

Mental Tools for Finding and Creating Innovative Paths

Professor Piero Formica

Mental tools do not serve the purpose of allocating resources more efficiently according to the principles of neoclassical economics. Their role is to bring forth ideas that will result in solutions that are of high quality and accessible to solve the problems of humanity.

We present a toolkit consisting of "cards" to start participating in the game of entrepreneurship which takes place in the playing field we have defined as "Experimental Lab for New Venture Creation".

The cards are not perfectly positioned. The cards are shuffled and then each player is dealt the same number of cards.

The cards are made up of four suits – as shown below:

The 'Play' Cards



Each and every card can be played alone or in various combinations with the other. The choice is up to each of you along with the other members of your business team (the "Club") engaged in the game.

In accordance with the principles of 'Open Innovation', you can also:

- Add other cards to those already in the deck of cards,
- Exchange them with those of another team,
- Replace them with others that you create,
- Amend them.

This means that the toolkit is open to all those who would like to contribute.

The main sources of the contents outlined herein are:

Knowledge-Driven Entrepreneurship: The Key to Social and Economic Transformation, by Thomas Andersson, Piero Formica and Martin G. Curley, Springer, December 2009

The Experimental Nature of New Venture Creation: Capitalizing on Open Innovation 2.0, by Piero Formica and Martin Curley, Springer, June 2013

Stories of Innovation for the Millennial Generation: The Lynceus Long View, by Piero Formica, Macmillan Palgrave, August 2013

The Role of Creative Ignorance: Portraits of Path Finders and Path Creators, by Piero Formica, Macmillan Palgrave, 2014-15

What an Experimental Lab is and How It Works

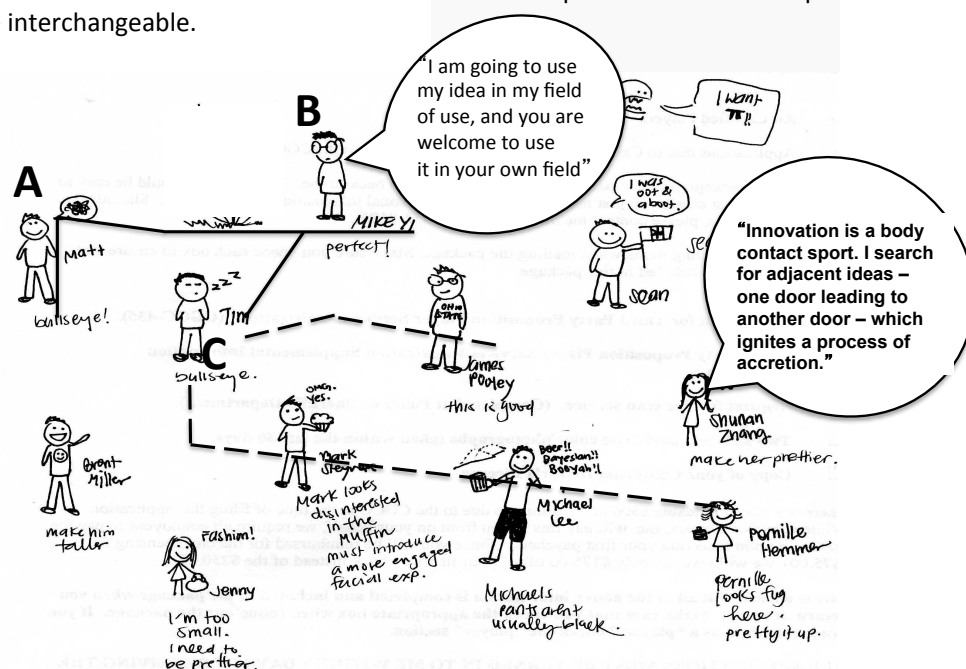
New ventures are deliberate and careful human creations. As products of inventive efforts, start-ups show that there is a direct link between the entrepreneur and the innovation process. Innovation is knowledge turned into action through creative endeavour that hugely depends on the willingness of individuals to start new companies. Thus, entrepreneurialism accelerates the innovation process by increasing the opportunities for the successful commercialisation of innovation.

