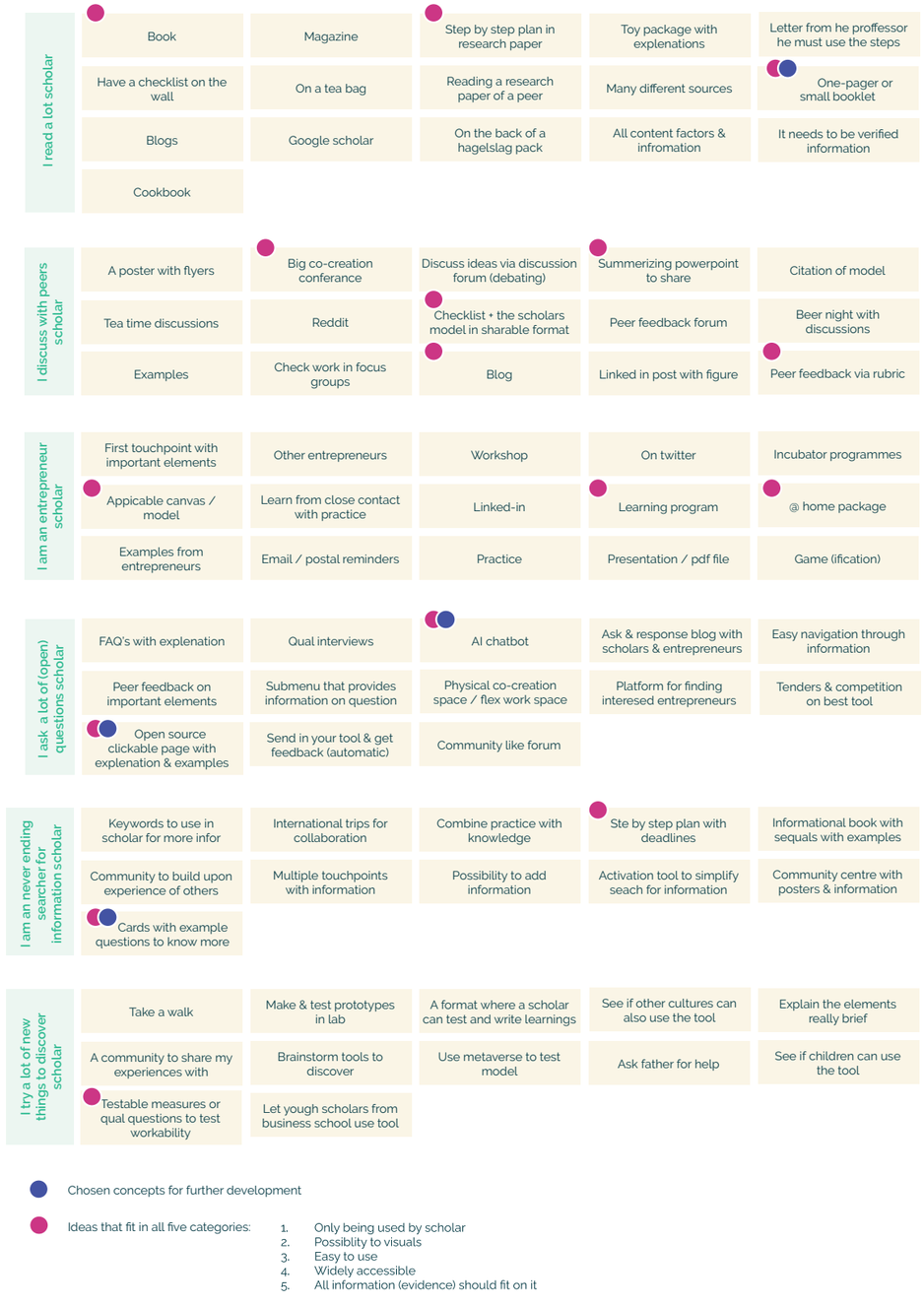


Figure 7.4: 84 product ideas to support scholars

To continue the search for the most fitting concept, a set of five criteria were created. The criteria were based on the nature of the scholar and the availability of the concept. Below, the evaluation criteria are explained:

- It has to be used by scholars only
  Although peer to peer feedback is something that is valuable to scholars, the purpose of this product is to focus on the learning this thesis discovered in earlier chapters. This means that peer-to-peer feedback could drift away from the essence of creating a more effective learning tool. Another reason is that to create a community of scholars and/or entrepreneurs who are collaborating, takes a long time to build. The purpose of this thesis is to design something that can be used directly.

- It must provide a possibility to explain in visuals
  The elements explained in chapter 6 have to be supported by visuals to properly understand the context of the information provided. This is a criteria which also uses gut-feeling to determine that conveying the message that is in the elements is easier if supported by visuals.

- It has to be easy to use
  It is important to create a product which is easy to use for scholars. This means that scholars do not only understand 'what' needs to be in their learning tool, but also 'how' to implement this. This results in a better understanding of how to change their learning tools, which therefore makes the product more effective.

- It must be widely accessible
  Scholars are everywhere, therefore it is necessary to create a product which is not location dependent. However, if it would lead to a psychical tool it should be able to be printed or something similar right away.

- All information and 'evidence' regarding the elements should fit on it
  Scholar rely heavily on scientific knowledge. This makes it essential to provide all the information that is beneath the surface of the elements provided to them. This also makes it more trustworthy to implement the elements. It also enables the scholar to learn more about a certain topic to be able to discover new ways to implement a certain theory.

The five criteria above are used to make a selection of the 84 ideas. This resulted in 16 ideas that could be merged into 3 final concepts. These 3 ideas are connected to the various archetypes described before. Furthermore, these ideas are significantly different which makes it able to test which direction of the concept works best. This selection is highlighted in figure 7.4 above.

Final selection of 3 formats

A small booklet
The first idea is to summarize the findings of this research paper in a small booklet, categorized per important element of the learning tool. It will be bundled in a small booklet which can be shared as an appendix of the thesis or separate through online channels. The scholar can download this booklet and it should contain all of the necessary information explained in text and figures.
Archetypes: "I read a lot scholar"

Explanatory card set
The second idea is similar to the first idea, only then is the information presented with less text in a ´one card per subject´ format. This will result in a more visualized format, which might be more useful to stimulate the scholar to perform direct action. Short insights and more actionable points.
Archetypes: "I am an entrepreneur scholar, I am a never-ending searcher for information scholar, I try a lot of new things to discover scholar."

Interactive online webpage with AI chatbot
The third idea is an online version of the concept. The scholar is able to access the information from everywhere and the tool could be more interactive than a static version. This allows the concept to be build in ´layers´, where the scholar can dive deeper into the background information if desirable. This concept also allows for new technologies to be incorporated into the design. Rising technologies, such as an AI chatbot, allows the product to be more customized to the needs of the scholar. Information could be rapidly available and more background information could be requested if necessary. Furthermore, the concept has the potential to be developed into a community platform in which scholars can schare expertise and experiences.
Archetypes: "I discuss with peers scholar, I ask a lot of (open) questions scholar, I am a never-ending searcher for information scholar, I try a lot of new things to discover scholar."

7.3 Proceeding to Create Concepts

7.3.1 The content of the concepts

First, it is essential to gather the necessary information that needs to be in the concept. Although the format of the concept can differ, the information presented in the format is the same for all three concepts. The first two brainstorms emphasizes on two main aspects. First, providing information and examples of how to incorporate the elements within learning tools. Second, providing a way to co-create with entrepreneurs and validate your own learning tool on the effectiveness of the element that is incorporated.

To continue, the product should also activate the scholar to incorporate the element in its learning tool. Therefore, the product should not only focus on the 'what', but also on 'how'. This implies that the product could provide more guidance to the scholar. Thus, a step-by-step plan is also something to be added to the product.

To conclude, the product should consist the following elements:

- Information of the important element that needs to be implemented in the learning tool. This is already explained in chapter 6. The background information of the thesis on this topic should also be available.
- A step-by-step instruction in how to implement such an element within your learning tool. This way the scholar can directly proceed to action.
- Examples of well and poor designed learning tools. It needs to be criticised on the element that is explained, for example 'action-oriented'. At least one proper design and one flaw should be in the product.
- An instruction in how to test the learning tool with entrepreneurs on the element that is implemented. For example, a step-by-step instruction in how to validate the learning tool on the 'action-oriented' aspect.

7.3.2 Continue with one important element for the concepts.

To continue the creation of the product, one important element to design learning tools is chosen. With the limited amount of time of this thesis, the 'action-oriented' element is chosen to be used for the concepts.

7.4 The 3 Concepts

To validate the concepts, all three concepts are created. This lets the scholar experience the total product. As mentioned before, only the chapter of 'action-oriented' is created. The idea is that each element exists of 4 components: an introduction into the element, how to implement the element into the learning tool, examples of the element within existing tools and finally a way to test the learning tool with the end-user. Below, the three concepts are displayed and the design choices are justified.

7.4.1 The Booklet

The first concept is the traditional booklet. This is the concept that stands closest to what scholars currently use. The booklet exists of 15 pages, which is showcased in appendix C. Each component is displayed in 2 pages, so the booklet can be used quickly. Scholars are able to download the booklet through various channels and print it or read it digitally. The booklet is created on an A5 format.

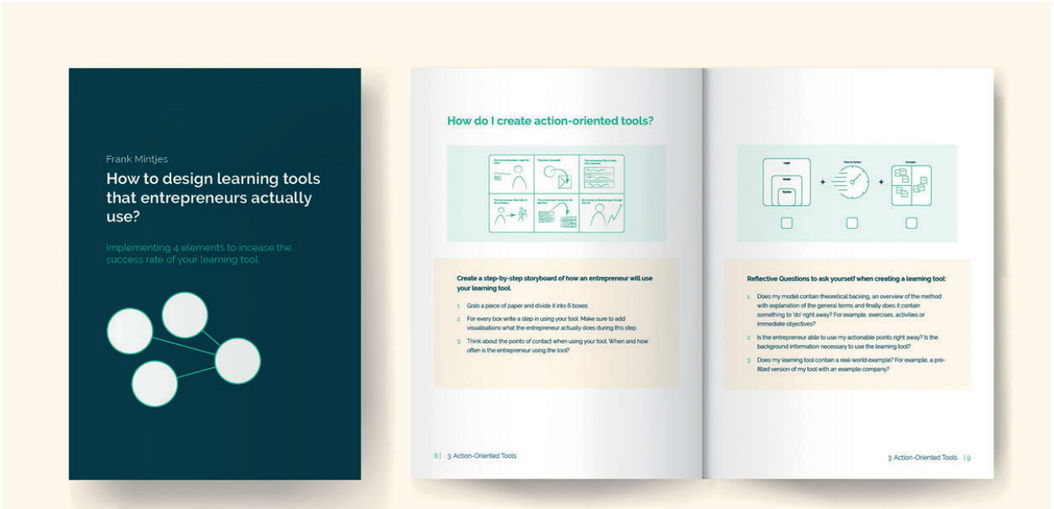


Figure 7.5: Concept 1 - The Booklet

7.4.2 The Cards

The second concept is a set of cards which can be used by the scholars. The card set is available online and the user is able to print it at home. The card set allows for more interaction between the concept and the scholar, as it offers various whitespace to perform exercises or to make notes about your learning tool. This format might stimulate more 'doing' while reading the learnings. The cards are designed in an A4 format so they can be printed at home.

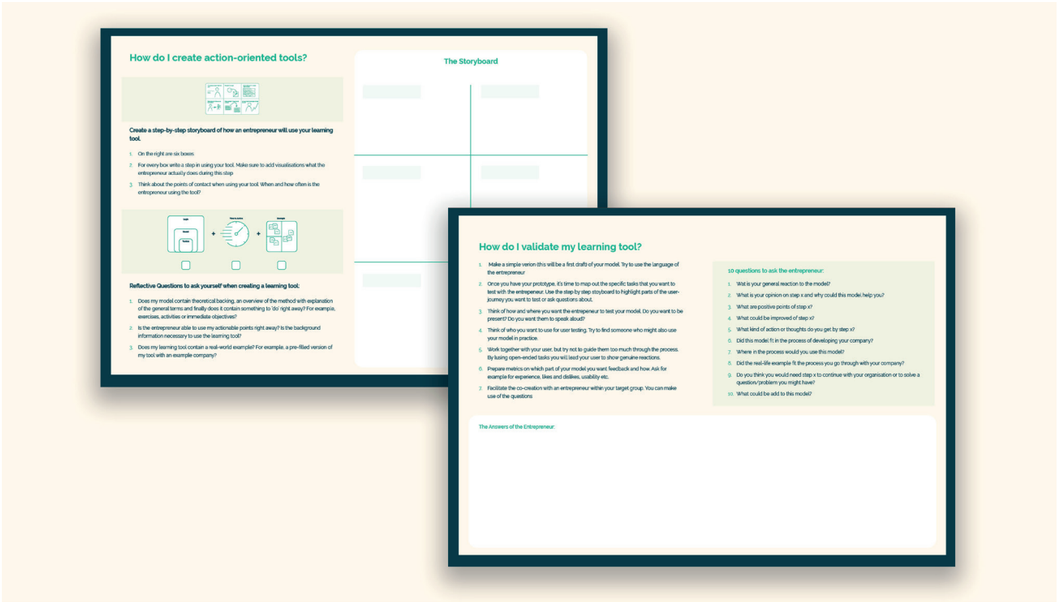


Figure 7.6: Concept 2 - The Card Set

7.4.3 The Interactive Tool

In the creative thinking process, interaction is an important aspect of the product. Therefore, it is interesting to discover a digital format. This provides an opportunity to create a more dynamic environment. Together with this dynamic environment, is the trend and development of artificial intelligence. This offers a big opportunity to create a tool which could scan the learning tool of the scholar. Moreover, this results in a more personalized feedback experience and therefore the tool could be more impactful. However, it might be new to scholars and therefore difficult to convince scholars to use this digital tool. In the figure below an overview is provided in how this concept looks.

