

INNOVATION AND ENTREPRENEURSHIP

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INNOVATION AND ENTREPRENEURSHIP: A NEW MINDSET FOR EMERGING MARKETS

EDITED BY

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INVESTOR IN PEOPLE

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Foreword

Dear Reader,

You are about to immerse yourself into “Innovation and Entrepreneurship: A New Mindset for Emerging Markets,” a collaborative work of a number of EGADE experts, school partners, and friends, with the purpose of covering, in a comprehensive and practical manner, key topics on innovation and entrepreneurship, including frameworks, methodologies, tools, cases, and challenges with the focus on Emerging Markets for MBA students.

The timing of this work is very appropriate as we are immersed in one of the most profound transformations in the history of mankind. The so-called Fourth Industrial Revolution is interacting with other socioeconomic, political demographic, and labor factors to create a perfect storm of change in all industries, resulting in major disruptions in all fields, including research and education.

Researching the impact of change and ways, not to predict the future but to shape it; crafting a sound in-personal and company lifelong learning system; investing in human capital, changing the culture to an innovation centered one and collaborating with other stakeholders on workforce strategy should thus be key business imperatives, critical to companies’ medium-to-long-term growth, as well as an important contribution to society and social stability.

Policymakers, regulators, and educators need to play a fundamental role in helping those who are displaced repurpose their skills or retrain to acquire new skills and invest heavily in the development of new agile learners in future workforces by tackling improvements to education and training systems and leadership preparation to match the realities of the Fourth Industrial Revolution.

In this present (not future) era in which we are already immersed, innovation and technological advances play a capital role and become drivers of change: high-speed mobile internet; artificial intelligence (AI); widespread adoption of big data analytics; and cloud technology are set to dominate through 2025 as drivers positively affecting business growth and entrepreneurship.

Adding to the impact of the digital culture and technology, new categories of jobs will emerge, partly or wholly displacing others. The skillsets required in both old and new occupations will change in most industries and transform how, where, and why people work. New roles quickly advance and experience increasing demand: Data Analysts and Scientists, Software and Applications Developers, and Ecommerce and Social Media Specialists, AI and Machine Learning Specialists, Big Data Specialists, Process Automation Experts, Information Security Analysts, User Experience and Human-Machine Interaction Designers, Robotics Engineers, and Blockchain Specialists.

Also expected to grow are roles that leverage distinctively “human” skills, such as Sales and Marketing Professionals, Training and Development, People and Culture, and Organizational Development Specialists as well as Innovation

Managers. These drivers are flanked by a range of socioeconomic trends driving business opportunities in tandem with the spread of new technologies, such as national economic growth trajectories; expansion of education and the middle classes, with significant impact in Latin America, and the move toward a greener global economy through advances in new energy technologies.

Catalyzing a greener and fairer society are social entrepreneurs: people who combine the passion of a social mission, with the discipline and mindset of the business world. Social entrepreneurs are growing at an impressive rate. According to a 2015 Global Entrepreneurship Monitor, an average of 3.7% of the world's working age adult population were engaged in social entrepreneurial activity, an increase from 2.8% in 2009. Fueling this growth is impacting investing. The Global Impact Investing Network reported more than \$35 billion to impact investment deals in 2017, a 58% upsurge on the previous year.

Considering the present and future social and environmental problems of the century, social entrepreneurship aims to be central in the quest for an economic system that holds more truth to the essence of what it means to be human.

Furthermore, we are witnessing changing geography of production, distribution, and value chains: by 2022, and according to a WEF study, 59% of employers will have significantly modified how they produce and distribute by changing the composition of their value chain and nearly half expect to have modified their geographical base of operations prioritizing the availability of skilled local talent as their foremost consideration, with 74% of corporations providing this factor as their key consideration.

This tidal wave of change is finally impacting the professionals seek by employers and entrepreneurs alike, producing also, as we are heralding at EGADE Business School and at Tecnológico de Monterrey, new educational models focused on new competencies and specialization. Employer Hiring trends are moving toward earlier career graduates with strong analytical and interpersonal skills, an entrepreneurial mindset, and a well-developed sense of personal responsibility, passion, and resilience.

This book that you are about to read, proposes that developing a sound entrepreneurial mindset, within an omnipreneurial approach, is an optimal way to prepare ourselves as professionals and prepare our organizations (from small startups to middle size companies to large multinational organizations) for today's future.