These man-made artifices are primarily designed by experimenting how to put people together. To perform an experiment, a treatment must be administered to experimental units. The “units” we are concerned with are entrepreneurial teams. By conducting realistic experiments and/or reproducing the conditions of a situation or process, those teams can take a run along the business idea spectrum—from learning what the market wants to ascertaining the needs and desires of consumers and developing products their customers may not know they need.

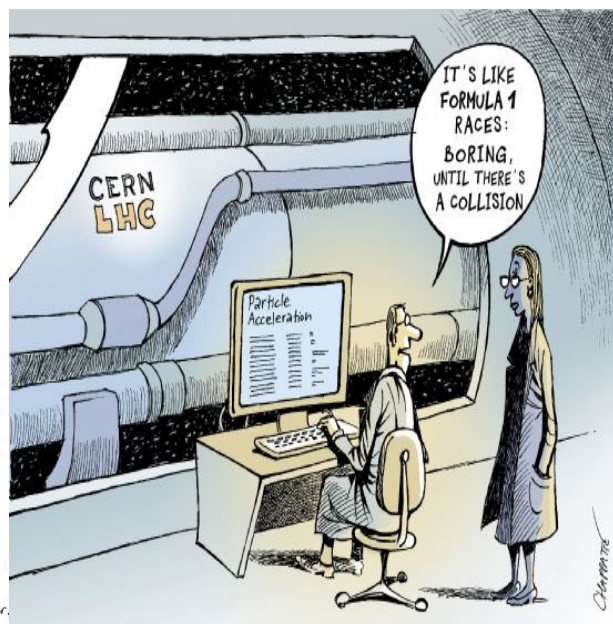
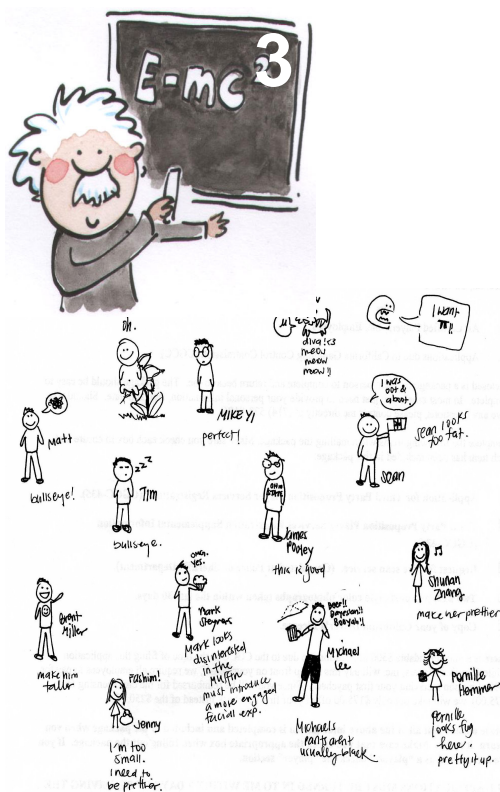
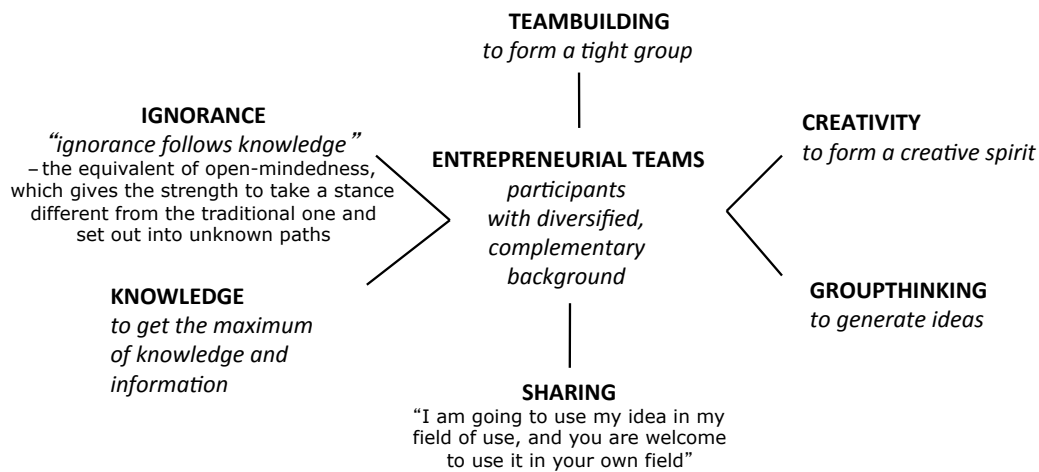
The ability to transpose, test and iterate new ideas and models in a business laboratory has significant potential in terms of promoting rapid learning and the preliminary validation of a new business idea— thus cutting risk, reducing cost and maximising the revenue potential.