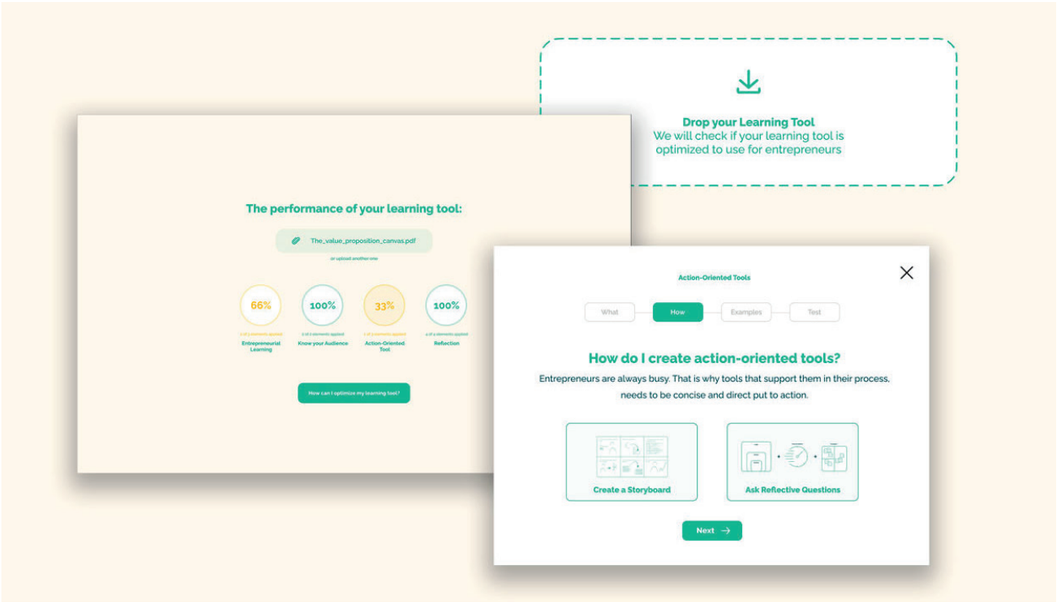


Figure 7.7: Concept 3 - The Online Tool

7.5 Testing the Concepts

To create a desirable product for scholars, it is important to co-create with these scholars. Therefore, the concepts are tested with a scholar who recently created an entrepreneurship framework. The experiment is setup online and the scholar received all three concepts beforehand. This way the user was able to read the information provided in the concepts and got to know the concepts better.

The feedback experiment was created in a semi-structured way, to leave room for suggestions and out-of-the-box feedback. In the experiment, three main items were tested: the 4 different pieces of content presented in the concepts, the preference for interaction with the product and finally the format of the concepts.

7.5.1 The 4 different pieces of content

First, the feedback on the 4 pieces of content is explained. The 4 pieces of content existed of: information of the important element, a step-by-step instruction on how to implement the element, examples of learning tools that incorporated this element and finally an instruction in how to validate the learning tool. Below is the feedback on the first piece of content displayed in the concepts:

Information:

Information is nice to read more about how somethings works, although my preference is really the 'how' to implement something.

Thus, there can be concluded that information is still relevant to offer to the scholar. However, this might not be the most important part of the concept. Therefore, a next concept could present the information and details more on the background. The user is more interested in 'how' to implement something in their tool. Therefore, the next element should be more interesting for the user:

The Step-by-Step Guidance:

The storyboard is really nice. However, I am not a designer so I need some more extensive knowledge about how to perform these kind of exercises.

Define the goal of the exercise to know why I should use something like this.

Also create an exercise about how to present your information to the entrepreneur, without overloading the entrepreneur with information. "Which theoretical background is really necessary to use my tool?"

The reflective questions were really nice. Improving those a bit more could really support me in thinking about all the aspects.

The user was particularly interested in this part of the concepts. This part of the concept should definitely be in the concept. Some improvements must be made, such as: providing more explanation at the exercises including a clear goal of the exercise. Keep the reflective questions, improve them a bit more. Create an exercise which focusses on how to explain the learning tool to entrepreneur without using much text.

The following piece of content was some exercises to show to the scholar. This way the scholar could understand how certain elements work in other examples.

Examples:

I did not really look at those, but I can understand that they can provide some extra information. Not the first priority for me.

In this case, the scholar did not look at these examples. They can be valuable in the same way as providing more background information on the pieces of content. This could be placed more into the background of the concept.

The next piece is provided to validate the tool with the end-user. To provide the scholar with tools to do so, the scholar is able to co-create with the end-user of their tool.

Validate the Learning Tool:

This was also really useful for me. Important to know how to set up a proper experiment.

I used many tools and information from the 'Design Science Research Methods'. Maybe a good idea to look into those.

This piece of content was valued as very important by the scholar. This could have a more prominent place into the next concept. Also the participant pointed out that he used the DS principles to validate its tool. Which could be relevant to add within the next iteration on the concepts. Some more information in how to setup a good experiment could also be beneficial.

In conclusion:

- Information and examples should be placed as background information. How-to and validation is most important.
- Exercises should be explained in more detail and the goal should be clear. Reflective questions should be improved, because they were useful. Create an exercise which provides exercises how to explain the tool to entrepreneurs.
- Move validation to a more prominent place. Add the DS principles for theory backed validation exercises.

7.5.2 The preference for interaction with the product

The second part of feedback is about the way of interacting with the product. Although every scholar uses the product differently, it is interesting to understand if this scholar prefers are more interacting way of optimizing its learning tool or rather reads a lot and then starts to optimize. The following feedback resulted from the interview:

For me, I think the cards provide the most interaction directly with the tool. Something that is really relevant for me. I think you should really practice and work with your tool to get a better understanding of the tool.

Maybe even some more interaction, like stickers or printable pieces of content that I can stick to my own tool could support me in getting a better understanding.

I did not really read a lot before wanting to directly see what I could do with it.

It can be concluded that the scholar wants to interact with the product and its learning tool to dive deeper into understanding the various aspects of optimizing its tool. Therefore, the cards were a particularly useful tool because the scholar could write on it and use them right away. The information could be placed to the back. Then again, the goal of the exercises and information should be clear so the scholar can use it directly.

In conclusion:

- Interaction with the tool gives a deeper understanding in the various elements of optimizing the tool.
- Interaction is also preferred, extra information could be provided in the background.
- Write down clear goals of the exercises to see how and when to use the exercises.

7.5.3 The format of the concept

The final part that is tested is the format of the concepts. In this experiment, three different formats of products were tested. The following feedback is provided regarding the three different formats:

The booklet is a nice format to hand-out after a presentation or conference I could imagine.

The card set is really valuable, because you want to go to work directly. It support interaction with the tool.

Maybe it is an idea to combine the card set and the booklet. The booklet could provide some more information besides the cards. Or maybe the cards could be the last couple of pages of the booklet that you can take out?

The online tool could provide even more examples and information. I do not think that a solution totally online should be designed. It is important to use physical elements to brainstorm with your tool.

Maybe the online tool does offer some opportunities to add videos that explain your tools.

Provide an example of how people should use your tool as well.

Thus, it can be concluded that a combination of the card set and booklet would be ideal. The online tool was difficult to imagine, since it is not easy to develop. However, the online platform would be perfect to add videos and more content. The card set would provide direct interaction and can even be more interactive than it is now. The booklet is a valuable way to provide more background information and examples regarding theoretical backing for example. Also an example of how people would use the product would be beneficial in using the tool.

In conclusion:

- A combination of the card set and booklet would provide interaction as well as an opportunity to add background information and examples.
- The online tool could be an opportunity in the future to automatically test learning tools & add options to co-create. However, currently it is hard to develop.

7.6 Concluding Chapter 7

This chapter marks the beginning of the development phase of this thesis, focussing on coverting the 4 essential elements into a product. This product guides scholars into implementing these 4 essential elements in their learning tool. Therefore, this chapter partly answers SQ5: "What could a tool look like that supports scholars in creating more relevant learning tools?". However, chapter 8 further explores this sub-question.

This chapter starts by ideating on the initial research question: "What could a tool look like that supports scholars in creating more relevant learning tools?". This resulted in 3 conclusions. First, the product should broadly explain content, supported by sources and research. Second, scholars are trying to convert literature into user-centered artefacts. Third, when creating learning tools, it is beneficial to invite entrepreneurs into the artefact creation process and co-create with them.

The second conclusion of the initial brainstorm question lead to the following brainstorm: "How can we support scholars create a user centered-learning tool?". From this question, there is concluded that 'information & examples' and 'collaborate with entrepreneurs' are two essential elements that should be in the product.

A third brainstorm is conducted to ideate the boundary object in which the information, examples and co-creation session should be presented. This brainstorm is conducted using 6 archetypes of scholars to foster the creative process. As a result, 84 boundary object ideas were created.

Using 5 criteria and based on the testability of the concepts, 3 concept ideas are created. These concepts consists of a booklet, a set of cards and an online tool. The process continued by brainstorming the content of the concepts. This resulted in 4 content elements that are incorporated in all 3 concepts: information on the element that is discussed, a step-by-step instruction on how to implement the element, examples of well designed learning tools and finally an instruction how to test the learning tool with entrepreneurs. These 3 concepts are created and displayed in appendix C.

Afterwards, the 3 concepts are tested with a scholar to gather feedback. The feedback is converted into design conclusions, which supported the creation of one final product in chapter 8. The conclusions on the feedback is shown on the next page.

In conclusion, this chapter creates and validates 3 concepts. It contains a first step into creating a product which can guide scholars to implement the 4 elements into their learning tool. Therefore, it party answers SQ5.

The 4 different pieces of content

- Information and examples should be placed as background information. How-to and validation is most important.
- Exercises should be explained in more detail and the goal should be clear. Reflective questions should be improved, because they were useful. Create an exercise which provides exercises how to explain the tool to entrepreneurs.
- Move validation to a more prominent place. Add the DS principles for theory backed validation exercises.

The preference for interaction with the product

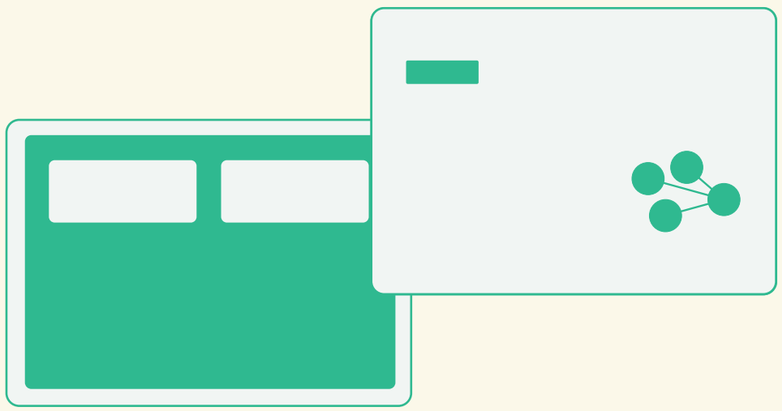
- Interaction with the tool gives a deeper understanding in the various elements of optimizing the tool.
- Interaction is also preferred, extra information could be provided in the background.
- Write down clear goals of the exercises to see how and when to use the exercises.

The format of the concept

- A combination of the card set and booklet would provide interaction as well as an opportunity to add background information and examples.
- The online tool could be an opportunity in the future to automatically test learning tools & add options to co-create. However, currently it is hard to develop.

Chapter 8

Converging to 1 Workbook



8.1 Introduction

The previous chapter partly answers "SQ5: What could a tool look like that supports scholars in creating more relevant learning tools?". To fully answer SQ5, it is important to dive deeper into the concepts and develop one final product. This chapter creates one product based on the concepts in chapter 7 and the feedback that was provided to these concepts.

The concepts in chapter 7 did not yet include the design science principles. These principles are discovered in a later stage of the project and therefore added to the final product in this chapter. As a result, the content of the product exists of design science principles tailored with the 4 entrepreneurial elements which derive from the analysis phase in this thesis. More on the theory that guides the final product is explained in paragraph 8.2.

Chapter 7 displays insights regarding the 4 different pieces of content, the preference for interaction with the product and the format of the concept. As a result, the concepts are merged into one product. This product consists of a set of cards, also called 'the workbook', together with a booklet which explains the theoretical background of the workbook and shows various examples of tools. More about the new product will be explained in paragraph 8.3.

Paragraph 8.4 conducts one more feedback session with a different scholar. In this feedback session, improvements for the further development of the product are concluded.

8.2 Theory that Guides the Workbook

8.2.1 Design science principles

First, the design science principles were analysed. As explained in chapter 1, design science research is an approach to convert scientific knowledge into artifacts. Although it is mainly used in other fields such as information sciences, it is still relevant to look at the best-practices. Sonnenberg & Von Brocke (2012) present a way to build and evaluate design science artifacts within information sciences. First they present an overview into prior DSR processes, which is shown in figure 8.1. Sonnenberg & Von Brocke (2012) criticise that these methods only start to evaluate after the design phase, whereas evaluation is suggested to already occur before an artifact is created. For example, evaluation on the justification of the artifact by validating the problem and motivation.

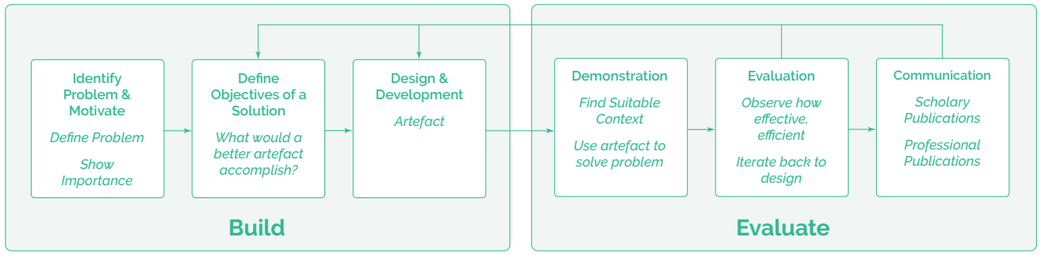


Figure 8.1 Build and Evaluate in DSR - Sonnenberg & Vom Brocke (2012)

Thus, Sonnenberg & Vom Brocke (2012) suggest to evaluate in 4 evaluation phases. The process is displayed in figure 8.2. This process starts to evaluate early on, therefore creating short iterative loops. This is something that is also dominant in design theories. As a result, this product should adopt short iterative cycles as well. Preferably before the learning tool is created. This does not necessarily mean that every evaluation session should be conducted with the end-user. However, guidance in self-evaluation of the learning tool is beneficial to implement.

To continue, table 8.1 shows the evaluation cycles that Sonnenberg & Vom Brocke (2012) suggest. These evaluation cycles are important to display because they are used in the redesign of the product. Sonnenberg & Vom Brocke suggest 4 cycles.

Eval 1

The first cycle directly evaluates the problem statement, research need and design objectives. Thus, this evaluation occurs before creating the learning tool. This evaluation serves the purpose of ensuring that a meaningful design tool is created. It justifies the problem and gives reasons for creating an artifact.