The different chapters in this relevant book compile all the required aspects to transform the mindset of potential entrepreneurs and innovators in emerging markets; help us identify and weight social and technological megatrends; allow us to foresight and caliber business opportunities and unmet needs with innovative and sustainable business models; and help us understand the role of entrepreneurial leadership in creating sustainable shared value.

The inclusion of mini-cases and business challenges provide actual examples of companies and organizations in Emerging Markets, and in particular in Latin America for MBA students, and all different readers, to analyze and deliver innovative solutions.

Wishing you a productive, inspiring, and worthwhile reading,

Ignacio de la Vega-Garcia
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Chapter 1

Lean Foresight

Mario Felix Saldaña-Lugo

Abstract

Foresight is a framework that can be used by organizations as a tool to elaborate a possible vision or visions of the future. Identifying ways to reach the future vision that is more attractive, this framework has been created from the experience and best practices of a group of professional futurologists and is used in all kinds of organizations in the public or private sectors linked in an intrinsic way to the strategic planning process, based on the constant collection of information, the creation of scenarios, and the definition of medium- to long-term visions. It is due to this complexity in their execution that the practice of foresight has generally occurred in organizations of a certain size and is not widespread among entrepreneurs, individuals, or in small teams. To address this area of opportunity the author has structured an agile and compact version of the framework, with the simplified objective of providing its users with a degree of sensitivity toward a reduced set of future options and the author has called it Lean Foresight.

Keywords: Foresight; lean foresight; frame; explore; envision; design; future; future thinking; future casting; trends; design thinking

Introduction

Lean Foresight is a simple method to introduce future thinking to individuals, small teams, and entrepreneurs.

When the lights finally came on, something was evident to the disconcerted spectators who had endured until the end of the screening: although it was not very clear to them what they had just seen, it was definitely something new, something they had never seen before.

This was during the first days of April 1968, when the first screenings of Stanley Kubrick's newest movie were shown in the US - 2001: A Space Odyssey...

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2001: A Space Odyssey, confronting the moviegoers of the time with a surprising but challenging cinematographic experience. A film that was technically impeccable, with a story that took place in three acts that traced the evolution of human consciousness, from the first hominids millions of years ago, until reaching space travel and the creation of artificial intelligence, displaying at key moments, hidden help of a superior extraterrestrial intelligence.

At the time, the audience's reaction was ambivalent and radical. In the New York premiere about 250 people left the room, many of those who stayed preferred to talk among each other rather than watch the screening. The actor Rock Hudson not only left in the middle of an exhibition, but he did it while insulting the film. The critics were also not particularly positive with their reviews about the motion picture, calling it boring, disconnected, incomprehensible and pretentious among many other adjectives.

It was not surprising that the frightened MGM executives came to think that the film would be a failure and that they would not even recover the US\$10 million invested, a formidable amount for that time; but to their surprise and against all odds, the film became the highest-grossing film of 1968, even winning an Oscar for special effects. Today *2001: A Space Odyssey* is considered a masterpiece, which has aged considerably well, recognized with more awards and distinctions than anyone could have imagined in 1968.

In my opinion, *2001: A Space Odyssey* is an acquired taste, a work that is unveiled layer by layer with each new visit, always leaving some space for personal interpretations. However, there is a layer, an aspect of the film that I think was fascinating from the first moment for many of the spectators and that is the amazing window that this film offered to the future. Never before had there been a film with such a consistent and meticulous prediction of the future in terms of technology, space travel, computing, and artificial intelligence; there is a huge abyss between Kubrick's vision and that of the science fiction films of the time, full of rubber monsters, silver flying saucers, and bulky robots. While these films are now ridiculous, *2001: A Space Odyssey* is still an amazing show that ends up showing a version of the future not far from the one that has developed in the real world.

The key to Kubrick's success in capturing this vision was the intrinsic and sometimes stormy collaboration that he established to create *2001: A Space Odyssey* with the writer, inventor, and futurologist, Arthur C. Clarke (1973).

