Agile future creation methodology. Innovation method for startups to build future-proof solutions

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Abstract

The startup industry is a hub of innovation; however, the majority of new ventures fail. Current startup innovation methods do not address the underlying causes of this failure trend. One of the missing directions in the current startup innovations method is the focus on future direction and vision. It has been found that integrating various methods to cover both the creative and business aspects of a venture can help achieve better outcomes. The integration of different methods covers a wider point of view. To that, adding Future Thinking can help reframe the innovation process in a better way. It is a future-proof approach that can help analyze the changes in society to find weak signals or drivers. That can present potential opportunities for businesses to focus. As an outcome of this research Agile Future Creation toolkit is introduced as a method to address the shortcomings identified. It provides startups with an innovative method to explore future possibilities in a more planned and efficient manner. The toolkit uses a mixed approach of Future Thinking, Design Thinking, and Agile practices bestowing more hard and soft skills to guide startups to success.

Keywords: Agile; Future Thinking; Innovation; Opportunities; Startups.

Introduction

1.1. Startup

Startup: how can we define it? We have multiple definitions on the internet. Eric Ries (Ries, 2011) defined it as a human institution designed to create new products and services under conditions of extreme uncertainty. Or a stage of the organization "is a temporary status—a term for an organization whose vital objective is to launch a new business model or open up a new market" (Dominguez, 2017) and many more if you start an internet search about it.

The startups are many times linked to the beginning of Silicon Valley. These tech companies surrounding Stanford University had a huge impact on technological development. However, the real rise of the startups didn't really happen till the end of the 1990s when the dot com bubble hit the market (Prezm, 2018). The availability of the internet and access to technology created immense opportunities for companies to grow rapidly. These startups have now a huge impact on the world. For example, the world's largest media company, Facebook, has no content creators on their payroll. The world's largest hotel chain, Airbnb, owns no hotels. The world's largest taxi company, Uber, doesn't own a single taxi. And so forth. Technology companies have shaken many industries and captured markets from traditional companies (Alto Starting Up, n.d.).

To dive deeper into the destination all of the startups share some common characteristics:

1. **Innovation:** The idea of innovation has multiple meanings taken in different contexts. From the consumer's point of view, it can be experiencing something new in product technology or a use case. It isn't necessary that innovation can happen only by incorporating new technology and applying new experiences or viewpoints, resulting in a new model. From the market point of view, innovation means adding value. Based on these reflections normally, a startups innovation framework can be divided into three categories:

- Framework 1: Change what does not work.
- Framework 2: Making things easier for the customer.
- Framework 3: Make things more affordable.

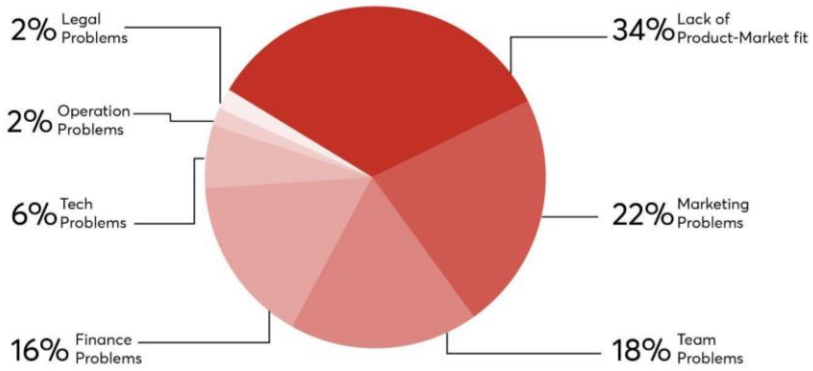
2. **Growth:** The growth in startups happens exponentially rather than linear compared to other organizations. The reason for this can be leverage provided by technological advances, not resource quantity (Dominguez, 2017).

1.2. Startup Failure

The startup industry is a hub of innovation; however, the majority of new ventures fail. Traditional businesses have a 20% chance of failing in their first year (Bureau of Labor), but startups face even higher odds against them because of their innovative path. Kotashev (2022) identified the primary causes of failure (Figure 1) as follows:

- Marketing issues (56%) The most significant contributing factor was marketing-related mistakes, with lack of product-market fit being the most prevalent issue.
- Team-related issues (18%) Problems such as insufficient domain, marketing, technical, and business knowledge were the major contributors to failure.
- Financial difficulties (16%) Although more than 50% of the interviewed founders lacked a budget for their project, only 16% cited financial problems as the reason for their failure, with 75% being self-funded.
- Tech Problems (6%) Despite the majority of startups having technology at their core, over-investment in technology before validating marketing assumptions was the most significant mistake.
- Operations Problems (2%) For software startups, operational problems were infrequent, but for startups dealing with physical products, they may be more common.
- Legal Problems (2%) Although legal obstacles are rarely the cause of failure, heavily regulated industries such as food and finance may present such challenges.

Figure 1: Common Reasons for Startup Failure.



Source: Failory.

1.3. Current Innovation Methods

Innovation in the industry is usually divided between the two most followed processes. The first one is structured or Robust methodology followed by big corporations and scientific fields. The second one, More Agile methods that are flexible and can be re-adjusted according to their need, is used by firms recently started as “Startups” (Freeman, 2007). Young companies have the inexperience of being new in the field and small, so they fail more often than their older, larger competitors. However, the structural and regulatory advantages associated with established companies also disadvantage them in contributing freely to innovation.

To understand the fields covered by the various innovation methods like Agile innovation, Waterfall innovation, Design Thinking, Lean startup, and Hybrid methods that combine various innovation strategies were studied and

a comparative matrix (Table 1) was generated. The matrix provides a comparison review for the set of parameters that are present in various innovation methods.