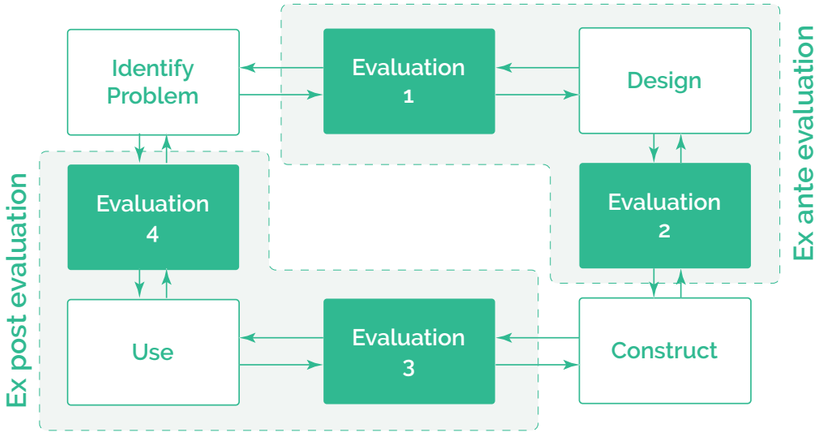


Figure 8.2 Build and Evaluate in DSR - Sonnenberg & Vom Brocke (2012)

Eval 2

The second evaluation dives into the evaluation of the design specification. It shows if the solution that is to be created also fits the problem statement, therefore showing the applicability of the solution. Still the artifact has not yet been created, so this evaluation is based on the design objectives, together with the tool and methodologies that are going to be implemented.

Eval 3

The third evaluation is the first evaluation that happens after creating the artefact. Therefore, it is important to first setup an organized experiment with test users in an artificial setting. This serves the purpose of validating the applicability of the designed tool. In other words, does the tool provide enough to solve the problem. Furthermore, it can display ease of use, effectiveness and efficiency.

Eval 4

The fourth evaluation takes place to show that an artifact is both applicable and useful in practice. By using the 'three realities' (real tasks, real systems, real users), the use of the tool is examined in a real-world setting. This will reveal if the end-user will use the tool without the creator interfering in the process.

Activity	Input	Output	Eval. Criteria
Eval 1	Problem statement Research need Design objectives Design theory	Justified Problem Statement Justified Design Objectives	Applicability, Suitability, Importance, Novelty, Feasibility
Eval 2	Design Specification Design Objectives Design tool/methodology	Validated Design Specification Justified Design Tool/ Methodology	Feasibility, Accessibility, Understandability, Clarity, Simplicity, Elegance, Completeness, Level of Detail, Internal Consistency, Applicability, Operationality
Eval 3	Instance of an Artifact (Prototype)	Validated Artifact in an Artificial Setting (Proof of Applicability)	Feasibility, Ease of Use, Effectiveness, Efficiency, Suitability
Eval 4	Instance of an Artifact	Validated Artifact in a Naturalistic Setting (Proof of Usefulness)	Applicability, Effectiveness, Efficiency, Impact on User, Usefulness

Table 8.1 The 4 cycles of evaluation presented by Sonnenberg & Vom Brocke (2012)

8.2.2 Specific Tools

The design science principles is used as main method for the improved content. However, other methods are used to strengthen the steps in particular. As creating an artifact is a ´design process´, Methods from the field of Industrial Design Engineering could be used to support the scholar in designing their learning tool.

The problem definition by Roozenburg and Eekels (1995)

The first step is creating a problem statement. This is a common step in a design process and therefore insights from Roozenburg and Eekels (1995) are used to support the creation of this step. In their research they describe that designers often underestimate the work that is required to find and define the problem. After all, the learning tool that is going to be designed should address a certain problem. If this problem is well defined, the solution could be precisely tailored. Therefore, the learning tool has a higher chance to be used for that particular problem, rather than being a tool which serves different purposes in a mediocre way. In this product, the standard questions from this research are used to define a problem. Which are 'What is the problem?', 'Who has the problem?', 'What are relevant context factors?', 'What are the goals?', 'What are the side effects to be avoided?' and 'Which actions are admissible?'. This questions are implemented in step one of the final design.

Step-by-step guidance by Mansoori (2020)

Mansoori analysed several methods in the domain of entrepreneurship. These methods have a different approach regarding the way they guide entrepreneurs. Some methods are focussed on step-by-step guidance, while others provide less guidance. Also

Mansoori refers to the amount of 'redirection power' a tool should have. This all is important to keep in mind while designing the interaction an entrepreneur has with the learning tool. Out of this research derived the 3 questions in step one: 'Describe the entrepreneur', 'Level of entrepreneurship experience' and 'Need for step-by-step guidance'.

Product Usability Evaluation by various authors

From the Delft Design Guide (page 133), a method is described how to prepare your user test. It highlights several important elements such as: 'creating a storyboard', 'decide which parts you need to evaluate' and 'write down how the user interact with the product'. These elements are used to create step 3 and step 6 in the workbook.

8.2.3 Combine the research into the cards

The theory, explained above, is merged with the 4 elements into the process shown in figure 8.3 The process builds upon the 'build-evaluate' stages of design science research, while keeping the short iterative loops that Sonnenberg & Vom Brocke suggested in mind. The first stage of the consist of 'build', where the scholar is able to validate its design objectives with reflective questions. Also it supports the scholar in discovering its target audience by asking questions about the learning preferences of the entrepreneur. Moreover, it guides the scholar in implementing the important entrepreneurial elements in its design. This step is implemented in an early phase in the design process to make sure these elements are directly incorporated. The 'build' phase closes with a self-evaluation exercise to guide the scholar in checking all the essential elements of its design before testing it with users.

Afterwards, the evaluation phase starts. First it consists of 3 steps to guide the scholar in testing in an artificial setting. These steps support the scholar in testing its design objectives first. This makes sure the iterative loop is kept short and the scholar can validate if the canvas is clear. Moreover, these steps support the scholar by shortening its explanation in the canvas to keep it concise. This adds to the 'action-oriented' nature of the tool. Finally, the steps provide support in setting up a test setting with entrepreneurs. It gives the scholar tools to conduct an effective validation study.

The evaluation phase closes with support in measuring the success of the learning tool in real-life. This ensures the tool is tracked during use and iterated if possible. It gives a final answer on the usefulness of the tool in real-life.

The next chapter explains all the steps in detail, together with an explanation of the chosen format.

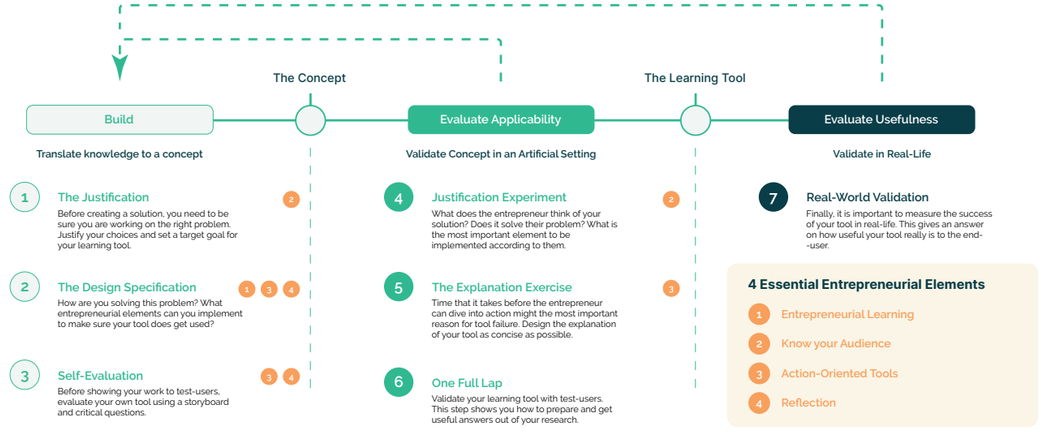


Figure 8.3: The 4 cycles of evaluation presented by Sonnenberg & Vom Brocke (2012)

8.3 The Renewed Workbook

The aim of the product is to successfully guide scholars into creating relevant learning tools for entrepreneurs. In chapter 7, three concepts are created to validate their contribution to the problem. In this paragraph, the final solution is presented.

An important note is that this thesis wants to focus on supporting scholars in the present. This results in a product that can only use current technologies and preferably has a limited development time. Therefore, this thesis makes a design decision to focus on the now. As a result, the aim is to utilize the available resources and project timeframe to develop a testable solution. Although this solution might not be flawless, it serves the purpose of hypothesis testing and validating the content and discovered entrepreneurial elements.

To test the content and interaction of a product that could support scholars in creating relevant learning tools, a workbook is created. The workbook consists of 7 interactive steps that guides the scholar in building and validating its learning tool. The workbook is an iteration on the booklet and card set concepts, presented in chapter 7.

Based on the feedback, the workbook is created as a first testable solution to the research-practice gap. Due to time constraints, the booklet has not yet been created. However, the thesis could serve as the booklet for now. Currently, it is most important to validate the process described in the workbook, together with the way of interacting with the scholar. The workbook is enough to validate the question "Is it possible to support researchers in creating relevant learning tools for entrepreneurs?".

As mentioned before, the workbook consists of a total of 7 steps. 3 steps that support scholars in building the learning tool, together with 4 steps that guide the scholar in evaluating its tool. The workbook is available in an online PDF format, which enables the scholar to download it and print it. The steps are designed to interact on the paper itself, therefore whitespace is added to fill in the questions. The workbook can be seen in appendix D. Figure 8.5 below shows an impression of the redesigned workbook.

Feedback on the Concepts	Result in the new Workbook
Place the information and examples in the background. How-to and validation is most important.	The workbook consists 7 interactive steps to build and validate the learning tool. This workbook is created first for validation, in the future the booklet could provide more information. However, the information is currently presented in this thesis.
Interaction is preferred as it gives a deeper understanding in the various elements of optimizing the tool.	
Exercises should be explained in more detail with a clear goal.	More exercises are added and explained in more detail. The steps indicate the goal of the exercise.
Implement an exercise which focusses on how to explain your tool to entrepreneurs	Step 5 consists of a step to explain your tool as concise as possible to the end-user.
Use a combination of a booklet and card set to provide information and interaction.	First, the workbook is created to test the interaction and the steps. In a later stage, the booklet could be created. However, currently the thesis could serve as the booklet.
Use the online tool to offer more options. The online tool could provide options to co-create and check your tool in the future.	First, the workbook is created as a testable product. Afterwards, the booklet and online tool could provide even more support to the end-user.

Table 8.2: The feedback derived from chapter 7 resulted in new elements in the workbook

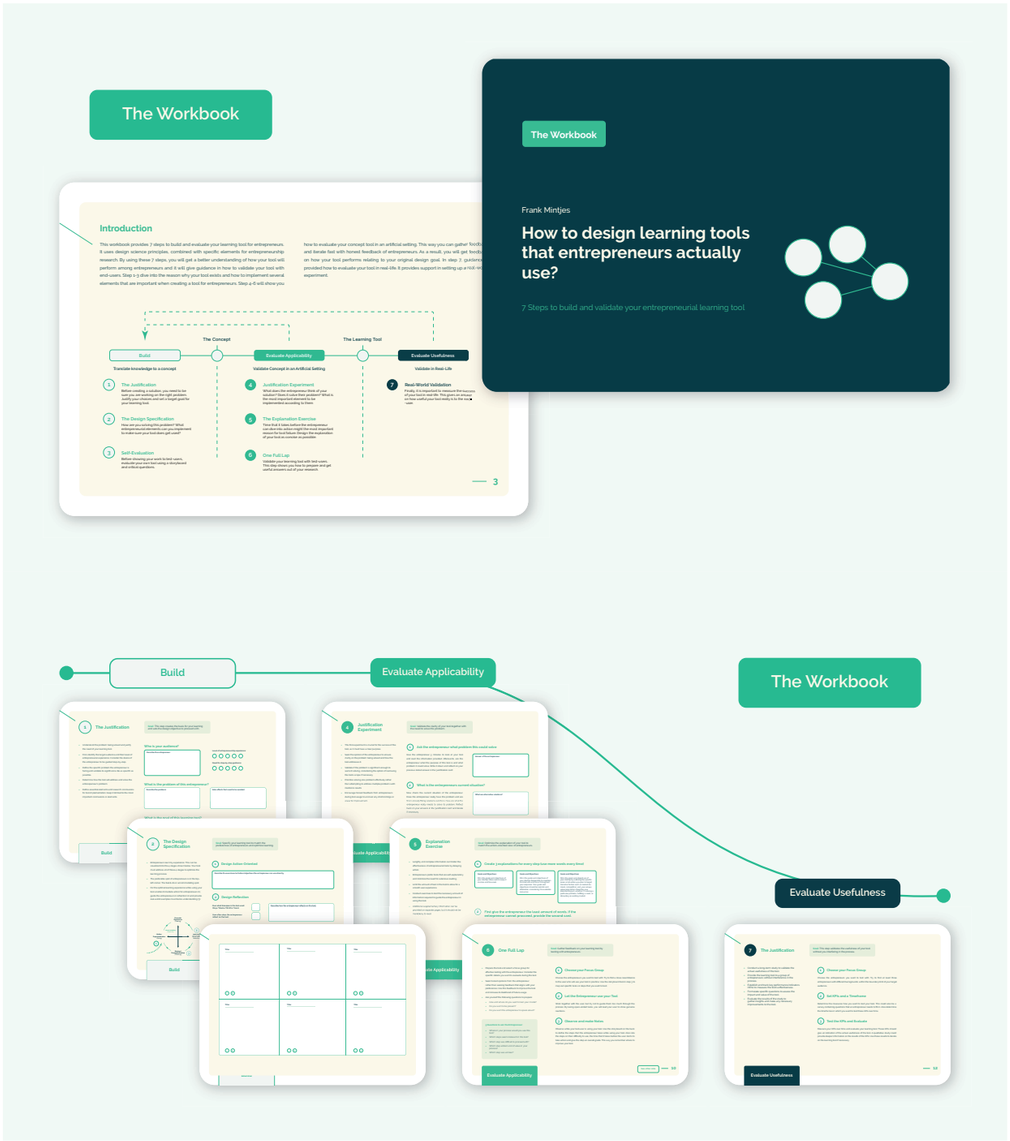


Figure 8.4: An overview of the designed workbook

8.4 Feedback on the Workbook

To validate the new product, a feedback session with a scholar is conducted. This scholar was another scholar from the previous session, thus the scholar had no background information into the product. The scholar is currently creating an entrepreneurship canvas for a startup wanting to use AI technologies into their product creation process. The feedback experiment is conducted face-to-face. It consisted of semi-structured questions, to leave room for suggestions and out-of-the-box feedback.

The following feedback resulted from the feedback session with the scholar:

Maybe create one canvas instead of steps. Your canvas could inspire others to create a successful canvas

Convert your text into bullet points so the user can quickly scan what needs to be done.

Write a clear goal per step.

While designing, I figured out the solution. Integrate more short iterative loops where you sketch out a design to test it right away. Like a Lean Startup approach.

Selecting the right jargon was difficult for me. Implement this into the explanation exercise.

For me prompts helped to inspire the user into action. Also visuals could support the prompts and exercises

This feedback could be split into two categories. One group of feedback items that can be fixed now and another group that should be further tested an analysed.

The following feedback items are used to further improve the concept.