Clarke (1973), considered not only one of the most important science fiction writers but also one of the most outstanding futurologists of the twentieth century, was co-writer of the *2001: A Space Odyssey* screenplay and was also responsible in making sure that the scientific and technological aspects of the work stuck to reality, dictating the guidelines of operation and appearance of each technological aspect seen on the screen. If this Kubrick masterpiece is still valid, it is largely due to the prescient vision of the future facilitated by Clarke, which presented a rather credible scenario of what the future would be like in 2001. The scenario is so credible that it often makes us ignore its numerous inaccuracies. On the one hand the scenario shows achievements such as the existence of an international space station in orbit around the Earth that even accepted terrestrial tourists, space shuttles, the realities of space travel such as processed food and toilets in

zero gravity, video calls, computers with graphical interfaces, artificial intelligence agents capable of playing chess games, of predicting by simulation equipment failures, of performing face recognition, and of understanding and responding to voice commands using natural language. There is even a moment when Discovery astronauts have breakfast prepared in what could well be a microwave while watching the news on a tablet, predecessor of current iPads.

The mistakes presented in the film are numerous but were mainly due to a very optimistic vision in the 1960s of the degree of technological advance that would bring the space career among the super powers of the time, specifically indicating that at the beginning of the twenty-first century there would be inhabited bases on the moon, that manned space trips would be made to other planets, (in this case, to Jupiter) putting the crew in suspended animation, and that since the 1990s there would be artificial intelligence agents of the caliber of HAL 9000, the computer in charge of operating the Discovery spacecraft. None of these points have been achieved until today, however nothing seems to indicate that they are not feasible in the near future.

Clarke (1973) himself claimed that trying to predict the future is a daunting and even dangerous occupation, in which your predictions invariably end up being considered conservative in one extreme or ridiculed in the other, making it almost impossible to know which of them will end up happening.

The same scheme used by Kubrick to develop the vision of 2001 leaning on the services of a futurologist is used nowadays by all kinds of organizations that seek to have an approximate vision of the future, because to try to foresee the future, even if only by approximation, is a necessary activity, indispensable even for current organizations that seek to operate under visions and premises that remain not only valid but relevant. Dedicating yourself to try to anticipate future events is no longer a charlatan task, being a futurologist is a serious profession in which you work by identifying trends, creating forecasts, developing scenarios, and establishing plans, the main tool of these professional futurologists is the framework known as Foresight.

What is Foresight?

If hindsight is the understanding of something only after it happened or having a vision of the past, and insight is the deep, intimate understanding of something or having inner vision, then foresight is the ability or method to see something that has not happened yet, or to have a vision of the future.

Although the term can be applied in various areas ranging from psychology to urban planning, we will focus exclusively on the foresight of business, sometimes called strategic foresight. We will focus on a method that can be used by organizations as a tool that allows them to elaborate a possible or possible visions of the future, defining ways to reach that vision that is more attractive.

For this purpose, foresight is a systemic structure that allows a future description of a specific subject or object that is desirable to be developed from beginning to end, and that facilitates the development of ways to achieve that vision and deal with the implications of obtaining it. To focus on its practical application, we

could also define Foresight as a framework that has been created from the experience and best practices of a group of professional futurologists and is used in all kinds of organizations in the public or private sectors, linked in an intrinsic way to the strategic planning process, based on the constant collection of information, the creation of scenarios, and the definition of medium- to long-term visions. This process is usually carried out by individuals specialized in this practice who collaborate with multidisciplinary teams of the organization. These efforts usually require the creation of organizational structures for their support during extended periods of time. It is due to this complexity in their execution that the practice of foresight has generally occurred in organizations of a certain size and is not widespread among entrepreneurs, individuals, or in small work teams, to address this area of opportunity we have structured an agile and compact version of the framework, which seeks to provide its users with a degree of sensitivity toward a reduced set of future options and we have called it Lean Foresight.

Introducing Lean Foresight

In this chapter we present a compact version of the foresight framework, to be used by individuals or small teams in order to allow them to easily explore a reduced set of future options and their implications in order to define objectives and action plans to follow for their achievement, that is why this version is ideal for entrepreneurs who want to acquire sensitivity about the future possibilities of their area of entrepreneurship.

We will introduce Lean Foresight in the form of a four-step process, that is, we will present a sequential work structure formed by four spaces, four placeholders, which can be filled with different methods, to a greater or lesser degree at the practitioner's choice, however in this chapter we will show only the first basic set of methods.

In this way, Lean Foresight presents an actionable sequence of four actions that take us from the selection of a starting point to the identification of a desired future, and those activities that will be necessary to carry out its achievement.