The extensive research into the current literature and insights we gathered from field research have led to the insights. Innovation methods for a startup can be improved significantly by improving the current methodologies and adapting to some new ones to provide a medium of reframing the whole situation.

Table 1: Innovation method comparative matrix.

Method name / parameter	Design Thinking	Lean Start-up	Scrum	Kanban	Conceput-erlize	Agile and Gated	DT,LD and Agile	Agile Road-maping	DETHIS
Assume Uncertainity	●	●			●	●	●	●	●
Trend Forcasting									
Future Literacy									
Shared Vision								●	
Ideation	●				●	●	●	●	●
Hypothesis		●							
Viability		●	●		●			●	●
MVP		●			●	●	●		●
Prototype	●		●	●	●	●	●	●	●
User Centered	●				●		●	●	●
Qualitative		●	●	●	●	●		●	
Quantative	●				●				●
Process Planning			●	●				●	●
Quality Check			●						●
Partnership Guidance									●

Source: Developed by the author.

Let's start with the most used methods of innovation in entrepreneurship avenues Design Thinking (DT) and Lean Startup (LS). Both innovative methods hold their benefits, but they can be more beneficial if they are worked together instead of individual approaches. First DT, Pivoting is a point that can be beneficial by adopting it before the prototype phase in the iteration loop. That can lead to early testing of the project. Also incorporating BMC can be a good start to focus on viability in DT and also include quantitative testing methods to measure feedback. On the other hand, the LS could add more parts to collecting research and input data. e.g. ethnographic research. LS could also greatly benefit from ideation practices to widen the scope of solutions as it is often based on a single concrete business idea. Also, qualitative methods of feedback as interviews can be added to the qualitative metric evaluation (Mueller, 2012).

So different tools that offer a unique point of view benefit the process. The future site of the design is utilized less by the people who want to design for the not-far future. But these tools can help reframe the future in a better way. This can help analyze the changes in society to find weak signals or drivers that can be potential opportunities for the business in the future. So, the products/ Services can be made for the needs of the customer in the near future Instead of focusing completely on today.

This brings us to the research question: "How can we align a set of practical tools that will allow startups or young businesses to create future-proof products/services?"

2. Literature Review

As far as we can see humankind is always trying to look beyond the present. Predicting the future provides us with a sense of security and sensemaking. The feeling of learning the upcoming is driven by the curiosity to learn, explore, and experiment (Schultz, 2015).

A few thousand years ago the future of the people used to be the past of their parents. The predictions answer the large questions of the far future, it used to be a complex job for God's servants or people close to God. That was later in modern times replaced by the Oracle for Applied Systems Analysis (IIASA). Still, the future was predicted for the academic, political, and economic elites.

Methods of Predictive notion in the human system were the later development that came into many technological fields for maintenance and efficiency (Coleman et al., 2017). This later led to starting to decentralize the power of future thinking by using crowdsourcing and gamification enabling widespread grassroots futures exploration. The following grew into the academic field, known variously as futures studies, foresight, anticipatory studies, technology forecasting, assessment, and scenario planning, among other titles. Many names refer to the investigation of the future. Future Studies, Foresight, Future Literacy, Future Thinking, Futurism, and many more. The terms are often used or mixed without providing the details on the similarities. The one we are focused on is called Future Thinking.

2.1. Future Thinking

Future Thinking is a methodology used in strategic design that considers the variables of the future to reflect in strategic planning. It reveals the possible outcomes that can occur by present situations, actions, and decisions. FT provides future scenarios that will happen and lets us make the best choices to get there, also known as the selection of preferred future. FT doesn't provide tools to predict the future, instead highlights the weak signals of today to allow people involved to actively design a desirable future. Its emphasis isn't on what will happen but on what could happen, given the observed drivers (Corthell, 2019).

This is done by creating a shared vision of the future in the organization/ community. The future thinking process involves the use of both divergent and convergent thinking in the various steps throughout the process (Iversen, 2006). The five main steps in the Future Thinking methodology are described (Goertzel, 2019):

1. **Identifying and Monitoring Change.** Current forecasts and macro and micro trends related to the topic should be studied. Many factors like political, economic, social, and technological factors could be key factors influencing your topic.
2. **Analyzing change.** Not all the trends and information are gathered to offer the promise of the future. The identification of weak signals can help in analyzing the positive change.
3. **Thinking about the alternative futures.** After gathering the right insights and assumptions about the future. Now multiple future scenarios can be created by considering all the possible future outcomes.
4. **Envisioning the preferred alternative.** Deeping into the scenario by using various tools to identify the environment and artifacts of the future can help to fit yourself in the future to gather insights.
5. **Plan and implement.** As we deepened the preferred future. After that final step is to Backcast and trace the steps that can lead to this future to make it a reality.