Feedback on the Concepts	Result in the Workbook
Convert your text into bullet points so the user can quickly scan what needs to be done.	Converted most of the text into bullet points.
Write a clear goal per step	Included a clear goal at every step.
Selecting the right jargon was difficult for me. Implement this into the explanation exercise.	Added an exercise to use and validate jargon at step 5.
For me prompts helped to inspire the user into action. Also visuals could support the prompts and exercises.	Added prompts to the exercises.

Table 8.3 The final iterations on the workbook

8.5 Options to Further Improve

After the validation of the three concepts and the feedback session of the final product, the following items resulted as a recommendation for further improving the product. An overview of further improvements in shown in figure 8.5. First, the current format of the product is discussed. To elaborate, how can the workbook be updated. Second, an additional booklet could be created with more background information about the steps and examples of well designed learning tools. Finally, an online option could provide a medium to add a community to the product. In this community, other entrepreneurship researchers could provide information and improve the knowledge about the creation of learning tools. These three recommendations are explained in more detail below.

Figure 8.5: 3 steps to improve the product

8.5.1 Improving the product

First, the current workbook could be optimized. The product that is displayed in the previous paragraphs is the first product that could be tested among scholars. In this experiment, it should conclude if the workbook offers enough relevant information to implement the 4 essential entrepreneurial elements. Currently, the product is tested with 2 scholars. Thus to provide a better conclusion to the effectiveness of the workbook, a larger study should be conducted.

Furthermore, the steps could be converted into one canvas. This is an option that has not yet been tested and could enhance the user-friendliness of the tool. It summarizes more steps into one canvas, which makes it more structured and creates a better overview.

Finally, one of the feedback items was that the workbook should consider more short iterative loops. A tool that could be used to provide this is brain drawing. The scholar that gave feedback on the product mentioned that while creating a product, the scholar had to think more about the various features of the product and the steps that it should contain. Therefore, an ideation exercise could be beneficial to quickly create and validate features of the learning tool.

8.5.2 Add a booklet

If the workbook appears to be a successful tool to support scholars, a booklet could be added to provide more information into the theoretical backing of the workbook. Currently, the role of this booklet could be filled by using this thesis. It should be tested if an additional booklet would be beneficial in providing information to scholars. From the feedback it appeared that the 'how-to' was more important than the information. Therefore, it should be validated if more information is needed.

8.5.3 Create an online option

Using rising technologies, a tool could be created which automatically scans learning tools. This way tailored support steps could be created, which enhances the usability of the tool. Furthermore, by scanning the tool it could also be used as a control mechanism to check if your tool meets the requirements to be relevant to entrepreneurs.

Secondly, an online tool could be a medium for video material explaining various steps. This could provide for more clear information on the various steps. Besides the videos, examples could be added to provide more information about how other tools used the 4 elements in their tool.

Finally, an online option could offer the opportunity to connect various scholars to each other. By creating a platform, scholars can add information about entrepreneurial learning and best-practices when creating learning tools for entrepreneurs. Scholars can also share insights about new experiments when trying to support entrepreneurs. Furthermore, the online option could offer an opportunity to connect scholars with entrepreneurs. This supports scholars in validating their learning tools and gather test-users for their designs.

8.6 Concluding Chapter 8

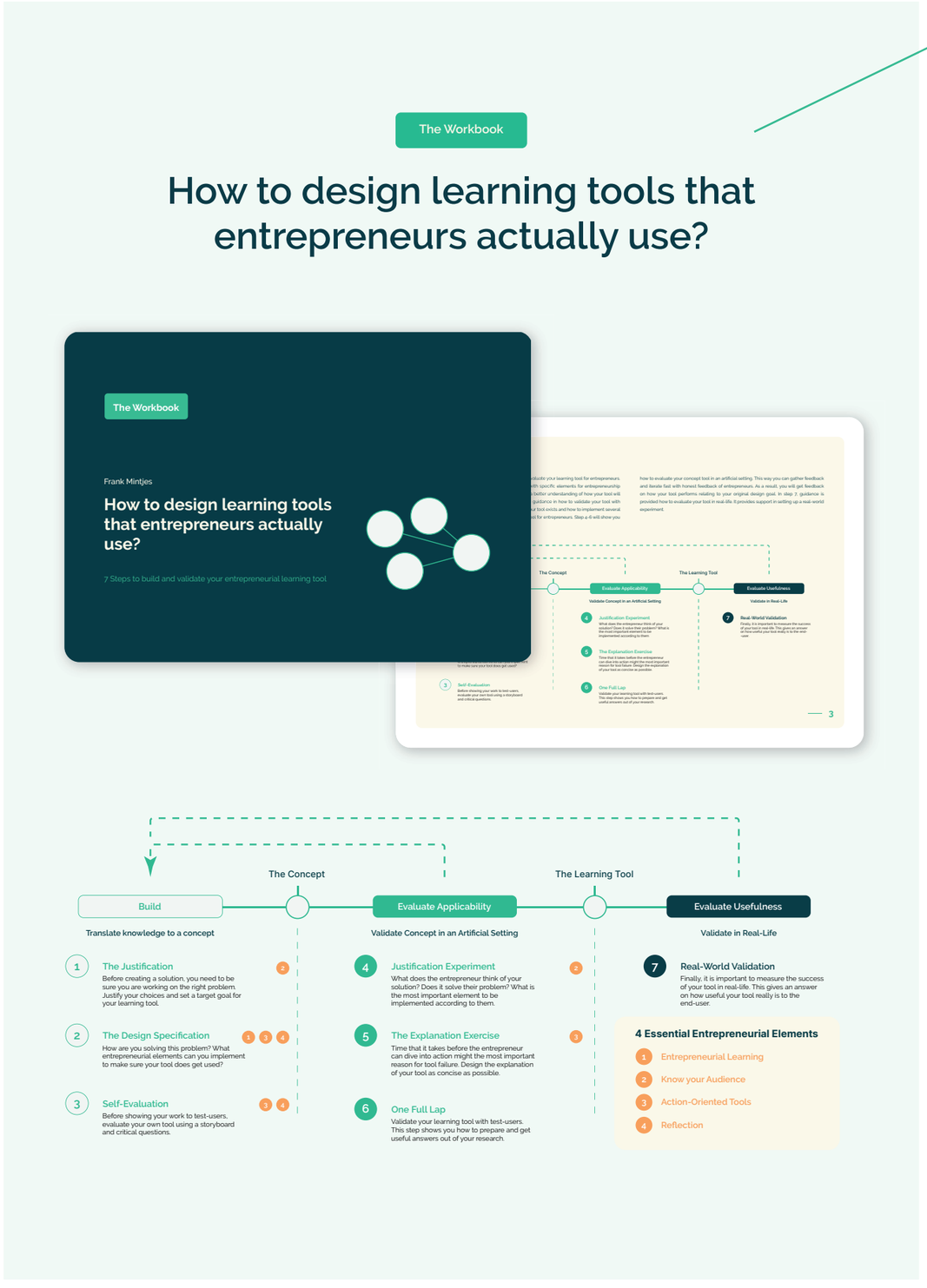
This chapter concludes the development phase of this thesis. A product, 'the workbook', is created to convert the 4 elements into a product which can guide scholars in creating learning tools. To do so, the 4 entrepreneurial elements are merged with design science principles to create a complete step-by-step instruction how to create learning tools for entrepreneurs. Therefore, this chapter concludes the answer to SQ5: "What could a tool look like that supports scholars in creating more relevant learning tools?".

The chapter starts by describing the design science principles and other literature that are later converted into 7 steps. These 7 steps are split into a 'build' phase, an 'evaluate effectiveness' phase and an 'evaluate usefulness' phase.

These 7 steps are merged with the feedback from the 3 concepts described in chapter 7, to create one final product which is 'the workbook'. This workbook is an interactive format with which the scholar can build and evaluates its learning tool.

Afterwards, the workbook is validated with a scholar in a feedback session. 4 items from the feedback session are implemented directly and others are described in the next paragraph, which shows various recommendations to further improve the product.

To conclude, this chapter creates a workbook which can guide scholars in creating relevant learning tools for entrepreneurs. The full workbook is added to this thesis in appendix D.



Chapter 9

Project Conclusion

9.1 To Conclude

This research aimed to analyse the research-practice gap from multiple perspective and create a product to bridge the gap. To accomplish these goals, the following research question and sub-questions were created. This conclusion provides a conclusion on these research questions. First, an overview of the research-questions:

RQ: **Is it possible to support researchers in creating relevant learning tools for entrepreneurs?**

SQ1: What does present literature say about learning in entrepreneurship?

SQ2: What are the needs and desires of entrepreneurs in learning within their entrepreneurial journey?

SQ3: What are the important elements when implementing learning tools in the entrepreneurial journey?

SQ4: What should scholars do to increase the relevancy of their learning tools?

SQ5: What could a product look like that supports scholars in creating more relevant learning tools?

To answer the main research-question, this thesis takes a deep dive into the analysis of the research-practice gap and the interaction of entrepreneurs with supportive tools. This interaction is discovered using three perspectives, also shown in SQ1, SQ2 and SQ3. The answer on these sub-questions is further elaborated below.

SQ1: Present literatures shows us that entrepreneurs learn by experience, also visualized by Kolb's experiential learning cycle. Furthermore, it shows the interaction of entrepreneurs and support tools and it also gives insights in the difference in practitioner-grounded versus theory-grounded literature. This is supported by the three-tier framework of Mansoori to evaluate an entrepreneurship method.

SQ2: Entrepreneurs have different needs and desires in learning. 4 important factors could be concluded from this sub-question. First, previous experience can influence the experience of entrepreneurs in using learning tools. Second, entrepreneurs value reflection in learning and limited reflection hampers their learning process. Third, by providing a real-world perspective to support tools, a tool offers more perspective to entrepreneurs which supports to convey the message. Finally, entrepreneurs have a strong desire for action-oriented tools. Meaning tools need to be able to be implemented right away.

SQ3: By becoming the entrepreneur, it becomes visible how important the 'action-oriented' nature of tools is. Tools need to guide the entrepreneur directly into the 'doing' phase,. Furthemore, guidance in reflection afterwards is also important.

Afterwards the conclusion of these three sub-questioned are merged into 4 important elements to implement when designing learning tools for entrepreneurs. This gives an answer on SQ4.

SQ4: When designing a learning tool for entrepreneurs, a scholar must consider the 4 stages of the experiential learning cycle by Kolb. Furthermore, a scholar must identify the characteristics of the entrepreneur that it is designing for, as novice and experienced entrepreneurs have different desires. Also, a scholar must design learning tools that directly move to the 'doing' phase within the Kolb cycle. Therefore, the method becomes directly 'action-oriented'. Finally, the learning tool must provide some form of reflection within the tool. Little reflection hampers entrepreneurial learning.

Finally, these 4 elements needed to be supported by a product for the scholars to use. This way, these scholars are not only provided insights, but also guided in the process of using these insights within the creation of their learning tool. This answers SQ5.

SQ5: Three concepts are created to support scholars in creating their learning tool. These concepts consisted of a booklet, a card set and an online tool. By validating these concepts with the end-user, the scholar, a set of requirements is set up and one concept is chosen to be further developed. This resulted in the development of ´the workbook´, a set of 7 steps which are based on a combination of design science principles and the 4 entrepreneurial elements.

This thesis contributes to entrepreneurship research by providing a solution for the research-practice gap. Something that did not yet exist within this problem. In the end, this product can contribute to more relevant learning tools for entrepreneurs. Which contributes to a higher succes rate of startups.

9.2 Prospective Launch Strategy

To succesfully guide scholars in creating relevant learning tools with ´the workbook´, it is important to consider a launch strategy to spread the product. In the chapter, some elements are explained that could contribute to spreading ´the workbook´ among scholars.

To create a launch strategy for this workbook, it is important to consider the target audience of the product, which are entrepreneurship researchers. Therefore, it is important to discover where to target these researchers. As they researchers often participate in conferences, this is a good starting point to spread the insights of this thesis.

9.2.1 Entrepreneurship Reserach Conferences

Many researchers can be found at conferences, therefore it is interesting to discover several conferences that could be interesting for this thesis to participate in. As a result, the following three conferences are discovered.

Babson College Entrepreneurship Research Conference (BCERC)

The Babson College Entrepreneurship Research Conference (BCERC) is an esteemed academic conference held annually. It takes place at Babson College, located in Wellesley, Massachusetts, USA. The conference focuses on advancing the field of entrepreneurship research and provides a platform for scholars from around the world to present their research findings. BCERC offers a diverse range of sessions, including paper presentations, panel discussions, and keynote speeches by renowned experts.

Effectuation Conference 2023

The Effectuation Conference 2023 is a premier event dedicated to effectuation, a theory developed by Saras Sarasvathy that focuses on the decision-making processes and mindset of entrepreneurs. The conference brings together scholars, practitioners, and students who are interested in understanding and applying effectuation principles in their entrepreneurial endeavors. The conference features interactive workshops, research presentations, and engaging discussions on topics related to effectuation, such as affordable loss, bird-in-hand principle, and pre-commitments.

RENT Conference

The RENT conference, short for Research in Entrepreneurship and Small Business, is a prominent European conference focused on entrepreneurship and small business research. It serves as a platform for researchers, academics, and practitioners to exchange knowledge, present their research findings, and discuss emerging trends in the field. The RENT conference typically takes place in different European cities each year, providing an opportunity for participants to experience diverse cultural settings while engaging in fruitful discussions. The conference covers a wide range of entrepreneurship-related topics, including entrepreneurial finance, family business, entrepreneurial learning, and social entrepreneurship.

9.2.2 Contact entrepreneurship scholars

Together with the conferences, it is interesting to share the findings with related entrepreneurship researchers. For example, this thesis mentions Dimov, Mansoori, Berglund and Wiklund. An interesting approach would be to contact these researchers and discuss the findings of this thesis. This could result a wider spread of word among various researchers. It could also serve as a way to validate the outcomes of this thesis and to work towards an improved solution to bridge the research-practice gap.

9.3 Future Research

In literature, the research-practice gap is a relatively new phenomenom. This results in limited research about the reasons for this gap. This thesis aimed to provide a broader understanding of the gap by also providing the entrepreneurial viewpoint of the problem. However, it has to be mentioned that this thesis is a first attempt to create a solution for the gap. Meaning that the solution can not be perfect at once. To improve the understanding of the research-practice gap and how to solve this problem, this chapter provides a set of recommendations for further research.

9.3.1 The 4 Elements

The 4 elements that are concluded in chapter 6 leave room for deeper discovery. In this thesis, these 4 elements are used as a first result from the 3 research methods. To broaden the understanding besides these 4 elements, the qualitative research study can be conducted with a different set of entrepreneurs to validate these 4 conclusions. Also, a closer look into the background of the entrepreneurs is interesting as the entrepreneurs are all dutch and studied at the Technical University of Delft. Also 5 out of 6 were designers, meaning there is some overlap with design theories as well.