The illustrations below show how the experimental lab works.

The Experimental Lab community is a platform where business ideas are being posted looking for problem seekers and problem solvers. The first actively seek out and attempt to deal with problems as they arise from the Lab community ideas. The latter identify effective solutions by enabling unobvious connections of different ideas. Teams of problem seekers and problem solvers are interchangeable.



Traits of Entrepreneurial Teams



Power relations: creative power that emerges when different disciplines collide.

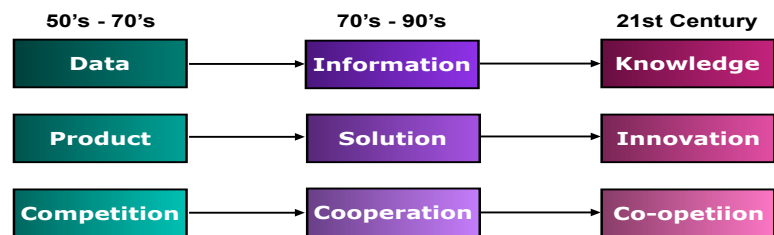
Experimental labs are about experiments in entrepreneurial energy (E)



**A network of
interconnections binds
together in unlikely ways
aspiring entrepreneurs,
experts and non-experts,
the latter challenging
the experts' biases.**

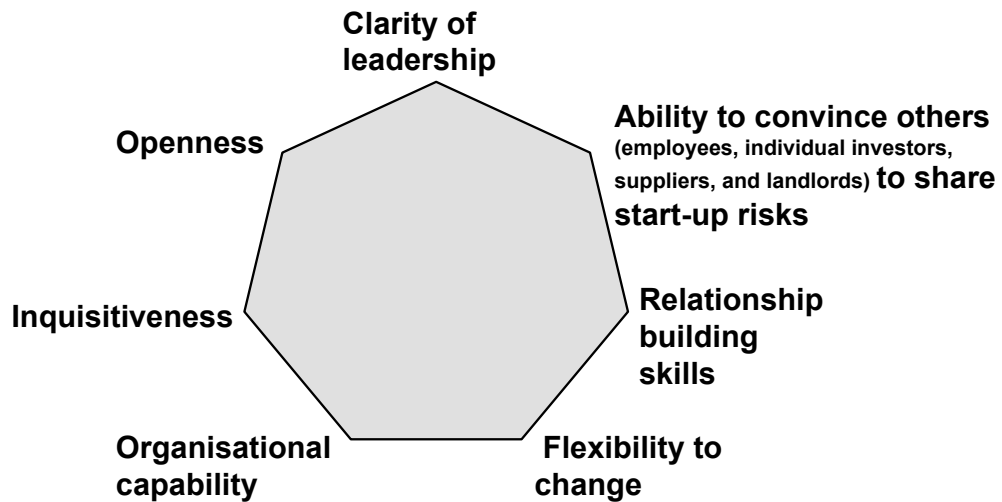
'Knowledgefication' is the electricity of the experimental labs

Three Laws of Knowledge Dynamics ("Knowledgefication")



- 1 Knowledge is the limitless and expandable source of economic wealth. **THOSE WHO SHARE, MULTIPLY****
- 2 Value is created when knowledge moves – is innovated – from point of origin to need or use.**
- 3 Collaboration for mutual leverage – synergistic win/win – provides optimal utilization of assets, both tangible and intangible.**

M stands for **entrepreneurial mass** made up of **attributes** and....