2.2. Future Thinking Tools

The Future thinking methods are descriptive/ explorative which helps in objectifying the future and perspective/ normative methods which help to develop the vision of the future (European Foresight Platform, n.d.). There are many methods developed by different futurists and everyone adds things to methods to make them fit their needs. Despite that, some methods are followed by researchers while investigating the future. Although using multiple methods in combination with other methods filters the results to provide a more defined result. Some of the popularly used methods are:

1. **Trend analysis.** This method involves several processes from identifying an emerging trend and then looking up for change in the society around us. Then analyzing the trend to compare it to historical data to make sense of the pattern by projecting it in the future and its implications (Jain, 2023).
2. **Technology Forecasting.** Technology forecasters usually make a forecast of how soon various technologies will be possible and characteristics they might have given the reason actual tech will be dependent on economic, social, and political considerations. TF tracks the advance of tech using individual or combining multiple methods. In which "stages of innovation" to track the market application of the product plays a significant role (Monestier, 2022).
3. **Horizon Scanning** This method is used to recognize early signs of change by systematic information gathering and analysis to get insights about the future. This step is based on research without using much imagination (Nesta Futures). Some of the methods in horizon scanning can be identifying weak signals, macro and micro trends, Pestle and Steep analysis, and more.
4. **Scenarios.** Scenarios focus on creating an exploratory version of the future concerned with the uncertainties of the future. These are created to understand the different futures and the changes that can be driven by them. The more divergent the scenarios are, the bigger and better the "scenario space" it offers in which futures and logic are different (Jonas XXXX). Consequently, exploratory scenarios should be 1. Plausible: Logical, consistent, and believable 2. Relevant: They should highlight key challenges and dynamics of the future 3. Divergent: They should differ from one another in strategically significant ways 4. Challenging: They should challenge fundamental beliefs and assumptions
5. **Visioning** This technique helps in developing the vision of the desirable future. Generally, visioning involves identifying the source of pleasure or problems in the current time which will drive people to get a sense of the drivers. which can help them imagine a conscious of the preferred vision of the future. The vision attracts the goals and spirit to achieve the desired future (Nicolussi, 2017).
6. **Backcasting.** After creating a vision, it is necessary to organize that into a possible path to achieve. To allow reaching that vision so that the transformation does not disintegrate into a set of unrelated and confusing directions and activities (Fernandez & Rainey, 2006). Backcasting of the future involves working backward from the future vision to the present timeline and identifying major goals, opportunities, and actions that need to be done in a timeline to complete the future timeline. The foresight practice of backcasting, or reverse-engineering of futures provides a means by which participants can align on steps to achievement (Nicolussi, 2017).

2.3. Mixing FT

The idea of adapting future thinking into industry practice innovation methods has been mentioned a few times in various articles. Where the possible integration of it with other methods has been highlighted, e.g., mixing design Thinking with future thinking (Figure 2) highlights that Design thinking as more focused on a closer timeline and solution-focused outcome and, on the other hand, Future thinking as a process to discover potential future opportunities in a bigger timeframe to inspire people's actions. Despite their differences these processes if looked through a wider lens share a set of similarities. That can enable them to combine into an integral process to create products and services that are more future proof.

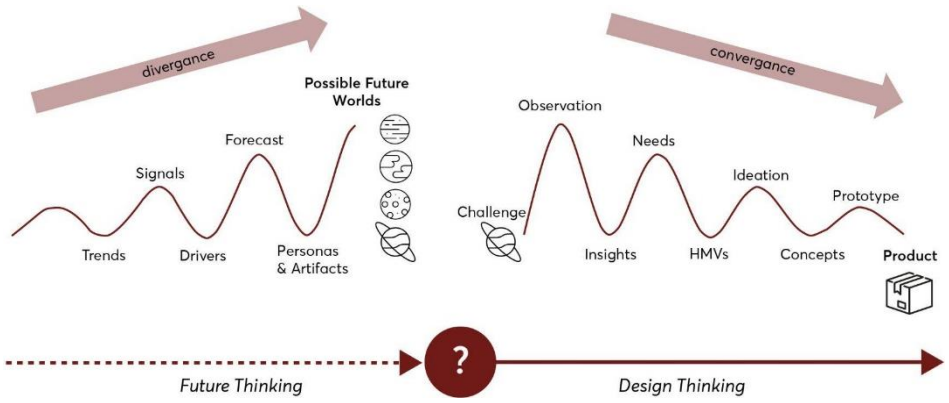
Some of the strategies by which these two methods can be linked can be 1) Adding the element of past which is the main focus in the DT to go more towards the past in FT. 2) Looking for the weak signals in the user interactions by understanding the unusual and nice options developing throughout the process. 3) Linking trends and data forecasts with user behaviors to understand the micro trends that can lead to bigger changes. 4)Exploring more opportunities by also focusing on the solutions that are a little different for the current time period (Roumiantseva, 2016).

Another study highlights the strategic application of backcasting, a future-oriented methodology, particularly in the context of startups. It highlights the importance of treating the future as a spectrum of possibilities rather than a singular entity. It advocates for the adoption of backcasting by startups for strategic decision-making,

enabling them to anticipate and navigate potential changes in technology, customer needs, and other critical aspects, letting them maintain a long-term strategy for the future (BBVA, 2021).

There are many more possibilities highlighted by other authors and organizations for using FT by combining it not only with DT but also with other innovative methods to benefit from future literacy.

Figure 2: Comparison between Design Thinking and Futures Thinking.



Source: Anna Roumiantseva.

3. Methodology

Startups don't last forever. It's a stage of an organization or more like an experiment to test that can lead to a fruitful venture. If a startup is a success it may end up getting an exit in the form of growth through an acquisition, merger, or public listing. If unsuccessful, that can lead to shutdown or bankruptcy for the venture. In some rare situations, it can also be converted into a normal stable business (Alto, Starting Up, n.d.). To analyze the growth factors that can lead to either of the mentioned cases startup research was conducted with two overlapping methods.

3.1. Analytical Research Method

To better understand the startup landscape, we undertook a thorough exploration of the current shortcomings and the practices used to overcome them. This involved conducting desk research to gather information on the latest trends, techniques, and tools in the industry. We also conducted a literature review to provide a more comprehensive understanding of the context of our project. Once we had gathered the necessary data, we began to identify the various tools and methods that could be used to solve the problems we had identified. This involved testing a range of different approaches to determine which were most effective in achieving our goals. Finally, we developed a process that would help maintain a natural flow of information throughout the project. This involved creating a clear and concise plan for gathering, analyzing, and sharing information, as well as establishing systems for monitoring progress and evaluating outcomes.