9.3.2 The Product

The workbook that is created in chapter 8 is a first concept. This means that there needs to be a further study in the effectiveness of the elements in this product. For example, not all elements are even useful in the product. Also a validation study with a group of diverse entrepreneurs could be conducted to measure the desirability of the product.

9.3.3 Broader use of the Research

The chances are high that this thesis contains context-related challenges. As mentioned before, the elements and the product are both tested with young Dutch entrepreneurs with a technical university background. However, this does not necessarily imply that it is not applicable to other entrepreneurs as well. A research into different entrepreneurs should be conducted, as well as a deeper dive into the meaning of the 4 elements for these entrepreneurs.

References

Afuah, A., & Tucci, C. L. 2003. Internet business models and strategies: Text and cases(2nd ed). Boston: McGraw-Hill

Berglund, H., Dimov, D., & Wennberg, K. (2018). Beyond bridging rigor and relevance: The three-body problem in entrepreneurship. Journal of Business Venturing Insights, 9, 87–91. https://doi.org/10.1016/j.jbvi.2018.02.001

Betz, F. (2002). Strategic Business Models. Engineering management journal, 14(1), 21–28. https://doi.org/10.1080/10429247.2002.11415145

Blank, S. (2013). The Four Steps to the Epiphany: Successful Strategies for Products That Win.

Blank, S. G., & Dorf, B. (2012). The Startup Owner's Manual: The Step-by-step Guide for Building a Great Company.

CB Insights. (2021). The top 12 reasons Startups fail. CB Insights Research. https://www.cbinsights.com/research/report/startup-failure-reasons-top/

Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. Long Range Planning, 43(2–3), 354–363. https://doi.org/10.1016/j.lrp.2009.07.010

Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. Industrial and Corporate Change, 11(3), 529–555. https://doi.org/10.1093/icc/11.3.529

Christensen, C. M., Anthony, S. D., Berstell, G., & Nitterhouse, D. (2007). Finding the Right Job for Your Product. MIT Sloan Management Review, 48(3), 38–47.

Coes, B. (2014). Critically Assessing the Strengths and Limitations of the Business Model Canvas

Collins, O. F., & Moore, D. (1970). The organization makers : a behavioral study of independent entrepreneurs. In Appleton-Century-Crofts eBooks. Appleton-Century-Crofts. http://ci.nii.ac.jp/ncid/BA25030140

Corbin, J., & Strauss, A. L. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. Qualitative Sociology, 13(1), 3–21. https://doi.org/10.1007/bf00988593

Creswell, J. W., Hanson, W. L., Plano, V. L. C., & Morales, A. G. (2007). Qualitative Research Designs. The Counseling Psychologist, 35(2), 236–264. https://doi.org/10.1177/0011000006287390

Deakins, D. (1996). Entrepreneurship and Small Firms.

Deakins, D., & Freel, M. (1998). Entrepreneurial learning and the growth process in SMEs. The Learning Organization, 5(3), 144–155. https://doi.org/10.1108/09696479810223428

Dimov, D. (2016). Toward a design science of entrepreneurship. In Advances in entrepreneurship, firm emergence, and growth (pp. 1–31). https://doi.org/10.1108/s1074-754020160000018001

Ehn, P. (2008). Participation in design things. In Participatory Design Conference (pp. 92–101). https://doi.org/10.5555/1795234.1795248

Eisenmann, T. (2021). Why start-ups fail. Harvard Business Review. https://hbr.org/2021/05/why-start-ups-fail

Felin, T., Gambardella, A., Stern, S., & Zenger, T. (2020). Lean startup and the business model: Experimentation revisited. Long Range Planning, 53(4), 101889. https://doi.org/10.1016/j.lrp.2019.06.002

Fischer, E., Reuber, A. R., & Dyke, L. S. (1993). A theoretical overview and extension of research on sex, gender, and entrepreneurship. Journal of Business Venturing, 8(2), 151–168. https://doi.org/10.1016/0883-9026(93)90017-y

Florén, H. (2003). Collaborative approaches to management learning in small firms. Journal of Workplace Learning, 15(5), 203–216. https://doi.org/10.1108/13665620310483903

Foss, N. J., & Klein, P. G. (2012). Organizing Entrepreneurial Judgment: A New Approach to the Firm.

Frank, H., & Landström, H. (2016). What makes entrepreneurship research interesting? Reflections on strategies to overcome the rigour–relevance gap. Entrepreneurship and Regional Development, 28(1–2), 51–75. https://doi.org/10.1080/08985626.2015.1100687

Frankel, L., and Racine, M. (2010) The Complex Field of Research: for Design, through Design, and about Design, in Durling, D., Bousbaci, R., Chen, L, Gauthier, P., Poldma, T., Roworth-Stokes, S. and Stolterman, E (eds.), Design and Complexity - DRS International Conference 2010, 7-9 July, Montreal, Canada. https://dl.designresearchsociety.org/drs-conference-papers/drs2010/researchpapers/43

Frayling, C. (1993). Research in Art and Design.

Gartner, W. B., Starr, J., & Bhat, S. (1999). Predicting new venture survival. Journal of Business Venturing, 14(2), 215–232. https://doi.org/10.1016/s0883-9026(97)00063-3

Ghezzi, A. (2019). Digital startups and the adoption and implementation of Lean Startup Approaches: Effectuation, Bricolage and Opportunity Creation in practice. Technological Forecasting and Social Change, 146, 945–960. https://doi.org/10.1016/j.techfore.2018.09.017

Glaser, B. G., & Strauss, A. L. (1968). The Discovery of Grounded Theory; Strategies for Qualitative Research. Nursing Research, 17(4), 364. https://doi.org/10.1097/00006199-196807000-00014

Hevner, A. R. (2007). A three cycle view of design science research. Scandinavian Journal of Information Systems, 19(2), 4. http://community.mis.temple.edu/seminars/files/2009/10/Hevner-SJIS.pdf

Hevner, March, Park, & Ram. (2004). Design science in Information Systems Research. Management Information Systems Quarterly, 28(1), 75. https://doi.org/10.2307/25148625

Hsu, D. (2007). Experienced entrepreneurial founders, organizational capital, and venture capital funding. Research Policy, 36(5), 722–741. https://doi.org/10.1016/j.respol.2007.02.022

Johnson, M. H., Christensen, C. M., & Kagermann, H. (2008). Reinventing Your Business Model. Harvard Business Review, 86(12). http://safarisoftsolutions.com/wp-content/uploads/downloads/2010/10/Harvard-Business-Review-Reinventing-Your-Business-Model.pdf

Kirzner, I.M. (1973) Competition and Entrepreneurship. University of Chicago Press, Chicago.

Ladd, T. (2018). Does the business model canvas drive venture success? Journal of Research in Marketing and Entrepreneurship, 20(1), 57–69. https://doi.org/10.1108/jrme-11-2016-0046

Lizarelli, F. L., Alviano, D. S., Antony, J., Ribeiro, R. V. C., Salentijn, W., Fernandes, M., & Campos, A. T. (2021). Critical success factors and challenges for Lean Startup: a systematic literature review. The Tqm Journal. https://doi.org/10.1108/tqm-06-2021-0177

Magretta, J. (2002). Why business models matter. Harvard Business Review, 80(5), 86–92, 133.

Mansoori, Y. (2015).Entrepreneurial methods. Licentiate disser-tation. Gothenburg, Sweden: Chalmers University ofTechnology

Mansoori, Y., & Lackéus, M. (2020). Comparing effectuation to discovery-driven planning, prescriptive entrepreneurship, business planning, lean startup, and design thinking. Small Business Economics, 54(3), 791–818. https://doi.org/10.1007/s11187-019-00153-w

March, S. T., & Smith, G. R. (1995). Design and natural science research on information technology. Decision Support Systems, 15(4), 251–266. https://doi.org/10.1016/0167-9236(94)00041-2

McGrath, R. G., & MacMillan, I. C. (1995). Discovery-Driven Planning.

Minniti, M., & Bygrave, W. D. (2001). A Dynamic Model of Entrepreneurial Learning. Entrepreneurship Theory and Practice, 25(3), 5–16. https://doi.org/10.1177/104225870102500301

Morris, M. A., Schindehutte, M., & Allen, J. C. (2005). The entrepreneur's business model: toward a unified perspective. Journal of Business Research, 58(6), 726–735. https://doi.org/10.1016/j.jbusres.2003.11.001

Mumford, A. (1995). Learning styles and mentoring. Industrial and Commercial Training, 27(8), 4–7. https://doi.org/10.1108/00197859510097045

Osterwalder, A., & Pigneur, Y. (2013). Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. John Wiley & Sons.

Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2015). Value Proposition Design: How to Create Products and Services Customers Want. John Wiley & Sons

Politis, D. (2005). The Process of Entrepreneurial Learning: A Conceptual Framework. Entrepreneurship Theory and Practice, 29(4), 399–424. https://doi.org/10.1111/j.1540-6520.2005.00091.x

Pratt, M. (2009). From the Editors: For the Lack of a Boilerplate: Tips on Writing Up (and Reviewing) Qualitative Research. Academy of Management Journal, 52(5), 856–862. https://doi.org/10.5465/amj.2009.44632557

Rae, D., & Carswell, M. (2001). Towards a conceptual understanding of entrepreneurial learning. Journal of Small Business and Enterprise Development, 8(2), 150–158. https://doi.org/10.1108/eum0000000006816

Reuber R.A., Dyke L.S., & Fischer E.M. (1990). Experiential acquired knowledge and entrepreneurial venture success. Academy of Management Best Paper Proceedings, 69–73.

Ries, E. (2011). The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. Currency.

Romme, A. (2003). Making a difference: organization as design. Organization Science, 14(5), 558–573. https://doi.org/10.1287/orsc.14.5.558.16769

Roozenburg, N.F.M. and Eekels, J. (1995) Product Design: Fundamental and Methods. 2 Edition, John Wiley& Sons Ltd., Chichester.

Sarasvathy, S. D. (2001). Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. Academy of Management Review, 26(2), 243–263. https://doi.org/10.5465/amr.2001.4378020

Sarasvathy, S. D. (2008). Effectuation: elements of entrepreneurial expertise.

Schumpeter, J.A. (1934) The Theory of Economic Development: An Inquiry into Profits, Capital, Credits, Interest, and the Business Cycle. Transaction Publishers, Piscataway.

Simon, H. A. (1996). The Sciences of the Artificial (3rd ed.). Cambridge, MA: The MIT Press.

Sonnenberg, C., & Brocke, J. V. (2012). Evaluations in the science of the artificial – Reconsidering the build-evaluate pattern in design science research. In Springer eBooks (pp. 381–397). https://doi.org/10.1007/978-3-642-29863-9_28

St-Jean, E., & Audet, J. (2012). The role of mentoring in the learning development of the novice entrepreneur. International Entrepreneurship and Management Journal, 8(1), 119–140. https://doi.org/10.1007/s11365-009-0130-7

Startup Genome (2022). The Global Startup Ecosystem Report 2022 The State of the Global Startup Economy. https://startupgenome.com/article/the-state-of-the-global-startup-economy

Sullivan, R. (2000). Entrepreneurial learning and mentoring. International Journal of Entrepreneurial Behaviour & Research, 6(3), 160–175. https://doi.org/10.1108/13552550010346587

Ulwick, A. W., & Osterwalder, A. (2016). Jobs to Be Done. Amsterdam University Press.

Vincenti, W. G. (1993). What engineers know and how they know it. In Johns Hopkins University Press eBooks. https://doi.org/10.56021/9780801839740

Wiklund, J., Wright, M., & Zahra, S. A. (2019). Conquering Relevance: Entrepreneurship Research's Grand Challenge. Entrepreneurship Theory and Practice, 43(3), 419–436. https://doi.org/10.1177/1042258718807478

Appendix

A: Project Brief

DESIGN FOR our future

TU Delft

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT
Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME
Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy".
Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name: Mintjes
initials: F.B.W. given name: Frank
student number:
street & no.:
zipcode & city:
country:
phone:
email:

Your master programme (only select the options that apply to you):
IDE master(s): ( ) IPD ( ) DfI (★) SPD
2nd non-IDE master:
individual programme: - - (give date of approval)
honours programme: ( ) Honours Programme Master
specialisation / annotation: ( ) Medisign ( ) Tech. in Sustainable Design ( ) Entrepeneurship

SUPERVISORY TEAM **
Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair: Ir. R.J.H.G. van Heur dept. / section: HCD
** mentor: MSc. J. Coelen dept. / section: MOD
2nd mentor: Luuk Verhoeven
organisation: Stippl
city: Amsterdam country: The Netherlands
comments (optional)

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..

Second mentor only applies in case the assignment is hosted by an external organisation.

Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

TU Delft

Procedural Checks - IDE Master Graduation

APPROVAL PROJECT BRIEF
To be filled in by the chair of the supervisory team.

chair Ir. R.J.H.G. van Heur date - - signature

CHECK STUDY PROGRESS
To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair.
The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: EC
Of which, taking the conditional requirements into account, can be part of the exam programme EC
List of electives obtained before the third semester without approval of the BoE

( ) YES all 1st year master courses passed
( ) NO missing 1st year master courses are:

name date - - signature

FORMAL APPROVAL GRADUATION PROJECT
To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **.
Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: ( ) APPROVED ( ) NOT APPROVED
Procedure: ( ) APPROVED ( ) NOT APPROVED
comments

name date - - signature

Empowering Entrepreneurs in Creating New Value Propositions — project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 13 - 02 - 2023 — 17 - 07 - 2023 end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

A few years back, one of the founders of Stippl noticed a personal pain point. He realized that creating a perfect travel plan involved a lot of tasks such as taking notes in your phone, saving multiple hotel websites, creating an Excel sheet for your travel itinerary, and having a separate packing list. It was quite cumbersome to do all these tasks individually. Upon researching tools to solve this problem, there were hardly any options available, and the few that existed did not work well. So the founders of Stippl seized the opportunity to create an all-in-one travel app that allows users to create their own journey and caters to every aspect of travel planning, whether it be a long vacation or a weekend getaway. In addition to trip planning, Stippl offers various other features such as budget management, bucket list creation, and packing lists. Their focus is on creating an excellent planning tool with a user-friendly interface and discovery functions, combined with a social platform that enables users to share and co-create their travel experiences. This unique combination sets Stippl apart from its competitors, and since its launch in the Netherlands in 2022, the app has already gained over 10.000 users. In September 2022, Stippl received over €400.000 in funding to continue improving its services.