C3 stands for

Creativity in technology x Creativity in product planning x Creativity in marketing



Power 3 Creativity



Creativity in technology

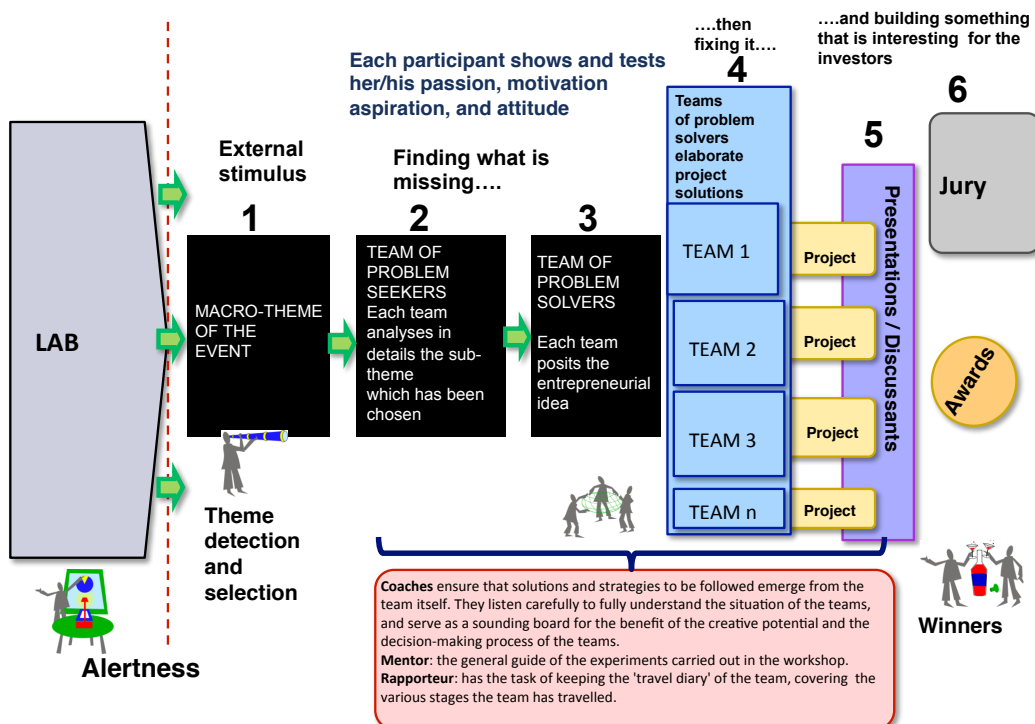


Creativity in product planning

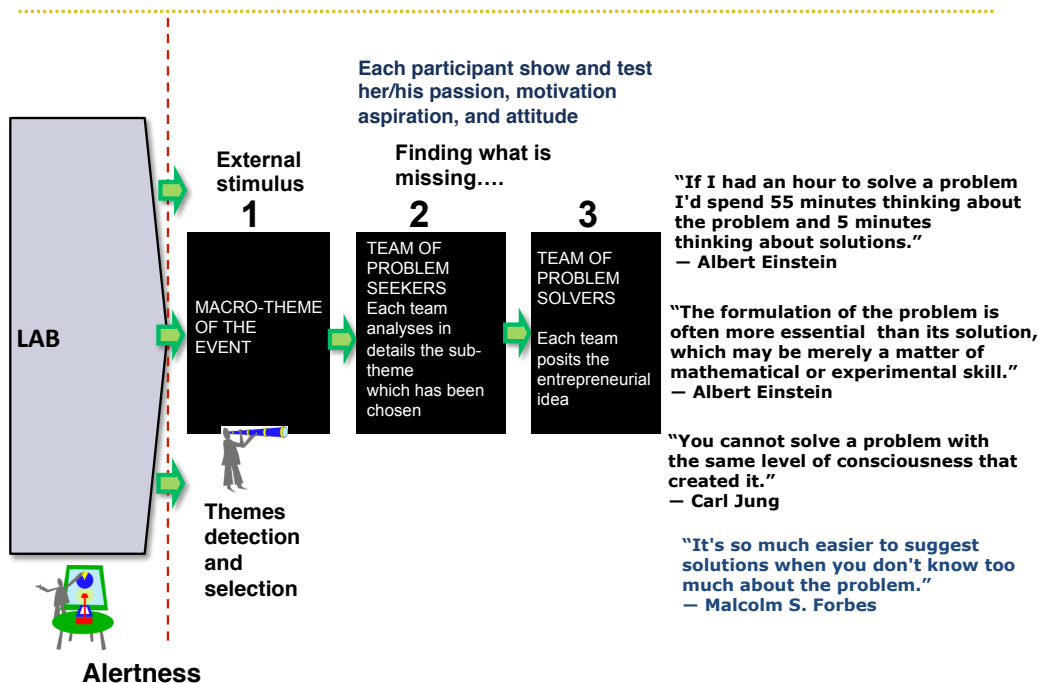


Creativity in marketing

Simplified illustration of the event held at the Laboratory



Creating a community of innovators



Key Parameters for Voting

NOME	DESCRIZIONE	PESO Marks: from 1 to 6
Magnitude of the Idea	Reform or Redefinition of the Market	35%
Business Model	Key resources, Value Proposition and Marketing	20%
Economics	Impact, Costs, Revenues	10%
Feasibility	SWOT Matrix	35%

In The Experimental Lab For New Venture Creation You Play Cards in a Cafés-type Environment instead of Playing by Business Cards in Formal Debates



1. High Context Communities of Practice



2. Cafés-type Communities of Practice

Are life forms whose behaviour is organised from the bottom up

It was in coffee-houses that commerce and new technology first became intertwined.



3. Low Context Knowledge Communities



From intention to action

Formal business meetings are high-context communities that induce

conformity effects and group thinking, which encourages participants to think inwards.