3.2. Semi-Structured Interview

To further validate the findings of the previous stage and gain a more in-depth understanding of the situation, semi-structured interviews were conducted. The purpose of the interviews was to compare the results from the secondary stage and identify any gaps in the startup ecosystem. The interviews followed a structured script that allowed participants to provide additional content on various topics, including current trends, building for the future, shared vision, and more.

A total of 12 startups from four different countries, Italy, France, Georgia, and India, were selected to participate in the interviews to provide a broader range of perspectives on the issue. The startups were chosen based on several criteria, including their life stage, market revenue, operating sectors, industry experience of the founders, and number of team members. The goal was to ensure that the sample was representative of a diverse range of startups operating in different settings. The interviews were conducted in a semi-structured format to allow for

a more natural conversation flow while still ensuring that all relevant topics were covered. The participants were asked open-ended questions based on the script, and they were encouraged to elaborate on their ideas and experiences.

The primary objective of this phase of the research was to identify any inconsistencies in the best, poor, and mainstream practices in strategic planning in real settings. The interviews provided valuable insights into the challenges faced by startups in different countries and sectors, as well as the strategies that proved successful in overcoming these challenges. The results of this phase of the research guided the next stage of the study and helped to develop a comprehensive understanding of the startup ecosystem.

The interview mini script is attached in the appendix.

Confidentiality. The study undertakes to keep confidential all personal data collected, whether intentionally or unintentionally. Study summaries may be retained indefinitely but do not reveal the names or identifiable information of participants. Access to this data is restricted to the researcher. Participants were informed that they could decide at any time to withdraw from this study or to request the withdrawal of their data within 14 days of their interview.

4. Data Analysis

The results of this study provide valuable insights into the factors contributing to the failure of startups. By conducting qualitative interviews and analyzing quantitative survey data, the research has identified key themes and patterns that illuminate the dynamics of methods employed by startups throughout product life cycle development.

4.1. Shortcomings

The regularly quoted number is that 9 out of 10 startups fail (Kotashev, 2022) or more recently saying that only 1 in 12 entrepreneurs succeed. The focus here is not the accuracy of numbers but the fact that startups remain extremely risky as seen in the Failory “interviews with failed startups” where you can find hundreds of interviews from founders about how they didn’t make it 10 percent of success. Startups operate in a highly uncertain field with half of them not even aware of customers or their products. Which makes old management methods hard for them to apply normally based on more static environments (Ries, 2011). So, reasons other than obvious ones like empty cash reserves. There is a big reason for failure that are often overlooked, some of them listed as:

1. **Not focusing on Viability (partners, revenue & plan).** Innovation methods used by designers usually start by asking users, observing people’s needs and wants (desirability), and then they see if the solution/idea. On the other side non-designers focus solely on the market need ignoring the insights and user feedback in the initial stage. Hence unable to reframe the problem completely and later on when they test the product with the customer it is too late to include the feedback (Skok, 2010). The main goal of the startup founders is to develop a product fitting the market demand, be profitable, and provide value to the user. The theme of viability is important because designers tend to fall short of the “viability” factor of innovation and non-designers are short on the insights to include to make the market fit (Roy et al., 2019). Viability is also dependent on factors like involving the right people from the start, Planning, funding, and keeping stakeholders engaged in the business usually not mentioned in any process (Allen, 2022).
2. **Not having a shared vision of the future.** According to Data found by Harvard Business Review 60% of new ventures fail due to problems within the team (Mol, 2019). The successful team for a startup is normally defined as one with entrepreneurial experience to face the challenges, startup experience, and product knowledge and skills (Alto, Starting Up, n.d.). But Most of the time skillset isn’t the problem whereas there isn’t a balance between team member experience (hard skills) and passion and vision (soft skills). If team members are super smart and experienced, but they don’t feel like sharing this knowledge due to a lack of alignment about the vision for the company, their knowledge proves to be useless for the business. Even teams with normal experiences had led greater startups in the market.

The teams with greater performance only yield better results if there is a shared strategic vision for the company that everyone agrees and believes in. In a diverse team such as a startup, where people don't speak each other's language. Because of different knowledge and values attained by the various backgrounds, individual points of view of team members Representational gaps occur (Cronin, 2007). These gaps are quite impactful in the early stages of a venture's development, but that tends to stretch over time because of not having clear role definitions in various situations. So, it is important that the team share common goals and values to avoid these gaps.