The company's current focus is on capturing a large user base in the travel industry by prioritizing user experience above all else. As main reason because most of their business-to-consumer revenue models rely on a large scale of users for it to work. However, revenue on short term is also important and therefore Stippl wants to discover various business-to-business revenue models that can build on the company's existing proposition and offer additional features to end-users.

space available for images / figures on next page

introduction (continued): space for images

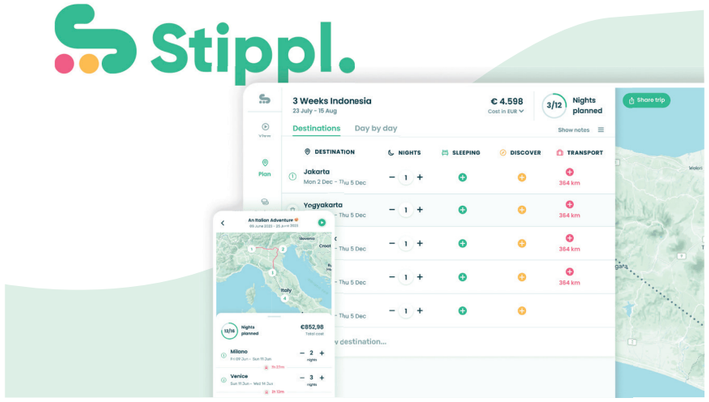


image / figure 1: An overview of the product of Stippl

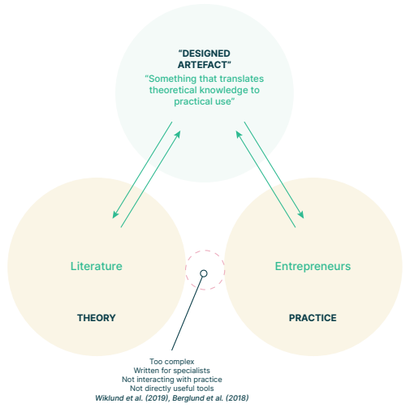


image / figure 2: Project Direction based on the model of Wiklund et al (2019) and Berglund et al (2018)

Personal Project Brief - IDE Master Graduation

TU Delft

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Literature describes numerous methods for discovering new value propositions and revenue models. Some well-known examples of frameworks are the "Business Model Canvas" by Osterwalder (2005) or the "Lean Startup" by Ries (2011). However, many times an entrepreneurship journey is based on many context factors which makes just one method often not suitable. Furthermore, these methods are many times not proven to be successful. To solve this problem, an entrepreneur may benefit from reading more scientific literature to inform their decision-making. However, entrepreneurs are typically pressed for time and may lack an academic background in general. Therefore, entrepreneurship literature is often not suitable because of its complexity and lack of direct practical use.
Thus researchers try hard to get entrepreneurs the best resources for startup success, but a lot of entrepreneurs do not touch this work. This phenomenon is recognized as a common issue in entrepreneurship and described in literature as the "research-practice gap" by Wiklund et al. (2019). Reasons for this is that it's often too complex, written for specialists, not co-created with entrepreneurs and can not directly be put to use. Berglund et al. (2018) suggests that there should be a 'third body' that sits between theory and practice and could be used to translate between the two worlds. This 'third body' could be freely designed for entrepreneurs to understand while still using theoretical grounded research.
The 'third body' concept can be approached in various ways. While books, blogs and canvasses are the most common examples of designed artefacts, business incubators can also be seen as a way to transfer knowledge from theory to practice. These incubators offer structured programs, peer-to-peer learning and expert mentorship. Which could as a whole be seen as a designed artefact.
However, it remains crucial to consider whether entrepreneurs will actually want to utilize this theoretical knowledge. Therefore, the question remains: "What do entrepreneurs both need and want to receive in order to create new business propositions in a digital startup?". This thesis should aim to identify the specific needs and desires of entrepreneurs in order to create an effective and useful designed artefact that can contribute to their success.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

Identify the specific needs and desires of entrepreneurs regarding knowledge transfer from theoretical literature to practical use and create a useful designed artefact that can contribute to their success in digital startups.

This thesis researches the low adoption of entrepreneurial methods in creating new value propositions in digital startups. It does so by applying two methods. First it will conduct qualitative research in the form of interviews with entrepreneurs to synthesize reasons for low adoption of entrepreneurial methods. Furthermore, it researches which already designed artefacts are used by entrepreneurs.

Second, it will use a ´research through design´ approach by using auto-ethnography to research first-hand the process that occurs when creating a new value proposition for Stippl as 'digital start-up'. In this process, a new designed artefact will be tested and optimized.

Expected outcomes of this thesis will be a(n) (in)validated new value proposition for Stippl. A report into the specific needs and desires of entrepreneurs in digital startups. Lastly, I will contain a designed artefact that could contribute to success in the challenge of creating a new value proposition within digital startups.

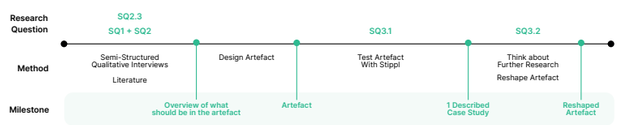
Personal Project Brief - IDE Master Graduation

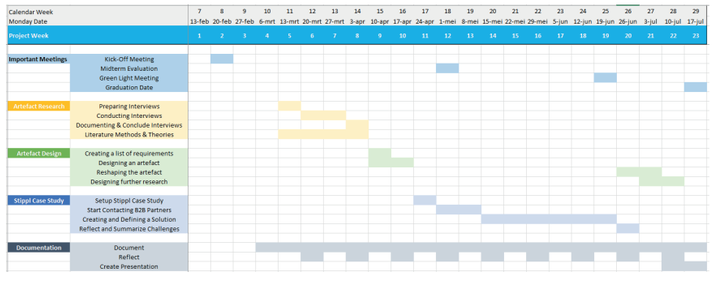
TU Delft

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 13 - 2 - 2023 17 - 7 - 2023 end date



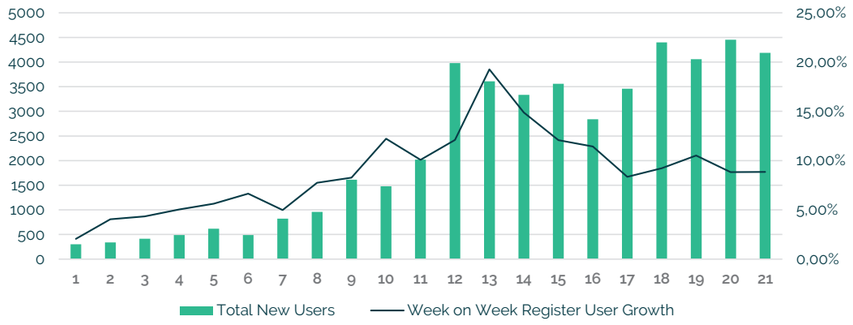


As described before the main research question of the project will be "Identify the specific needs and desires of entrepreneurs regarding knowledge transfer from theoretical literature to practical use and create a useful designed artefact that can contribute to their success in digital startups."

This question could be answered by using 2 perspectives. First semi-structured qualitative interviews with entrepreneurs will be conducted to get an answer on the following questions:
SQ1.1: How do entrepreneurs gather knowledge when wanting to create a new value proposition in a startup?
SQ1.2: Which methods and tools do entrepreneurs use when wanting to create a new value proposition in a startup?
SQ2.1: What kind of mistakes do entrepreneurs make when wanting to create a new value proposition?
SQ2.2: What kind of information do entrepreneurs want to create a new value proposition?

After the interviews follows a general understanding in what entrepreneurs seek in such an artefact and how to make this artefact useful. This latter part could be supported by reading literature which indicates what could be useful.
SQ2.3: What is, according to literature, factors that contribute to successfully creating a new business proposition?

With an understanding in what to create as an artefact, the project continues by designing an artefact and using a research through design technique to use this artefact within the case of Stippl. This will be conducted using auto-ethnography. After this case-study the project could be finalized by reshaping the artefact and researching ways to further design a study that could measure the success of the artefact.



B: Interview Questions

1. Introduction
2. Background information
   a. What is your experience as an entrepreneur?
   b. What does your startup do?
3. Open-ended questions

Can you tell me something about when started as an entrepreneur? What did you do?

How did you know what to do?

Is there anything said about resources, which and what?

What resources did you use to enhance your skills and knowledge?

How often did you use these resources?

How did you use these resources?

Do you still use resources and what kind of resources do you turn to?

Books, frameworks, blogs, podcasts, mentors, experts, peer to peer

What was really valuable in your process and would you recommend, why?

What was not really useful?

Let's talk about value proposition design.

Did you already design something like this for your business?

Can you tell me a bit about how that went?

Is a certain thing in this process really valuable?

Why is this valuable?

What did you think was really valuable, but wasn't? And why?

Did something unexpected occur, and what?

Were there some challenges in this process?

Is there any knowledge you have now that could've solved these challenges?

What would you advice to your past self that would make your process go smoother?

In what format would you think your past self would learn the best?

Which source of information do you think contributes most to startup success?

4. Closing Questions

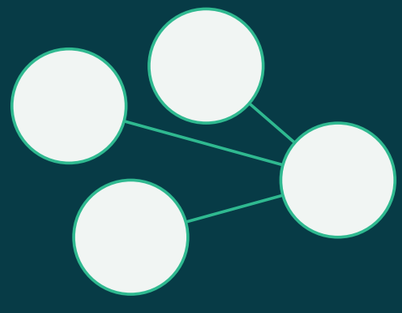
Is there anything else you'd like to share about your experience gaining knowledge as an entrepreneur?

Do you have any advice for other entrepreneurs who are looking to improve their knowledge and skills?

Frank Mintjes

How to design learning tools that entrepreneurs actually use?

Implementing 4 elements to incease the success rate of your learning tool.



Introduction

Apiendis iur repero etur? Quid maios quatat voluptas aut ea voluptatem quia sumquat.

Itaturitio. Sequatiis et es deni dolupti bearchil id molupis delest, non nos sitaest hillis est, quid maximpores electum eaquasi ipit re ex et repratus, tecaboreptat ut andigni iditias pereriatet ut aut eatem nos earum sinvell atinullab ius atibus sim acipsus.

Estiunt dolorem odignis intion et occus debistiis aut explani minveli quaturest autem doluptatur ma nus vellaboritet optas aut lam faceaquis si int volutec earchil ium que pratur abo. Nam quias aut ipsa nonsed mod qui blautatibus aut eiciumquia doluptatur?

Exeressim fuga. Tem fuga. Riatinctet, corposseque rem aut ut mi, ut maximus cipsape ritius mosam fugitae pro

The 4 Elements

1. Entrepreneurial Learning
2. Know your Audience
3. Action-Oriented Tools
4. Reflection

3

3. Action-Oriented Tools

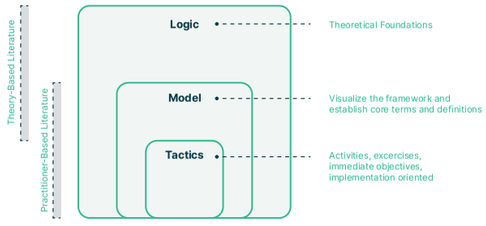
Entrepreneurs are always busy. That is why tools that support them in their process, needs to be concise and direct put to action. Entrepreneurs talk multiple times about this desire, which they also refer to as 'action-oriented' tools. This article displays what 'action-oriented' tools are, how to design your tool to be 'action-oriented', good examples of 'action-oriented' tools and finally a way to validate with entrepreneurs if your tool is 'action-oriented'.

What are action-oriented tools?

In short:

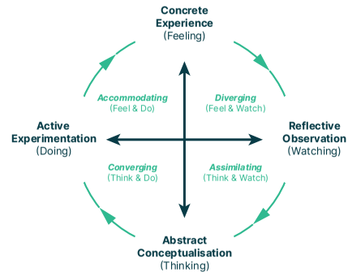
- Provide actionable elements. These could consist of: activities, exercises, immediate objectives or something related.
- Provide a short introduction and let the entrepreneur move quickly into the 'do' part of your learning tool.
- Offer real-world examples to support your learning tool. If offers perspective on how to use the tool and support the tool in trustworthiness.

Action-oriented tools are tools which have an element which can be directly put to use. Figure x shows how Mansoori (2018) defines a well designed learning tool. This tool consists of Logic, Model and Tactics. As a scholar, you already focussed on the Logic, which is basically the theoretical foundation of your learning tool. It outlines the context of your tool and the theoretical backing. At some point you created a Model. Which can be seen as the step-by-step method, for example. This part also contains an agreement on the used definitions and an overall vision of the method. This part can be seen as the 'why' and 'how' of the learning tool. However, entrepreneurs have a desire to implement something right away. Thus, direct activities, exercises or immediate objectives should be added to let the entrepreneur implement something right away. It also provides the entrepreneur with grip on the process.

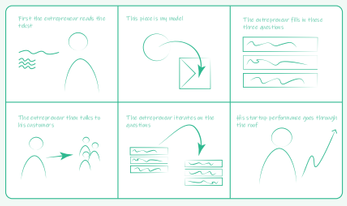


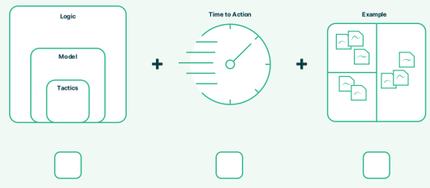
To elaborate on this process, a brief introduction into entrepreneurial learning is provided. Entrepreneurial learning is the process in which an entrepreneur learns, which is experiential by nature. This means an entrepreneur has to experience something to learn, rather than only gather knowledge. To continue, this can be explained with Kolb's (1984) visualisation on experiential learning. It consists of 4 stages in learning and one can start at either one of these 4. The stages are: Active Experimentation (doing), Concrete Experience (feeling), Reflective Observation (watching) and Abstract Conceptualisation (thinking). Entrepreneurs prefer to be in the 'Accommodating' spot, where they can really work on their startup. Every moment not spend in that part is hard to motivate for entrepreneurs. That is why a learning tool should be concise and guide the entrepreneurs directly into the 'doing' spot, highlighted by the letter A.

The third important insight is entrepreneurs have a desire for real-world examples. This supports the learning tool in conveying the message. A reason for this is the nature of entrepreneurs to only trust individuals who went through the same process. Since it is a very dynamic environment which is very context based. Seeing how something worked in real-life offers perspective for the entrepreneur to understand the method and support the trustworthiness of the tool.



How do I create action-oriented tools?





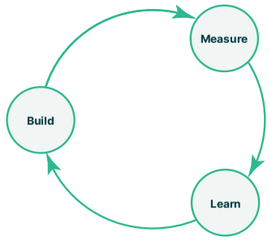
Create a step-by-step storyboard of how an entrepreneur will use your learning tool.

1. Grab a piece of paper and divide it into 6 boxes
2. For every box write a step in using your tool. Make sure to add visualisations what the entrepreneur actually does during this step
3. Think about the points of contact when using your tool. When and how often is the entrepreneur using the tool?