Lean Foresight is formed by these four stages or sequential spaces:

1. Frame
2. Explore
3. Envision
4. Design

To develop a Lean Foresight project, it is necessary first to have a topic to explore, from which we will seek to identify future implications, which is why Frame is the stage with which the process begins.

Frame

The main theme in Frame is to focus. Frame is the starting point, the stage where you define the scope of the project and select the focus of the foresight exercise.

The assumption here is that it is always better to create a clear definition of the problem you want to address and the goal you want to achieve before starting the project. The worst possible outcome would be to address the wrong problem.

There is always some sense of contradiction present in this stage, because although this is centered on focus, the level of ambiguity and fuzziness is the highest of the whole process.

Once you have selected the subject to explore, it becomes the domain; all the subsequent work and analysis will be done from and around this domain.

Frame the Project. First you must Frame the Project scope, those are the preparation steps you must complete before you start working:

1. Adopt the Foresight mindset. Be conscious that foresight is different to typical strategic work, in certain ways it is more similar to disciplines like Design Thinking.

Accept ambiguity and uncertainty as part of the process, a process without right or wrong answers, but be careful to deliver ambience.

Be prepared to look for positive future outcomes, do not focus only on the dystopia, look actively for the good future, but be careful not to fall into delusional beliefs.

Be aware of your usual views, so you can avoid biasing the process, avoid group thinking that leads to consider isolated, echo chamber kind of solutions.

2. Identify the stakeholders interested in the project.

Read as much as you can about the organization, the users and/or the clients of the project, and try to identify what they are trying to accomplish with this effort.

3. Identify the purpose of the project.

Never forget that the ultimate goal of using foresight is to have a better tomorrow, so we explore future alternatives to influence the things we are doing in the present as a way to achieve that tomorrow, so clearly define the purpose of the project and the goals you want to achieve.

4. Define the team for the project.

As in Design Thinking, you must encourage radical collaboration in Foresight, put together or at least include a group of people with diverse experiences and points of view. For the project development you may have to work with a core team that will always be present, but you also may consider to include an extended team that will participate intermittently depending on the project's need or workflow.

5. Build a creative environment to work on the project.

Provide if possible, a space with enough surfaces to work, whiteboards, clean walls and enough light, adopt the Design Thinking mindsets, promote creativity and experimentation, and create prototypes to test ideas.

Frame the Subject. The procedural steps you must follow to start working are important, but before it is key to define clearly the purpose of the project, goals, and stakeholders.

1. Select the subject (domain) of the future you want to explore.
2. Create the domain description (see [Fig. 1](#))

Domain:
Higher education

Definition:
We will explore the relevant topics in the field of higher education, its main elements, stakeholders, forces of change, trends, constants and variables that make up this space for exploration, with the objective of identifying opportunities or threats related to future trends.

Geographical Scope:
We will explore the domain globally, but thinking about the application in the country to which the team and the educational institution belong.

Timeframe:
We will review the evolution of the element up to 60 years in the past and we will consider 7 years in the future at the most, so the step, stretch and leap horizons will correspond to 2, 4 and 7 years from now.

1 FRAME

THE DOMAIN DESCRIPTION CARD
In this example we define the scope of the exercise in this card, at the end we have the domain defined for the next step in the process

HIGHER EDUCATION

Fig. 1: Domain Description Card.

- Domain definition: create a paragraph describing the scope of the domain, detailing if necessary, what will be included and what not.
- Define the geographical scope of the domain: it will be the city, the state, the country, the region, or worldwide. It is important to delimit correctly.
- Define the timeframe by simply selecting how many years in the future you want to consider and how many years in the past you are interested in reviewing.
- Select the year in the future where you expect to explore the future of the domain, and the year in the past where you want to start to review the evolution of the domain.

Once the domain has been selected and defined, you are ready to explore it.

Explore

The main theme in Explore is to gather information.

Foresight has a deep systemic approach, but the system may not be clear at the beginning, so you must start revealing the picture with the creation of context. To achieve this, in this stage, you must acquire as much information as is convenient, about the system around the domain selected and detailed in Frame.

The exploring of information could happen in two fronts: one inside the organization and its relationship with the domain and the second outside the organization, in the world around the theme selected.

As we are using the simple version of Lean Foresight in this chapter, we will use only one tool for the Explore step, the Domain Map.