3. **Future view and Trend identification**. Creating a new idea that can stir up the market takes capturing the right signals and insights that are usually overlooked by most startups. In the design process model, the purpose of the problem articulation part is to explore the breadth and depth of contextual knowledge in the early problem identification stages of this innovation process. These steps are even part of design thinking or lean startup processes. But, for organizations, research leads us to contemplate that background knowledge gathering is relatively insufficient (Marion, 2021). Within the Problem Identification step, a wide range of technology and market trends should be studied. Even analyzing the current field is not enough to get even better insights. It is essential to consider a large number of external factors that will make the initial part longer than considered in the default of design thinking or lean startup efforts (FDT). In gathering preparatory knowledge, can be useful for casting a broader net on the market and more long-term trends and weak signals should be understood. However, these indicators of future change pose basic problems of identification and interpretation. Thus, the practical significance of these future signals is that they can be transformed into meaningful insight. However, these insights don't emerge automatically. Realizing this potential requires a degree of tolerance and fluidity of the collective cognitive frameworks by which weak signals can be apprehended, assessed, and acted upon (Mendonça et al., 2012)
4. **Steps to reach the desired future.** Smaller organizations like Startups and SMEs tend to plan very little for the future (Nicloussi, 2017). This is due to the uncertainty with the area they are operating in. So, they tend to Focus less on the bigger picture and align the future and more on the iteration loop and they believe they will get their final products through experimentation and customer feedback. Even business plans are discouraged in the community in the lean startup approach because business plan fails to contact the customer (Blank, 2013; cf. Blank and Dorf, 2012). Instead, they are so focused on the current product or service they are exploring they lose sight of vision. Also, none of the innovation methods provides startups with specific guidance about the firm's unique strategy, commitment, and point of view. The Business Canvas Model can be seen as a reality map for a strategy or an effort to map everything. But without providing guidance on how to navigate around this map. The map should provide the starting and end state and how to reach these states but in the case of BMC, it is not that simple (Felina et al., 2019). Working through the nine business model sections does not provide the definition useful for a map or a unique or useful strategy or theory. Given this reason, the elements lack a clear definition (Foss and Saebi, 2017; cf. Teece, 2010). While vision, strategy, and theory are mentioned throughout the lean startup literature are not given much-needed importance. Therefore, more defined tools are needed to guide startup journeys and provide them with more planning assistance.
5. **Faster development makes it harder to maintain quality.** Development in most startups is done in strict timeframes and resource constraints; still the focus is on faster products and services (Aleem, 2021). Speed offers the competitive advantage in the landscape of being the first one to capture the market, namely "first mover advantage" (Cooper, 2019). Speed enables the means to launch the product in the same market unchanged by moving time and also speed quicker realization of gains. That is why the goal of reducing development time is valuable. However, that speed is only an interim objective, the ultimate goal being profitability as quickly as possible. Studies also reveal that speed and profitability are connected, and the relationship is proportional closely to one by one (Griffin, 2002). On the contrary, methods used to reduce development time turnout have the opposite effect and in many cases are

proven very costly (Crawford, 1992). The objective of startups is to make successful products, not a series of fast failures. Often emphasized in many startup theories as "Fail Fast". Additionally, increasing too much speed results in a compromise in the product. Even the faster development in some organizations – a lot of product modifications and line extensions that can be done quickly, results in a shortage of truly innovative products. Unfortunately, the quality of execution on many new product projects is noticeably poor. Decades ago, the causes of the failure of new products were identified and serious shortcomings in the implementation of new product projects were revealed: lack of market research, poorly implemented launches, weak business cases, etc. One early study of new product failures showed that market research was poorly done in 73% of projects, product launches were weak in 54%, and product testing was deficient in 49% of the product failures studied (Cooper, 2019).

5. Discussion

According to the data, we gathered most of the startup bases there have gaps in their decision-making process driven by incomplete guidance of countless methods. The following section presents a detailed (Table 2) comparison of both gaps identified in the innovation strategies, based on the aforementioned data sources (related literature interviews, and process models), and how these strategies can be aligned to provide solutions. More detailed descriptions of the respective issues can be seen in Chapter 4.1: Shortcomings.

The research conducted led to ideas of what a successful solution should consist of. After gathering background information, a blend of FT, DT, Lean, and Agile processes was applied to prototype a solution tailored to Startups and their needs. Once insights were gained from each interview, comparisons with the literature led to strategic gaps. These gaps have been strongly emphasized in both the text and the solution.

Table 2: Comparison table of the failure reasons gathered and solution to the problems.

STRATEGIC GAPS IDENTIFIED	RECOMMENDED SOLUTIONS
1. Future views & Trends knowledge not considered.	Introduce macro, and micro trend identification and weak signals early in the process.
2. Missing a common Vision of the future within the team	Enable sharing of Mental Models So everyone can agree on the shared future vision.
Ideas Viability not considered fully	Enabling the insertion of market and user data points and implementing feedback at right time.
Unable to Maintain Steady Quality	Introducing the quality gates in the process to be passed before moving to the next feature.
Steps to reach the desired future	Allowing detailed planning of the steps with teams and sharing ownership and dependencies of the tasks.

Source: Developed by the author.

The solution and design for the process had the following steps:

1. Studying the literature on startup innovation methods and failure reasons.
2. Conduct Interviews with startups to get field insights.
3. Develop solutions-based tools for different gaps.
4. Iteration of the solution prototype.
5. Evaluate the success factor by testing with a startup.

5.1. Platform

To create a seamless collaboration toolkit that can be used on different platforms and also make it easy to manage the platform "Miro" is selected. It is an online whiteboard app used for visual collaboration. This platform was used, by me, during the Covid era collaborating on different projects that included planning and execution of various projects. It is an easily adaptable tool that makes working in distance mode simple. It also offers various features for solid brainstorming sessions, such as creating simple wireframes, digital sticky notes, strategy mapping, Agile cards, and more that are used in the toolkit. Miro also integrates with 100+ tools that you already use such as Google Docs, Jira, and Zoom. Also, Miro is free to use with most of the features available (in the free version) and anyone can sign up on it even without an organization emailing it.

