Innovation & Entrepreneurship Basics 2018/2019

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Contents

Chapter 1

Entrepreneurship

The first lesson about Entrepreneurship is structured with question and answers. It includes contributions of the students that were present during the lecture.

Question 1.1. ***What do we mean by Entrepreneurship?***

Some ideas and models of an entrepreneur came out from the initial discussion:

1. our parents may be entrepreneur for us since they support us for our education;
2. Jack Ma, founder of Alibaba Group, may be considered an entrepreneur since he failed multiple times, he learned through his failures;
3. Kevin Systrom, co-founder of Instagram, succeed in earning money by selling Instagram and he discovered new opportunities on the market;
4. Jeff Bezos, founder of Amazon, may also be considered an entrepreneur since he applied constant changes to create value through a process of innovation.

To summarize, an entrepreneur is someone who:

- explores different ideas and has the courage to apply them in the real world;
- understands the customers' needs;
- finds someone who is interested in those ideas and it is ready to invest in order to apply them;
- appreciates the feedback and and stays close to the customers.

Question 1.2. ***Which is the definition of imprenditore?***

The Italian definition of imprenditore is slightly different from the concept of entrepreneur: imprenditore is usually related to concepts such as making money, managing business, learning about the economy and the markets.

Question 1.3. ***Who are the archetypes of entrepreneurship?***

The Industrial Age Role Models are:

- farmers;

- Mr. Ford: invented the concept of transportation, production chain and started producing cars for everyone;
- Mr. Ikea: empowers his customer by selling them furniture in way such that everyone can build his/her own home;
- Mr. Edison;
- Mr. Walt Disney;
- Mr. Walmart;
- Mr. FedEx;
- Mr. Olivetti: gave attention to industrial design;

Inspiring quotations

> *The entrepreneur always searches for change, responds to it and exploits it as an opportunity.*
>
> Peter Drucker,

> *I am always doing that which I cannot do, in order that we may learn how to do it.*
>
> Pablo Picasso,

Technology Entrepreneurship

Technology encompasses all new methods, processes, artifacts, tools, and devices that can be used in commercial and industrial use. New technologies form the basis for technology firms where entrepreneurs **create** innovations by combining their technological **know-how** with **business** practices. This technology firms create new commercialized solutions, i.e., **innovations**. Radical innovations are at the basis of the progress for the development of the society.

The **Big Shift** from the Industrial Age Models to the Entrepreneurial Age happened thanks to the 4^{th} Industrial Revolution. The jobs of the Industrial Age (and before) were based on physical labour, and knowledge was a plus. The post WWII Era was dominated by knowledge with skills as a plus, while the "old" physical labour was taken as granted. In the Digital Era, knowledge and skills become the mainstream and the distinguisher is the entrepreneurial approach: new jobs will be based on human abilities and non-repetitiveness. The focus will be towards an improvement of non-algorithmic type of skills, such as creativity, imagination, communication, critical thinking, collaboration, team work, etc.

Chapter 2

Tech Battles

A battle is essentially made of two elements:

- an analysis of real life examples, called **case study**. It is a widespread methodology used in the real world for education in business. Case studies combine two different types of thinking:
  - *induction* (learning from examples): the idea is to apply a case study to others through a process of generalization.
  - *deduction* (learning from theory): the idea is to apply a general theory to a particular use case.
- British Parliament model: debate without moderators, self-arbitrative, crowd participate to the discussion, multiple people speaking and facing on a particular topic.

Question 2.1. ***Why do we use battles in I&E?***

There are two main reasons:

1. *innovation*: talking and debating may create innovation and the debate structure shows how innovation is the composition if many "soft factors"; the most innovative ideas came out from cooperation. Moreover, multiple points of view allow the exploration of flaws and good points.
2. *entrepreneurship*: the soft skills required to debate are the same that compose an entrepreneur's toolkit; soft skills help you during the management process and allow you to learn how to be persuasive.

Question 2.2. ***How do we do tech battles in I&E?***

In our tech battles, we will use open and closed debates; the difference between them is that in closed debates we already know who won the discussion, while open debates are matters that the society has not yet settled upon. We will use both retrospective reasoning (given the state of the world, how did we get there?) and prospective reasoning (given a beginning, how could we end?). The goal of the retrospective reasoning is to retrospectively find answers and its structure looks like the following:

$$\text{State of the world} \rightarrow \text{Analysis} \rightarrow \text{Explanation}$$

Instead, the goal of the prospective reasoning is to create questions and affect the final result; its structure looks like the following:

$$\text{Alternative beginning} \rightarrow \text{Controversy} \rightarrow \text{Reconciliation}$$

The winner of the battle is decided at the end of the debate by the crowd; the winner is the most plausible, not the most right. Each battle has three main levels:

1. Horizontal content: a social/economic content that can be applied to any battle; it goes across battles and provide a coherent context throughout the course;
2. Vertical content: the domain-specific content of the battle which gives the "core matter of fact" to each debate;
3. Scenario: an abstraction that allows to explore more freely and open a debate on the content.