In low-context communities, interpersonal collaboration across multiple boundaries – across cultures, functions, rivalries, and geography – creates the right atmosphere for the rise and spread of broader and fresher insights from newcomers. One can gain tacit knowledge orally, by direct experience, and by trial and error.

Communities of knowledge practice attract all sorts of characters, unlike communities of practice that ties membership firmly to job description (for example, the company-based communities of repairmen in the packaging machinery cluster – Bologna, Italy).

For more details:

Yamazaki, H. (2004), "Knowledge Communities in Japan: A Case Study", *Knowledge Board*, 10 March
www.knowledgeboard.com

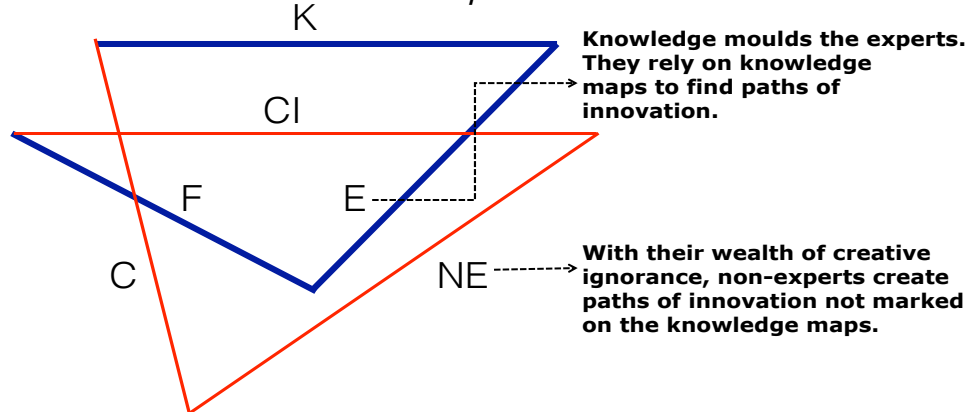
Knowledge and Creative Ignorance

In an experimental lab being involved in the same team, experts and non-experts give life to a cross-triangulation of knowledge and creative ignorance.

Creative ignorance encompasses events with a high degree of uniqueness and of unmeasurable uncertainty. The creative ignorant, focused on observation and curiosity for change, lays down new, unprecedented paths – for invention, innovation or entrepreneurship.

Cross-Triangulation of Knowledge and Creative Ignorance in the Experimental Lab

Knowledge and Creative Ignorance are intertwined. Cognitive conflicts characterize their relationship.