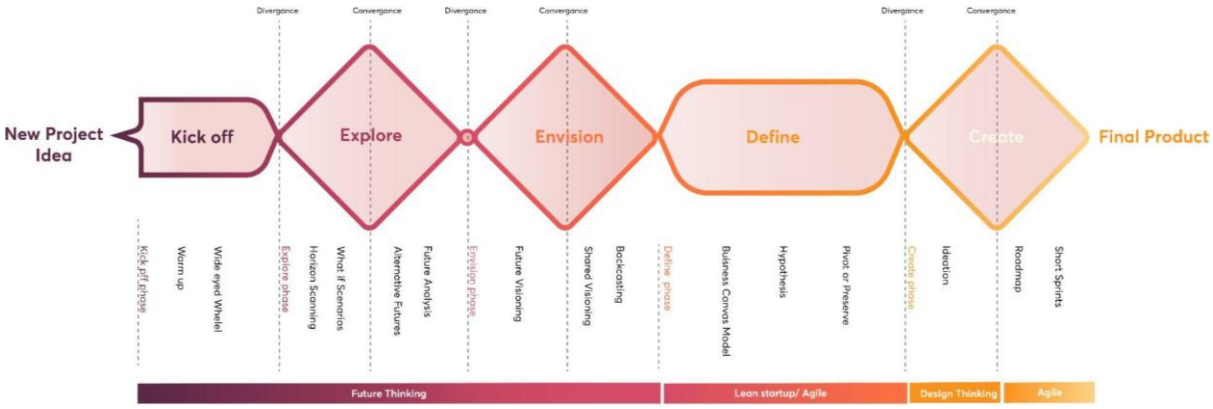
5.2. Process Design

The solution to the problem started with thinking of a tool that can help to provide useful input. But on later studying the literature it came out the tools are often used incorrectly or not to their complete potential. This led to the evolution of a workshop for the Agile Future Creation toolkit. That later grew to a complete method that follows the project from start to end, more or less a long-term plan.

This was given the need for a new innovative method that is hinted at by many articles and journals but none of them properly defined it to give a shape. The AFC methodology was developed, reframed, and iterated multiple times to ensure the free flow of information gathered in each step. At the same time remember that this toolkit is still at its initial prototype stage that is to be improved after a course of action in the industry

The time duration of the steps can be adjusted depending on the organization and the stage of their development. The toolkit can be used by startups at any stage to reframe or future-proof their solution. However, it is recommended to use this toolkit at the initial stage of the venture or at the beginning of the project to avoid getting stuck on more worked ideas. The AFC methodology can be divided into 5 phases which follow the direction of divergence where the phase explores multiple exploratory frameworks and Convergence where various ideas are combined to create a more aligned direction (Figure 3) listed as:

Figure 3: Agile Future Creation Methodology.



Source: Developed by the author.

0. Introduction. The process starts with a small meeting with the company or representative of the project where the hopes and goals expected from this project are discussed. The initial meeting also discusses the timeline, problems, and opportunities the company sees in its current state. Then the number of participants according to organization size is discussed, to include the members with decision powers and direct involvement with the project. The goal of the toolkit is to simplify it to the maximum effect, allowing the use without the help of the external consultant or agency. In that case, a person with familiarity with the innovation method can guide the process to summarize the steps and keep track of insights produced.

1. Start/ Kick Off. The project begins with a consultant introduction to the team. The first part is focused on creating an open dialogue among the team to get everyone inspired to make contributions. The part starts with a team-building warmup activity that enables appreciation for the diverse thinking mindset required for the workshop to proceed. After the activity, it's time to indulge the team in the topic and get their current understanding of the topic about the opportunities and threats. This creates an open environment for the exchange of ideas about the current project based on the current mental model. This step can be defined as the start of divergence.

2. Explore/ Discover. This part picks after the previous part to highlight how different parts of the organization have different insights. So, it's time to deepen what the future market can be for the organization. This tool of Horizon Scanning is introduced with prompts to guide the team to focus on findings that are posted on the common board to let everyone be aware of others' results. This part runs for 2 days after that the results are discussed to highlight some interesting findings.

For the next part of exploring the future, signals from the future are selected. Based on the interest and pre-defined signals from the consultant. These signals let members of each team create a future version of the selected signals.

In the next step, the different futures are placed on a single board where each member describes their designed futures. These futures are then reorganized by the teams based on the preferences of all team members.

The last part includes the analysis of different preferred futures to gain new opportunities, threats, and actions for different realities. The step widens the horizon of the people in the organization and also educates them about selecting the future that is beneficial for them. This phase starts with the divergence into the future and converges into the selection of drivers and later again diverges to different realities.

3. Visualize/Envision. After gaining new perspectives, this step unfolds the participants to dream about the organization's future in 5 years. It is done by using visual tools, a Magazine cover of the future. First, in this phase, every member visualizes their version of it. In the later step, all of the future is discussed and combined by the team members to agree on a Shared vision of the future. This includes fusing the most promising attributes of the future and envisioning creating a new shared future where everyone sees himself contributing to making it happen.

After achieving the vision now it's time to trace back the steps to the present and decide how to make it happen. For this part, Backcasting is used to plan timelines, goals, opportunities, and resources to make this future happen. This step starts with diverging. to different futures to converge to create a common one.

4. Define. This phase encompasses more vivid planning of the idea to understand the different segments of viability. It begins by reframing the BMC (Business Model Canvas) after new-found directions for the venture. It can be explored by going through each section and reading the prompts.

After filling this a business hypothesis is generated. This is the core behind the business that leads to the experimentation of Hypothesis by using a Minimum Viable Product (MVP). This MVP is tested with the customer and results are reviewed with the team and stakeholders. Based on feedback the pivot or preserve approach is tested to finalize the direction. This phase is based on converging on an idea to define its elements.

5. Create. The creation begins with the Ideation of the solution proposed by MVP. Now the solution is defined in more directions and the best one is chosen by team voting and analysis.

In the next step, the team is involved in deciding the detailed Roadmap for the next set of periods by highlighting the short-term and long-term goals. The goals are converted to tasks that are distributed and shared between different departments. This also includes the details like ownership and responsibilities of tasks and tracking of the timeline function.