Reflective Questions to ask yourself when creating a learning tool:

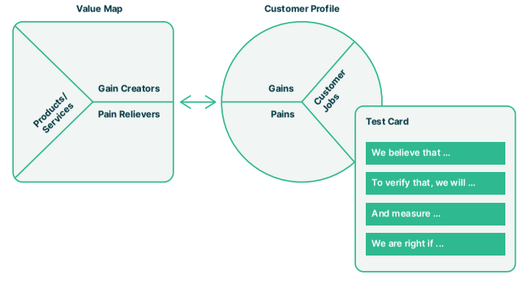
1. Does my model contain theoretical backing, an overview of the method with explanation of the general terms and finally does it contain something to 'do' right away? For example, exercises, activities or immediate objectives?
2. Is the entrepreneur able to use my actionable points right away? Is the background information necessary to use the learning tool?
3. Does my learning tool contain a real-world example? For example, a pre-filled version of my tool with an example company?

Examples of action-oriented tools



3 Different Types of MVPs

- **The Video MVP**
  Create a video to show to intented product and see how people respond.
- **The Concierge MVP**
  Focus on one single customer and adapt to product to this customer.
- **The Wizard of Oz MVP**
  Pretend that you have already developed the technical solution, while still operating it by humans.



The Lean Startup - Ries (2011)

What is it?

The Lean Startup is a method to validate your business assumptions before creating your product in short iterative loops. The entrepreneur quickly builds a 'minimal viable product' and starts to measure if this product idea generates the desires outcomes. It provides examples how to use it and how it worked for various other companies.

How is it 'action-oriented'?

The build-measure-learn loop shows the basic model how to test and validate your company product based on short iterative loops. It does not only give an overview of the method, but also provides 3 ways to create this minimal viable product and test it right-away. With these 3 ways the reader is able to implement this method directly into its own startup. Furthermore, it describes several real-world examples in the book of how this works for well-known companies.

The Value Proposition Canvas - Osterwalder (2014)

What is it?

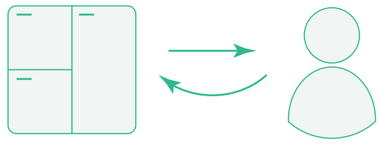
The Value Proposition Canvas is a method to investigate your customer jobs/pains and gains. Afterwards, it offers you tools to create a fitting product based on the needs of the customer. This way you can create user-centric products. The book also provides a test-sheet to validate the assumptions you make about the customer. In this sheet, you can fill in your assumption and determine an indicator to measure the outcome of your experiment.

How is it 'action-oriented'?

A canvas has as an advantage that the entrepreneur will have the urge to fill it in right away. This format fits the need to directly 'do' something. Furthermore, the test cards provide a way to immediately start testing the hypothesis that you created in the canvas.

Finally, the book offers various best-practices to fill in the canvas. Moreover, it offers various examples how other entrepreneurs validated their businesses.

How do I validate my learning tool?



1. Make a simple verion (this will be a first draft) of your model. Try to use the language of the entrepreneur
2. Once you have your prototype, it's time to map out the specific tasks that you want to test with the entrepeneur. Use the step by step stoyboard to highlight parts of the user-journey you want to test or ask questions about.
3. Think of how and where you want the entrepeneur to test your model. Do you want to be present? Do you want them to speak aloud?
4. Think of who you want to use for user testing. Try to find someone who might also use your model in practice.
5. Work together with your user, but try not to guide them too much through the process. By lusing open-ended tasks you will lead your user to show genuine reactions.
6. Prepare metrics on which part of your model you want feedback and how. Ask for example for experience, likes and dislikes, usability etc.
7. Facilitate the co-creation with an entrepreneur within your target group. You can make use of the questions

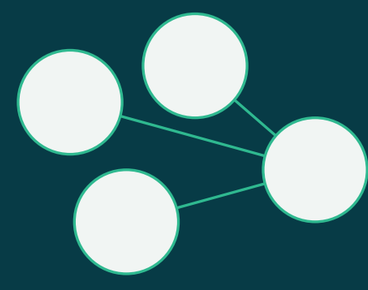
10 questions to ask the entrepreneur:

1. Wat is your general reaction to the model?
2. What is your opinion on step x and why could this model help you?
3. What are positive points of step x?
4. What could be improved of step x?
5. What kind of action or thoughts do you get by step x?
6. Did this model fit in the process of developing your company?
7. Where in the process would you use this model?
8. Did the real-life example fit the process you go through with your company?
9. Do you think you would need step x to continue with your organisation or to solve a question/problem you might have?
10. What could be add to this model?

Frank Mintjes

How to design learning tools that entrepreneurs actually use?

Implementing 4 elements to incease the success rate of your learning tool.



Introduction

Apiendis iur repero etur? Quid maios quatat voluptas aut ea voluptatem quia sumquat.

Itaturitio. Sequatiis et es deni dolupti bearchil id molupis delest, non nos sitaest hillis est, quid maximpores electum eaquasi ipit re ex et repratus, tecaboreptat ut andigni iditias pereriatet ut aut eatem nos earum sinvell atinullab ius atibus sim acipsus.

Estiunt dolorem odignis intion et occus debistiis aut explani minveli quaturest autem doluptatur ma nus vellaboritet optas aut lam faceaquis si int volutec earchil ium que pratur abo. Nam quias aut ipsa nonsed mod qui blautatibus aut eiciumquia doluptatur?

Exeressim fuga. Tem fuga. Riatinctet, corposseque rem aut ut mi, ut maximus cipsape ritius mosam fugitae pro

The 4 Elements

1. Entrepreneurial Learning
2. Know your Audience
3. Action-Oriented Tools
4. Reflection

3

Action-Oriented Tools

Introduction

Entrepreneurs are always busy. That is why tools that support them in their process, needs to be concise and direct put to action. Entrepreneurs talk multiple times about this desire, which they also refer to as ´action-oriented' tools. This article displays what 'action-oriented' tools are, how to design your tool to be 'action-oriented', good examples of 'action-oriented' tools and finally a way to validate with entrepreneurs if your tool is 'action-oriented'.

What are action-oriented tools?

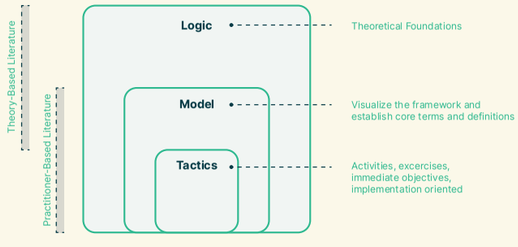
Action-oriented tools are tools which have an element which can be directly put to use. Figure x shows how Mansoori (2018) defines a well designed learning tool. This tool consists of Logic, Model and Tactics. As a scholar, you already focussed on the Logic, which is basically the theoretical foundation of your learning tool. It outlines the context of your tool and the theoretical backing. At some point you created a Model. Which can be seen as the step-by-step method, for example. This part also contains an agreement on the used definitions and an overall vision of the method. This part can be seen as the 'why' and 'how' of the learning tool. However, entrepreneurs have a desire to implement something right away. Thus, direct activities, exercises or immediate objectives should be added to let the entrepreneur implement something right away. It also provides the entrepreneur with grip on the process.

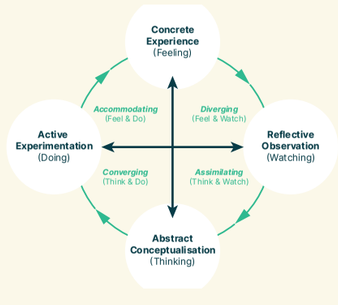
To elaborate on this process, a brief introduction into entrepreneurial learning is provided. Entrepreneurial learning is the process in which an entrepreneur learns, which is experiential by nature. This means an entrepreneur has to experience something to learn, rather than only gather knowledge. To continue, this can be explained with Kolb's (1984) visualisation on experiential learning. It consists of 4 stages in learning and one can start at either one of these 4. The stages are: Active Experimentation (doing), Concrete Experience (feeling), Reflective Observation (watching) and Abstract Conceptualisation (thinking). Entrepreneurs prefer to be in the 'Accommodating' spot, where they can really work on their startup. Every moment not spend in that part is hard to motivate for entrepreneurs. That is why a learning tool should be concise and guide the entrepreneurs directly into the 'doing' spot, highlighted by the letter A.

The third important insight is entrepreneurs have a desire for real-world examples. This supports the learning tool in conveying the message. A reason for this is the nature of entrepreneurs to only trust individuals who went through the same process. Since it is a very dynamic environment which is very context based. Seeing how something worked in real-life offers perspective for the entrepreneur to understand the method and support the trustworthiness of the tool.

In short:

- Provide actionable elements. These could consist of: activities, exercises, immediate objectives or something related.
- Provide a short introduction and let the entrepreneur move quickly into the 'do' part of your learning tool.
- Offer real-world examples to support your learning tool. If offers perspective on how to use the tool and support the tool in trustworthiness.

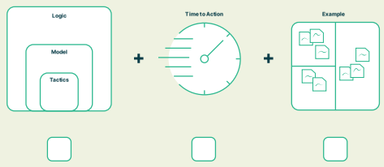




How do I create action-oriented tools?

Create a step-by-step storyboard of how an entrepreneur will use your learning tool.

1. On the right are six boxes
2. For every box write a step in using your tool. Make sure to add visualisations what the entrepreneur actually does during this step
3. Think about the points of contact when using your tool. When and how often is the entrepreneur using the tool?

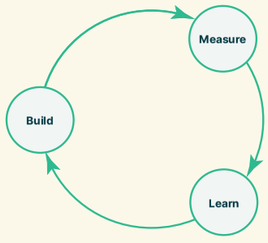


Reflective Questions to ask yourself when creating a learning tool:

1. Does my model contain theoretical backing, an overview of the method with explanation of the general terms and finally does it contain something to 'do' right away? For example, exercises, activities or immediate objectives?
2. Is the entrepreneur able to use my actionable points right away? Is the background information necessary to use the learning tool?
3. Does my learning tool contain a real-world example? For example, a pre-filled version of my tool with an example company?

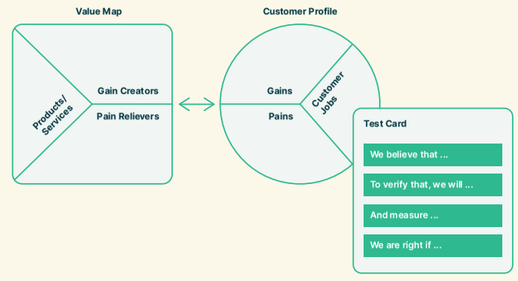
The Storyboard

Examples of action-oriented tools



3 Different Types of MVPs

- **The Video MVP**
  Create a video to show to intented product and see how people respond.
- **The Concierge MVP**
  Focus on one single customer and adapt to product to this customer.
- **The Wizard of Oz MVP**
  Pretend that you have already developed the technical solution, while still operating it by humans.



The Lean Startup - Ries (2011)

What is it?

The Lean Startup is a method to validate your business assumptions before creating your product in short iterative loops. The entrepreneur quickly builds a 'minimal viable product' and starts to measure if this product idea generates the desires outcomes. It provides examples how to use it and how it worked for various other companies.

How is it 'action-oriented'?

The build-measure-learn loop shows the basic model how to test and validate your company product based on short iterative loops. It does not only give an overview of the method, but also provides 3 ways to create this minimal viable product and test it right-away. With these 3 ways the reader is able to implement this method directly into its own startup. Furthermore, it describes several real-world examples in the book of how this works for well-known companies.

My Comments

The Value Proposition Canvas - Osterwalder (2014)

What is it?

The Value Proposition Canvas is a method to investigate your customer jobs/pains and gains. Afterwards, it offers you tools to create a fitting product based on the needs of the customer. This way you can create user-centric products. The book also provides a test-sheet to validate the assumptions you make about the customer. In this sheet, you can fill in your assumption and determine an indicator to measure the outcome of your experiment.

How is it 'action-oriented'?

A canvas has as an advantage that the entrepreneur will have the urge to fill it in right away. This format fits the need to directly 'do' something. Furthermore, the test cards provide a way to immediately start testing the hypothesis that you created in the canvas.

Finally, the book offers various best-practices to fill in the canvas. Moreover, it offers various examples how other entrepreneurs validated their businesses.

My Comments

10 questions to ask the entrepreneur:

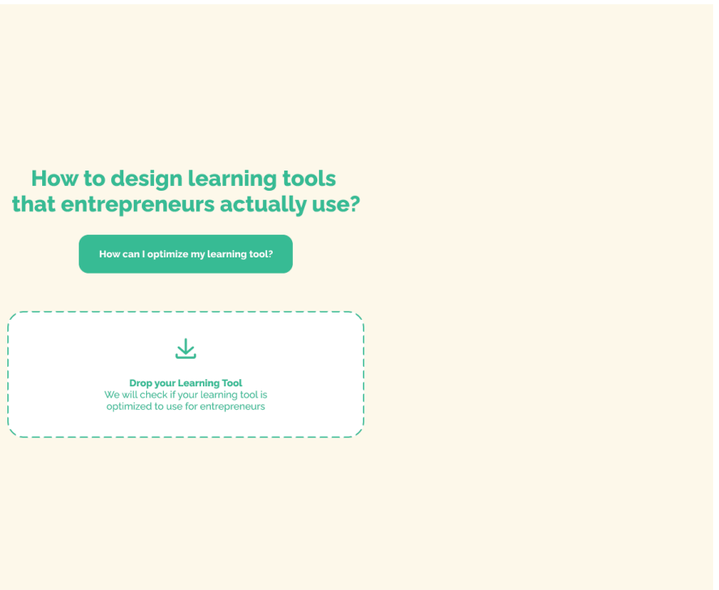
1. Wat is your general reaction to the model?
2. What is your opinion on step x and why could this model help you?
3. What are positive points of step x?
4. What could be improved of step x?
5. What kind of action or thoughts do you get by step x?
6. Did this model fit in the process of developing your company?
7. Where in the process would you use this model?
8. Did the real-life example fit the process you go through with your company?
9. Do you think you would need step x to continue with your organisation or to solve a question/problem you might have?
10. What could be add to this model?