Create the Domain Map. The easiest way to gather information about a domain is creating context around it, and for this we will use the Domain Map to

accompany the domain description created in the Frame step (in fact Carleton, Cockayne & Tahvanainen (2013) called it the Context Map).

This is where the interactive teamwork begins, sharing their knowledge to create the map together.

A Domain Map is a visual representation of the most important components, contexts, or categories (even with sub-categories) of the domain (see Fig. 2), with the elements arranged in a concentric way, denoting up to three hierarchical levels of information, similar in structure to a mind map. It will help to delimit the boundaries of the domain to be explored and to branch the most important components.

It is easier to create a Domain Map using sticky notes. To first create the graphic artifact, start drawing a circle at the center of a whiteboard or flip chart sheet, put a sticky note with the name of the domain inside the circle, draw from six to eight smaller circles around the first one. In my experience, eight is the sweet spot, write in sticky notes the main six or eight categories or components of the domain, one for each note and put each note inside the newly created circles. Keep writing and when every circle is covered with notes, feel free to take out or move to the periphery those notes that seem less relevant, when the eight main categories have been selected you can assign sub-categories in a new tier of smaller circles around the eight secondary circles.

Discuss what information belongs in the map, what is relevant and what is not, remove or rearrange the papers until the information structure created around the domain makes sense to the team.

At the end of Explore you will have a graphic representation of the project domain and its more relevant components for analysis, then you can select the element or elements, either the domain or any of its components or subcomponents, that you want to extrapolate into the future.

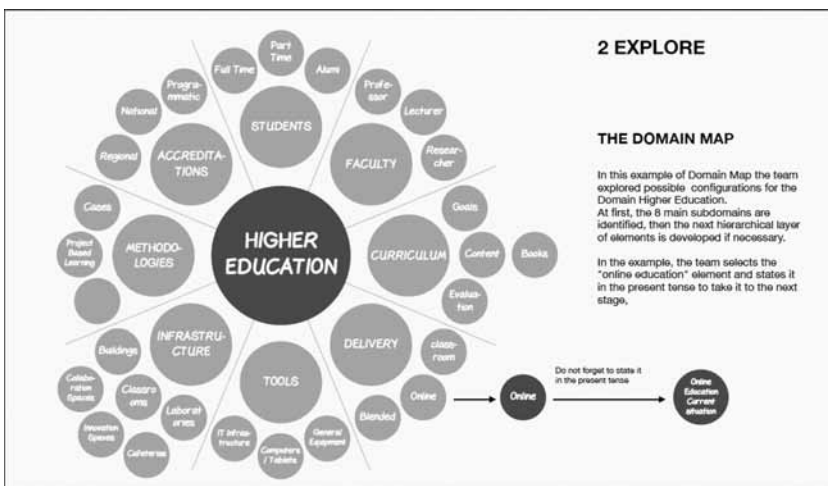


Fig. 2: Domain Map.

In the first two steps you have defined the scope and boundaries of the project, reducing the effort of the next steps to a domain that has been described and broken down into its most important components; at this time, you are ready to start thinking about the future in the third stage of the Lean Foresight process.

Envision

The main aspect in Envision is to imagine possible futures and their implications.

The futures to be envisioned are those of the element extracted from the Domain Map. This element should belong to the domain, although it could be the domain itself, and once this element has been selected we start creating its timeline of events starting in the past. This process can be repeated for as many elements of the domain as you decide.

In Lean Foresight, the timeline that leads to the present of any element of the domain is a single line of known events that can be placed with chronological certainty based on the collective knowledge of the history of that element, but things change when we start to consider what's next in the timeline after the present time. At that point the single timeline becomes a cone of possible futures. The traditional foresight considers a broad group of diverse futures within that cone, but in Lean Foresight we will only consider three of them to envision: the projected future, the undesirable future, and the desirable future.

The projected future is the expected future, the one that is considered to happen as a continuation of the present and even as a natural extrapolation of the past. It is the future of surprises, that is, the business as usual future. This future will only serve as a reference element and will not be used in the next stage.

The undesirable future is the threatening future for the evaluated element; it is the version of the future that you would like to avoid. It is considered in the Lean Foresight exercise because it is the version of the future that we should be prepared for. This is the future that may require preventive or security measures be put in place.

The desired future is the version of the future that we have decided to pursue, since it represents a beneficial future for the element that is being evaluated. The objective and implications of this version of the future are usually those that go to the fourth stage of the Lean Foresight process.