The task is completed by running interdepartmental sprints that are tested with the user to build production quality and then repeat for the next task. The goal of this step is to let a transparent development work culture with an open sense of responsibility emerge. This helps the team to work on details without losing the bigger picture. This Step starts by diverging and then later converges.

5.1. Optional Step. Building a Partnership is an optional step that depends on the venture's need to develop a partnership or alliance with another venture if the need arises. This tool walks through the steps of how to manage the alliance while updating the team on the timeline that should be followed in this scenario.

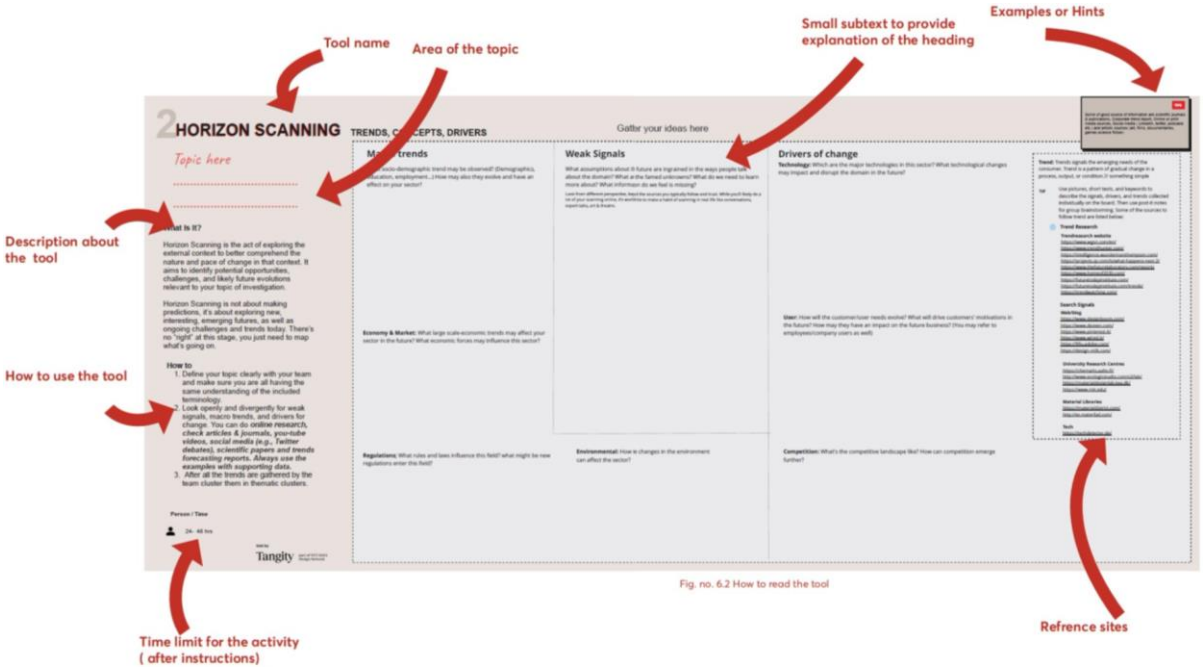
5.3. Facilitator Guide

This AFC toolkit provides a guide to introduce future thinking tools in addition to industry-opted DT and Lean startup methodologies. The toolkit can be accessed online at the Miro link. The Miro link also includes a facilitator guide with an explanation of each tool. From the link, it can be copied and pasted onto other Miro boards to allow modification of the tools. The link is as follows: https://cutt.ly/h7pbzCR.

5.3.1. How to Use (Figure 4)

i. The Index. Table 3 provides a brief description of each tool. These tools can be used separately to achieve a particular goal or in the cycles mentioned.
ii. Detailed info. The first page of every tool has detailed information on what this tool is and how you can use it by following the steps.
iii. Tips. These sections provide clues, hints, and examples for the tools.

Figure 4: How to use the toolkit.



Source: Developed by the author.

5.3.2. When to Use

i. i. Starting of a project. Using the explore phase helps you map out the innovation drivers in a systematic manner.

ii. ii. Reframing the project. Tools can also be used to reframe existing projects to add more drivers to include in the existing project.

5.3.3. Who to Involve

Bringing a diverse group of people from different departments will offer greater results. By considering each side of the project. Including external stakeholders can also be beneficial. The number of people to be involved depends directly upon the complexity of the project. The goal is to think of all the sides of the project.

5.3.4. How Much Time to Spend

The time you spend on each tool should depend on factors such as Participants' previous experience with forecasting, their knowledge of contextual factors, and what you want to take away from the workshop. The suggested times for each tool are a guide only and you should assess what is right for your group.

Table 3: The Index of Agile Future Creation Methodology.

	Tool	Use	Duration
Future Thinking	The wideeyed wheel	Reflection on current knowledge about hopes and worries about the organization	60 minutes
	Horizon Scanning	Deepen the knowledge current and future market prospects	24-48 hrs
	What If	Provides open and lateral thinkingabilities by creating future dialogs.	60 minutes
	The Alternative futures	A discussion channel to slect probable and prefrable future for the organization.	60 minutes
	Future Analysis	A tool to sum up the future exploration journey to gather new oppurtunities, threats and actions needed.	60 minutes
	Future Visioning	A tool to help create a Shared Visualization of future for the orgnization in next 5 years .	1 hr 30 minutes
	Backcasting	A toohelp mapping the future by creating the possible actions in present.	60 minutes
Lean Startup	BMC	A visual repersentation of foundations of a buisness idea to test its viability.	1 hr- 4 hrs
	Hypothesis	A tool to create a early stage low cost testingenvironment for Buisness Idea.	May vary
	Pivot or Preserve	A set of Questions to ask after measuring milestone performance to determine change in direction.	Ask after achiving milestones.
Agile and DT	Ideation	A set of methods to create product ideas from MVP.	12-24 hrs
	Roadmap	A tool to plan, execute and monitor-product devolpment journey.	1 hr- 2hrs
	Short Sprints	Devolpment method to create the product using roadmap backlog.	Depends upon the feature
	Building PartnerShip Map	Tool to manage and create partnership aliiances.	May vary

Source: Developed by the author.