Blue colour is associated with depth and stability. Depth of knowledge and stability of the path. Red colour is associated with courage, passion, and good fortune. Courage to become creative ignorant, passion and good fortune in creating paths.

K = Knowledge – E = Expert- F = Path Finding
CI = Creative Ignorance – NE = Non-Expert – C = Path Creation

Capability Maturity Framework

The experimental lab is a test of the maturity achieved by individuals and organizations in their investments in innovative entrepreneurship

Innovative Entrepreneurship Capability Maturity Framework

Maturity Levels	Macro-Processes			
	Managing IE like a Business	Managing the IE Budget	Managing the IE Capability	Managing IE for Business Value
Optimising	Systematically managing IE portfolio like a business	Revenue-driven budget	Entrepreneurial capability	Optimised value
Advanced	Integrated (processes, tools, metrics*, funds) infrastructure to support IE portfolio	Investment-driven budget	Infrastructure-building capability	Investment value
Intermediate	IE idea portfolio identified and prioritised	Programme-driven budget	Portfolio-building capability	Idea options appraisal
Basic	IE projects limited (<X% revenue) in number, size and impact	Cost-driven budget	Idea-collector capability	Total cost of ownership
Initial	Unmanaged	Unmanaged	Unmanaged	Unmanaged

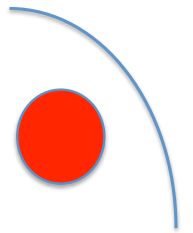
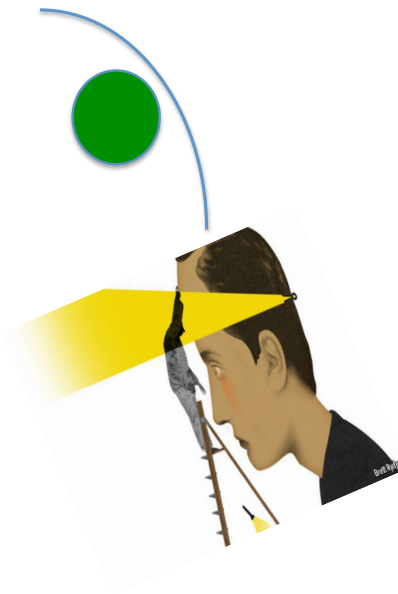
(*) **Input metrics** (amount of investment, # of people allocated). **Process metrics** (# ideas accepted and processed). **Output metrics**: # start-ups launched, # of projects stopped, # of patents generated per year.



THE IDEA SPECTRUM

What kind of driver leads you to innovate?

IDEA 1 HORIZON

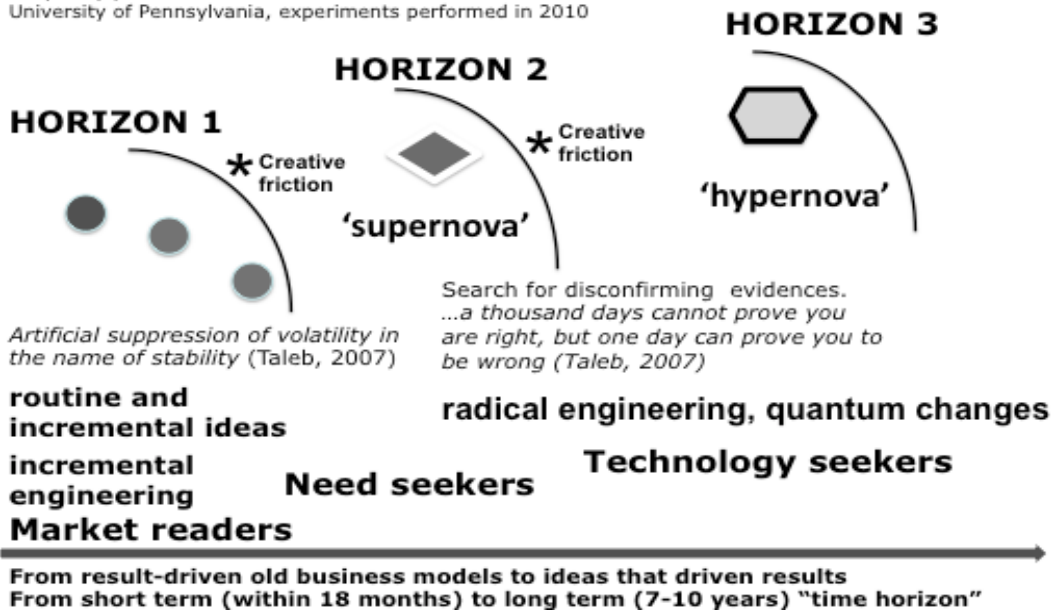


IDEA 2 HORIZON

SOCIAL CHASM

From result-driven business models
To ideas that drive results.