Chapter 3

Innovation Theory

Basically the innovation takes two steps:

- We acquire information and it helps us to go one step further to transform information into knowledge.
- Knowledge gives us a lens to see the opportunity of innovation.

Historical perspective

When we talk about historical perspectives, some elements can come to our mind:

- Objectivism: least effort and minimum path. It is what everyone agrees with the meaning and independent of the people. Where we put laws and facts.
- Determinism: Believe something is going to happen based on some laws. How we predict the world.
- Modernism: Try to create perfect a model that suits the worlds since 1970s. There is unique and absolute truth in this world. It is the approach to predict and explain and it is related to formula and models to find realities. Science proves to work well in lots of fields to create knowledge.
- Romanticism
- Rationalism

In the historical period we have three different perspectives:

certainty : something that is always true or false, or, at least, it is extremely difficult to change. Certainty may block a possible process of innovation. The probability of a certain event is 1; it is is fixed and known a priori.

risk : may be an opportunity (either positive or negative), a possibility; managing trade-offs is the way of dealing with risky situations. In a risky situation, the probability is fixed and known a priori but it is less than 1.

uncertainty : probabilities are not known a priori and they may change; you have to keep studying the situation and to react to possible changes.

All of these perspectives have something in common: the **probability**; there is always the chance of achieving something and the probability is fixed and known a priori (but you can be not aware of that probability, as in an uncertain situation).

Question 3.1. ***How does innovation happen?***

Innovation happens in different ways depending on the particular perspective:

certainty : innovation happens through the impact of large scale events (example: wars)

risk : innovation happens through the study and application of a better strategy (example: winning millions with blackjack using martingala)

uncertainty : innovation happens through the improvement of our searches.

Question 3.2. ***Who is the entrepreneur?***

An entrepreneur may be seen in different ways depending on the particular perspective:

certainty : an entrepreneur is someone who disrupt the way of living;

risk : an entrepreneur is someone who is able to find a new and better strategy and to apply that strategy in the real world

uncertainty : an entrepreneur is someone who is able to streamline the process in order to improve the researches.

Contemporary perspectives

When we talk about contemporary perspectives, some elements can come to our mind; those elements partially in contrast with those that were present during the historical period:

Post-truth : We take emotions more important than the reality and the truth may constantly change. Political and social media debate. Combining the facts to invoke emotion response to get popularity. The social media works as sort of amplifier to exponential the effect. Social media allows to create isolation of messages and echo;

Post-modernism : Particular setting or environment could be seen in different ways. Generally it has 2 meanings: too complex and safe forward, disaster happen but to survive;

Subjectivism : everyone has a personal truth; there are still some rules, but those serve only as a common ground for debating; the topic of the debate is not objective as it was during the historical period.

In the contemporary period we have lots of different perspectives:

ambiguity weak : use democracy and even technology to find a solution. The process used to find a solution is a caothic process and involves participants, problems, solutions, and decisions. Participants contribute to the choice of opportunity, which is a moment in which a decision could be taken. Making a decision in a caothic environment may lead to improvements. The process of finding a solution may be linear (we find participats and elicit problems; then we propose solutions and we take a decision) but it is not always the case.

ambiguity strong : in other words, sense making; it is the idea that apply when a crisis happens but someone is able to propose an interpretation that causes reactions. Since the situation is complex, you have to make sense of it and try to find a way to adapt. Make sense of the environment and have your decision.

black swans : before the discovery of black swans, people think there only exists white swans in this world. It is an example of how the scientific method works, which is the following:

$$\text{theory} \rightarrow \text{hypothesis} \rightarrow \text{experiment} \rightarrow \text{falsification/conclusion}$$

There are circumstances when something unexpected happens; we have to find a way to navigate and make plans.

the fallacy of Induction : Induction cannot predict what is going to happen tomorrow; it only says what has happened until now. For instance: a farmer always feeds a turkey at 9 am; the turkey may erroneously think to be fed every morning at 9 am. People are sometimes misled by empiricism.

Enrolment & Translation : there are some elements in our world that shape our interaction; the enrolment of the environment creates on idea on our mind and affect the way in which we interact with others.

Actor network theory : out world is a mesh of actors; they can be human or non-human (like feelings, believes). A non-human actor either substitute a human one or represents the human that designed it. During a human to human interaction, there may be a non-human actors in the middle (example: headphones, payment system).

anti-fragility : in logical sense, it means robustness or durable, resilient, hard. And even better, when stressed, it becomes stronger.

post-truth : the emotional value of something becomes more important than its real value; appeal to emotions rather than reality.

Question 3.3. ***What do these perspectives have in common?***

1. complexity;
2. unpredictability, never one way straight;
3. uncertainty;
4. action/reaction.

Question 3.4. ***How do we innovate?***

We can innovate by learning how the system works and by leveraging the asymmetry of information to generate value.

Question 3.5. ***Who is an entrepreneur?***

An entrepreneur is someone who is able to disrupt, to modify the status-quo.

Summary

- Roulette:
- Elections and voting:
  - Historical: Vote is based on what brings
  - Modern: Action and belief does not reflect your mind.