5.3.5. Additional Tips

Remind participants to keep an open mind. by learning from each other and about the process in order to gain a better understanding of the company and identify possible differences in how the company is perceived. Try to encourage the “less powerful” to speak up first. and “more powerful” to speak at the last Distributed materials (i.e., worksheets) only after the step has been explained.

6. Conclusion

The process started with a personal goal of finding reasons for most startups not making it in the big game. Through extensive research, I was able to identify some of the generic reasons and also the reasons (team sharing a similar vision, viability, quality, etc.) that are often overlooked but play an important role in the success factor of a venture.

The other important discovery was the missing knowledge about Future literacy in the startup community and also in industry-practiced innovation methods. Currently, these methods are only used in academic sectors and advanced policy sectors. It is often seen as new ventures often give very little consideration for the future. They never try to identify the bigger trends and weak signals data from the industry. So only focusing on very short-term trends often are already saturated and by the time the product is ready they often fade away. Relying on the market to drive the venture direction often led them without any solid vision.

Incorporating FT can help change the mindset and prepare a more exploring direction in the venture. To identify better opportunities and threats provided by the market. Also doing so can provide a better shared vision between the team members. So, they can guide their startup to success. The outcome of this research was a toolkit that uses already market-practiced Design thinking and Agile practices in the blend of adopted Future Thinking to work in a more flexible startup world.

To make this toolkit an approach of mixing literature with semi-structured interviews with startups was used. To get a bigger frame of reference the startups were chosen from different phases of their life, product development stages, and domains and 4 different countries were selected. But the sample size is too small to put all the startups with similar problems.

Due to the huge time frame required for testing the toolkit, it is very hard to follow up on this complete toolkit during the duration of the research. So, more testing and reviews are required to refine and improve this toolkit better. Also, a data set of problems and insights from more startups can provide more useful insights and patterns that haven’t appeared yet.

One goal of the toolkit was also to design it to make it so simple and easy to use so it can be used by startups on their own but while doing reviews with startups it has been realized that without the need for an external agency or facilitator but without having an open mindset and future literacy the results are often constrained. So, an initial innovation workshop like the one hosted by IDEACTIVITY lab DC4DM can help build these skills. And later on, the toolkit can be made easier to use with more samples collected on the open-source platform. So, this Toolkit work will be modified after reaching more runs with the different ventures.

This research aims to develop a set of tools that will be implemented on an open-source website. The template is already added to Miroverse, which is a platform that allows for easy sharing and replication of templates. This will ensure that the tools created can be accessed and used by anyone for their product development. Additionally, a tutorial series on toolkit implementation with examples will be added to the website to assist users in understanding how to use the tools effectively. The toolkit will undergo numerous iterations and feedback collection to ensure it takes a better shape over time. Information will be added and removed as necessary to improve the tools’ functionality.

One of the major goals for future development is to create more user-friendly multi-party platforms. These platforms will be equipped with prompts and sorting features to make it easier for users to navigate. The system

will also provide real-time suggestions and track the progress of the project. The objective is to make the tools operational without the need for a facilitator. This will be achieved by utilizing AI-generated tips and responses to create a software variation similar to the failure reporting, analysis, and corrective action system (F.R.A.C.A.S.).

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Appendix

Interview Mini Script:

[Introductions] Thank you so much for taking the time to participate in this research. It means a lot to me, and will hopefully contribute a lot to the startup community.

[Review of Consent, Emphasizing the right to withdraw within 14 days]

1. First, can you please tell me your position title, organization, and industry to confirm the information I have? Your personal identifiers will be secured and private, nothing will be published or publicly accessible.
2. What is the approximate number of employees in your organization?
3. Do you have a role in your organization's articulation of strategy? Please explain the process. a. What works and what doesn't work? b. Are there any aspects that could be improved during planning? c. How far into the future does your organization plan?
4. Do you feel a need to set up the vision? If yes, what were your wishes and goals at that moment?
5. Were you visioning techniques used to develop a shared vision of the future and, if so, which? a. If yes, were they useful? b. If not, do you think your organization could benefit from the use of visioning techniques?
6. Does your company consider the outside environment (market trends & changes in society) while making strategies? a. If yes how (any toolkit or method) b. Do you categorize them?
7. Does your organization ever use a goal you want to reach and work backward to the present?
8. How does your organization articulate its vision? Has it changed? a. How often is it reviewed? b. Do you think your organization would benefit from periodic reviews of the vision and its progress? c. Please provide examples.

9. Are you familiar with BMC (Business Model Canvas)? a. When did you create it and with whom? b. Was your core team involved in it? If not, why?
10. How does your organization work with new idea development? a. How do you decide if you will stick to it? or change the direction?
11. How do you plan the product development cycle/ Plan? a. Who are people included while planning?
12. Do you rely on partnerships for development needs that don't come into your area of expertise? a. How do you identify them b. How do you decide to keep working with them?
13. Thank you so much. Is there anything else you would like to add?

Ethical Statement

Conflict of Interest: Nothing to declare. **Funding:** Nothing to declare. **Peer Review:** Double-blind peer review.