Create the Timeline. To have a clear vision of the evolution of the selected element through time, we are going to create a visual timeline in a whiteboard or in a flip chart. The timeline will start as a horizontal line in the past, the number of years you defined in the Domain Description Card should indicate how far in the past it should be, but you could also use any other number of years.

In order to build this timeline, first we make a line long enough to contain at least five sticky notes that are side by side. In these notes you will try to identify five important events that show the evolution of the element, five is the minimum number of events reviewed from the past that we recommend, but you can use as many as you want. On the left corner, mark the beginning point as “Past” and write the number of years you want to review from the past. On the right corner of the

line mark the ending point as “Present.” At the right side of this point leave some space for the sticky note, where you will describe the present state of the element.

The Future Matrix. On the right side of the “Present” sticky note you will create a matrix of 3 by 4 sticky notes, vertically centered with respect to that note. This matrix of 12 will contain your descriptions of the three types of futures, with three periods of each and one set of goals.

The rows: The first row of the matrix from top to bottom will correspond to the desired future, the second to the projected future, and the third to the undesirable future.

The columns: The first column of the matrix will be called “Step.” In this column you will put sticky notes in each cell that will correspond to the short-term horizon, the more immediate future of the element, the one corresponding to the smaller effort to be performed.

The second column will be called “Stretch” and will correspond to the mid-term horizon, a future for the element with a medium level of effort to be realized.

The third column will be “Leap” and will correspond to the long-term horizon, the faraway future of the envisioned element.

The fourth column of the matrix will be called “Goals,” and it will feature the objective that you will target in order to reach the desired future or the element you are envisioning, you can also define goals for the projected and undesirable futures.

The Sets of Implications. Once you have defined the goals for each future, you have to create a set of implications for each possible goal. It will be easy; you only need three sticky notes, one for the positive, one for the negative, and one for the neutral implications.

At the end of Envision (Fig. 3) you will have three possible futures described in a three-layered horizon for your element, but most importantly you will have a

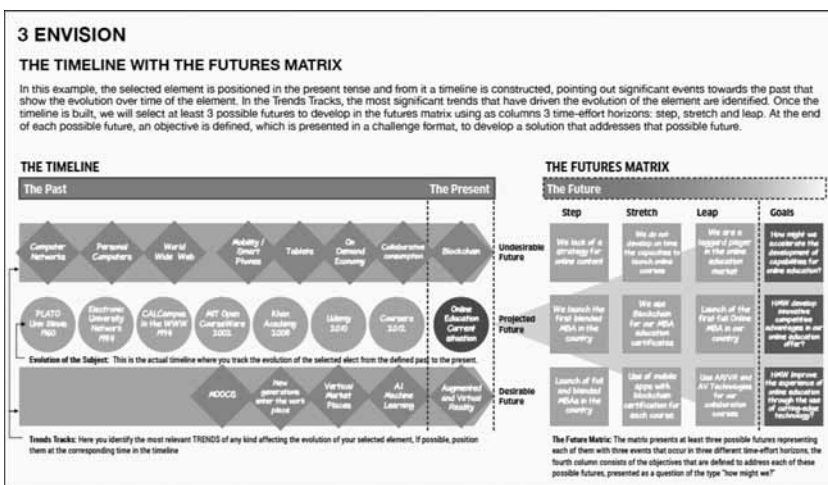


Fig. 3: The Timeline with the Future Matrix and the Sets of Implications.

goal for each one of them, so either be prepared for the undesired future or set a goal to achieve the desired one.

To go to the next step, you only need to select the goal you want to achieve.

The Role of the Trends and Mega Trends. Both above and below the timeline we can write on sticky notes the trends and megatrends relevant to the element we are analyzing. These megatrends should be taken into account when considering the possible futures and their corresponding time horizons.

Design

The main theme in Design is to create ways to reach the selected goal.

Lean Foresight offers you two ways of doing that.

The shortest way is through the Action Map artifact, using the selected goal as a starting point and creating plans to reach it.

The longest path is to use an innovation process, such as Design Thinking, to achieve the selected goal, using it as the initial challenge to start the process.

In this chapter, we will only describe the first option, with the Action Map artifact.