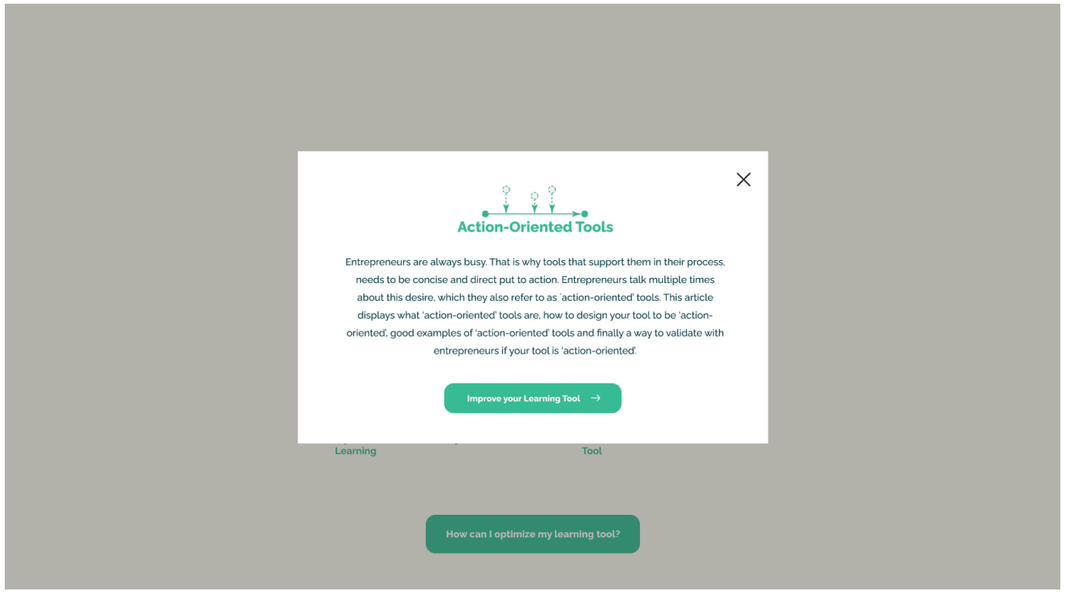
How do I validate my learning tool?

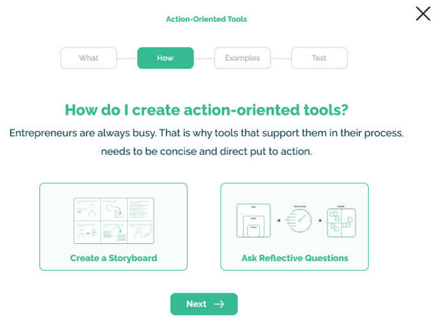
1. Make a simple verion (this will be a first draft) of your model. Try to use the language of the entrepreneur
2. Once you have your prototype, it's time to map out the specific tasks that you want to test with the entrepeneur. Use the step by step stoyboard to highlight parts of the user-journey you want to test or ask questions about.
3. Think of how and where you want the entrepeneur to test your model. Do you want to be present? Do you want them to speak aloud?
4. Think of who you want to use for user testing. Try to find someone who might also use your model in practice.
5. Work together with your user, but try not to guide them too much through the process. By lusing open-ended tasks you will lead your user to show genuine reactions.
6. Prepare metrics on which part of your model you want feedback and how. Ask for example for experience, likes and dislikes, usability etc.
7. Facilitate the co-creation with an entrepreneur within your target group. You can make use of the questions

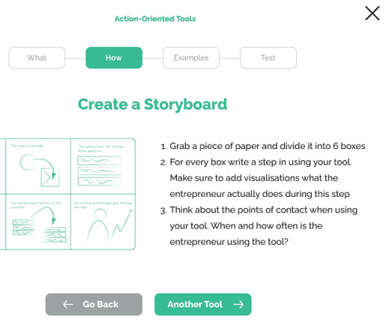
The Answers of the Entrepreneur.

3. The Online Tool





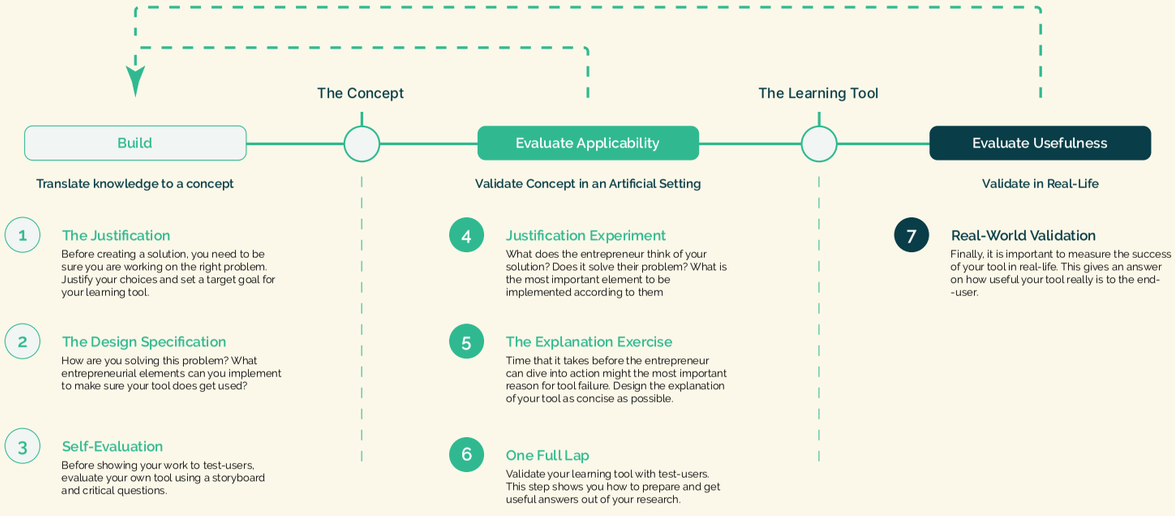




D: The Workbook

Introduction

This workbook provides 7 steps to build and evaluate your learning tool for entrepreneurs. It uses design science principles, combined with specific elements for entrepreneurship research. By using these 7 steps, you will get a better understanding of how your tool will perform among entrepreneurs and it will give guidance in how to validate your tool with end-users. Step 1-3 dive into the reason why your tool exists and how to implement several elements that are important when creating a tool for entrepreneurs. Step 4-6 will show you how to evaluate your concept tool in an artificial setting. This way you can gather feedback and iterate fast with honest feedback of entrepreneurs. As a result, you will get feedback on how your tool performs relating to your original design goal. In step 7, guidance is provided how to evaluate your tool in real-life. It provides support in setting up a real-world experiment.



1 The Justification

Goal: This step creates the basis for your learning and sets the design objective to proceed with.

- Understand the problem being solved and justify the need of your learning tool.
- First, identify the target audience and their level of entrepreneurial experience. Consider the desire of the entrepreneur to be guided step-by-step.
- Define the specific problem the entrepreneur is facing and validate its significance. Be as specific as possible.
- Determine how the tool will address and solve the entrerepeneur's problem.
- Define essential elements and research conclusions for tool implementation. Keep it liimited to the most important conclusions or elements.

Who is your audience?

Describe the entrepreneur:

Level of entrepreneurship experience:

Need for step-by-step guidance:

What is the problem of this entrepreneur?

Describe the problem:

Side effects that need to be avoided:

What is the goal of this learning tool?

How does your research solve this problem:

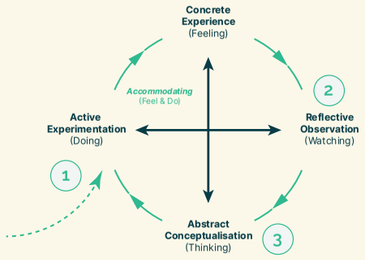
Essential elements/frameworks to use:

Build

2 The Design Specification

Goal: Specify your learning tool to match the preferences of entrepreneurs and optimize learning.

- Entrepreneurs learn by experience. This can be visualized into the 4 stages shown below. Your tool must address all of these 4 stages to optimize the learning process.
- The preferable spot of entrepreneurs is in the top-left corner. The feel & do or accommodating spot.
- For the optimal learning experience while using your tool: enable immediate action for entrepreneurs (1), guide the entrepreneurs in reflection (2) and provide real-world examples to enhance understanding (3).



1 Design Action-Oriented

Describe the exercises/activites/objectives the entrepreneur can use directly:

2 Design Reflection

Over what timespan is the tool used: (Days/Weeks/Months/Years)

How often does the entrepreneur reflect on the tool:

Describe how the entrepreneur reflects on the tool:

3 Use Examples

Use an example to display how your learning tool would work in context. It helps to choose an example which already has shown to be successful in an entrepreneurial setting. This makes the tool more trustworthy.

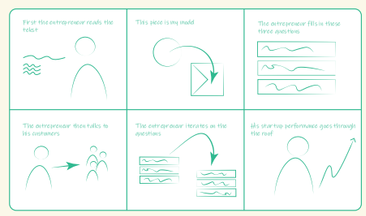
Example used to explain context:

Build

3 Self-Evaluation

Goal: Check if you have thought through all of the aspects regarding your learning tool.

- Before testing the tool with entrepreneurs, it is important to check if the tool is ready to be used. With this step, you will dive deeper into your learning tool and get new perspectives in how your tool would perform in context.



1 Create a Storyboard

To check how the tool performs, it is important to create a storyboard of the intented use of the tool. Begin by giving every step a title and carefully thinking about every detail the entrepreneur must perform within the tool. Also think about the time that an entrepreneur needs to spend on each step.

2 Define Points of Information (I)

Afterwards, it is important to define the points of information within the storyboard. These are points where a piece of information is provided to the entrepreneur to explain the tool. Think about every time you provide the entrepreneur with context on how to use your tool.

3 Define Points of Reflection (R)

Finally, it is important to note the points of reflection of your tool. These are points where the entrepreneur reflects on its previous work. If their is no point of reflection, note the steps where a point of reflection is possible. By using reflection in your tool, you will optimize the learning process of the entrepreneur and therefore make your tool more successful.

Build

See other side

Title: i R	Title: i R	Title: i R
Title: i R	Title: i R	Title: i R

Build

4 Justification Experiment

Goal: Validate the clarity of your tool together with the need to solve this problem.

- This first experiment is crucial for the success of the tool, as it must have a clear purpose.
- Seek the opinion of the entrepreneur to ensure clarity on the problem being solved and how the tool addresses it.
- Validate if the problem is significant enough to warrant solving, considering the option of narrowing the tool's scope if necessary.
- Prioritize solving one problem effectively rather than attempting to address multiple problems with mediocre results.
- Encourage honest feedback from entrepreneurs during tool usage to uncover any shortcomings or areas for improvement.

1 Ask the entrepreneur what problem this could solve

Give the entrepreneur 5 minutes to look at your tool and read the information provided. Afterwards, ask the entrepreneur what the purpose of this tool is and what problem it could solve. Write it down and reflect on your previous stated answer in the 'justification card'.

Answer of the entrepreneur:

2 What is the entrepreneurs current situation?

Now check the current situation of the entrepreneur. Does the entrepreneur really have this problem and are there already fitting solutions out there. Also ask what the entrepreneur really needs to solve its problem. Reflect back on your answers in the 'justification card' and iterate if necessary.

What are alternative solutions?

What does the entrepreneur do now?

What is absolutely necessary to solve this problem?

7

Evaluate Applicability

5 Explanation Exercise

Goal: Optimize the explanation of your tool to match the action-oriented view of entrepreneurs.

- Lengthy and complex information can hinder the effectiveness of entrepreneurial tools by delaying action.
- Entrepreneurs prefer tools that are self-explanatory and minimize the need for extensive reading.
- Limit the amount of text in the tool to allow for a smooth user experience.
- Conduct exercises to test the necessary amount of information required to guide the entrepreneur in using the tool.
- Additional supplementary information can be provided on separate pages, but it should not be mandatory to read.

Use the language of your target audience:

- It is important that your audience understands the language of your tool. An addition to this exercise is to think of different words to explain your tool to your audience. Afterwards you can check which words worked best to convey the message.

1 Create 3 explanations for every step (use more words every time)

Goals and Objectives

Fill in the goals and objectives of your startup. Make sure to keep it concise and focussed.

Goals and Objectives

Fill in the goals and objectives of your startup. Remember to maintain conciseness and focus throughout your response. Your goals and objectives should be realistic and attainable, considering the available resources

Goals and Objectives

Fill in the goals and objectives of your startup by outlining the specific areas or industries you plan to target. Consider factors such as market demand, competition, and your unique value proposition. Describe your intended impact, whether it's solving a particular problem, fulfilling a need, or disrupting an existing market.

2 First give the entrepreneur the least amount of words. If the entrepreneur cannot procceed, provide the second card.

Evaluate Applicability

6 One Full Lap

Goal: Gather feedback on your learning tool by testing with entrepreneurs.

- Prepare the tool and select a focus group for effective testing with the entrepreneur. Consider the specific details you want to evaluate during the test.
- Seek honest opinions from the entrepreneur rather than seeking feedback that aligns with your preferences. Use this feedback to improve the tool and increase its likelihood of future usage.
- Ask yourself the following questions to prepare:
  - How and where do you want to test your model?
  - Do you want to be present?
  - Do you want the entrepreneur to speak aloud?

5 Questions to ask the Entrepreneur:

- Where in your process would you use this tool?
- Which steps seem irrelevant in this tool?
- Which step was difficult to proceed with?
- Which step added a lot of value in your process?
- Which step was unclear?

1 Choose your Focus Group

Choose the entrepreneurs you want to test with. Try to find a close resemblance to the user who will use your tool in practice. Use the storyboard tool in step 3 to map out specific tasks or steps that you want to test.

2 Let the Entrepreneur use your Tool

Work together with the user, but try not to guide them too much through the process. By lusing open-ended tasks, you will lead your user to show genuine reactions.

3 Observe and make Notes

Observe while your test-user is using your tool. Use the storyboard on the back to define the steps that the entrepreneur takes while using your tool. Also rate the steps on their difficulty to use, the time that it takes before the user starts to take action and give the step an overall grade. This way you remember where to improve your tool.

Evaluate Applicability

See other side

Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○	Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○	Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○
Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○	Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○	Difficulty of use: ○ ○ ○ ○ ○ Grade: Time before use: ○ ○ ○ ○ ○

Evaluate Applicability

7 The Justification

Goal: This step validates the usefulness of your tool without you interfering in the process.

- Conduct a long-term study to validate the actual usefulness of the tool.
- Provide the learning tool to a group of entrepreneurs without interference in the process.
- Establish and track key performance indicators (KPIs) to measure the tool's effectiveness.
- Formulate specific questions to assess the impact and value of the tool.
- Evaluate the results of the study to gather insights and make any necessary improvements to the tool.

1 Choose your Focus Group

Choose the entrepreneurs you want to test with. Try to find at least three entrepreneurs with different backgrounds, within the boundary limit of your target audience.

2 Set KPIs and a Timeframe

Determine the measures how you want to test your tool. This could also be a survey containing questions that an entrepreneur needs to fill in. Also determine the timeframes in which you want to test these KPIs over time.

3 Test the KPIs and Evaluate

Measure your KPIs over time and evaluate your learning tool. These KPIs should give an indication of the actual usefulness of the tool. A qualitative study could provide deeper information on the results of the KPIs. Use these results to iterate on the learning tool if necessary.

Evaluate Usefulness