Using the Action Map. Once you have selected your goal, write it on a sticky note and put it on a whiteboard or flip chart sheet, you can write a big X under the note and draw several paths of dotted lines from the X to different points near the border of the board or sheet. Create at least three of these paths, trying to make the paths vary in length and following different directions on their way to the point marked with an X. At the end you should have something resembling a treasure map with the X indicating the location of the treasure, that is, the location of your goal on the board (see Fig. 4).

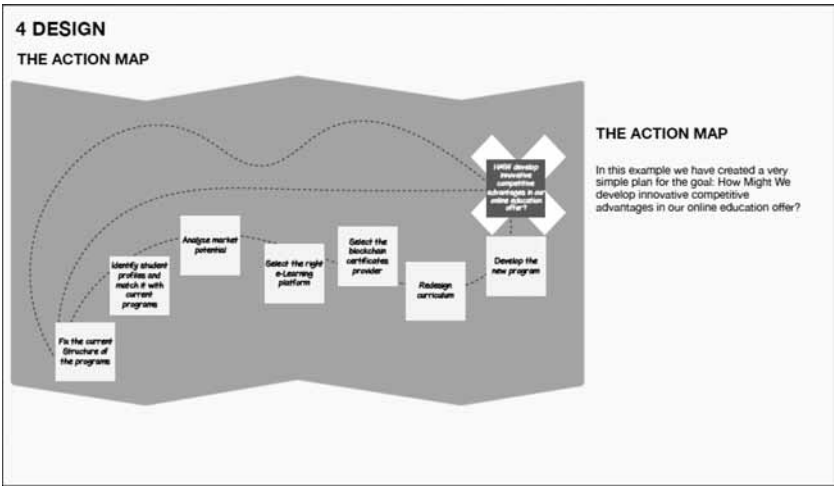


Fig. 4: The Action Map.

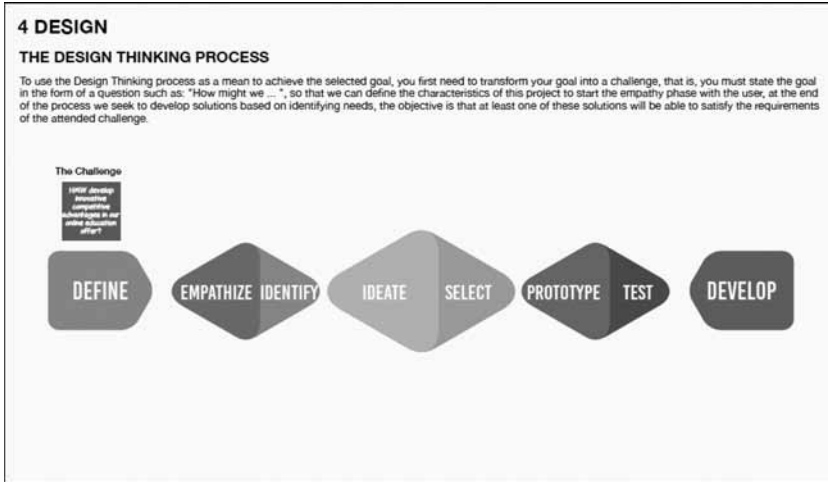


Fig. 5: The Design Thinking Process.

Creating Plans. Now you are ready to make plans to reach your goal, so select one dotted line, and write on a sticky note one step or one action that you should perform in order to reach the goal in the future, and put it over the line. Then write another and repeat the same procedure, keep writing, and when you have enough steps or actions, order them based on the dependency. With the following and previous steps, you should have the basic structure of a string of sequential activities to reach that goal, and if you want to create a plan with them then create a column with the sticky notes, ordered from the most immediate to the farthest. Create a second column of notes next to it and write a proposed starting and ending date in every corresponding note, and in a third column write the person or organization responsible of performing the task.

Using Design Thinking. To follow the longer path of using Design Thinking as a means to achieve the selected goal, you first need to transform your goal into a challenge, that is, you must state the goal in the form of a question such as: "How might we...", for example, if the goal is to "Improve the user experience of our customers" then the question should be something like: "How could we improve the user experience of our customers?"

Once you have formulated the goal as a question, it becomes the challenge from which you start the Design Thinking process (see [Fig. 5](#)).

At the end of the Lean Foresight Process you should not only understand the future of the element or elements of the Domain Map that you have decided to envision, but also have the basic structure of the plan to try to reach the desired future.

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