Novelty can trigger feelings of uncertainty that make most people uncomfortable. People dismiss creative ideas in favour of ideas that are purely practical — tried and true.
University of Pennsylvania, experiments performed in 2010



*Shifting from one horizon to the next (Taleb, N. N., *The Black Swan*, New York: Random House, 2007), **creative frictions** generate new entrepreneurship. "Friction of rivalling principles increases the rate of mutation", which means: redefinition, redeployment and recombination of resources" (Stark, D. (2009), *The Sense of Dissonance: Accounts of Worth in Economic Life*, Princeton University Press).

Quantum changes mostly come from high ambitious entrepreneurs outside established businesses, engaged in an endless succession of experiments. Within **Horizon 1**, we find "I"-shaped individuals whose expertise is profound, 'one mile deep', but the range of vision is 'one centimetre width'. Those who head to **Horizons 2 and 3** are "T"-shaped individuals – those who add to a deep expertise a wide range of knowledge and interests. They instigate learning across disciplinary boundaries.

"Apple's edge, says Prof Verganti [Polytechnic of Milano], stems from Steve Jobs' experience in the entertainment industry. As the founder of Pixar, when he returned to Apple in 1996 he came at the music, movie and gaming industries as an insider. By being able to interpret the world beyond computers, he could arrange the puzzle of content and technology more successfully than many" (<http://philipdelvesbroughton.com/2010/11/03/>).

"I"-shaped experts at Technogym-The Wellness Company create "mainframe hardware" exercise equipment. "T"-shaped experts at Nintendo re-create, thanks to Wii – a home video game console, Technogym "on your waist".

'Supernova': an idea explosion that is more energetic in terms of entrepreneurial potential than a standard 'nova'.

'Hypernova', which has energy substantially higher than a 'supernova'.

"Market readers pursue their customers more cautiously, preferring to innovate incrementally and keeping a close eye on the innovations of competitors.

"Like need seekers, they must pay careful attention at the ideation stage to what customers are looking for in the products they choose - but in their case, the goal is to make sure they are delivering successfully differentiated alternatives.

"Market Readers also seek to track the technology trends that can help them create that differentiation".

"Need seekers ascertain the needs and desires of consumers and then to develop products that address those needs and get them to market before the competition does. "The capabilities required for success begin at the ideation stage, where need seekers pursue open innovation and directly generated, deep consumer and customer insights and analytics, as well as a detailed understanding of emerging technologies and trends, in order to identify both their customers' needs and the technology trends that can help them meet those needs".

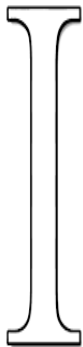
"Technology drivers begin with a different approach to ideation, using their technological prowess to develop products their customers may not know they need" (Barry Jaruzelski and Kevin Dehof, *The Global Innovation 1000: How the top Innovators Keep Winning*, Booz & co., 17 May 2011).

Moving along the entire spectrum is an exercise that has the double hump nature of the learning curve. Once crossed a given horizon, the experimenter realize that things are more complicated than she/he thought. Therefore, the experimenter has to return to fundamentals to think through alternative opportunities. Iteration, the act of repeating the experimental process, is an innate trait of the entrepreneurial experimentation.



"I-SHAPED"

How much are you a specialist?



Specialists are "people who know more and more about less and less, until they know all about nothing".
(Ronald Wright)

SCHOPENAUER, “I-SHAPED” INDIVIDUALS AND TAXI-CAB



Schopenhauer's biased "I-shaped" individuals think that their ideas are not a taxi-cab that they can get in and out of whenever they like. Once they board the train of a given idea, there is no alternative to taking it wherever it may go.

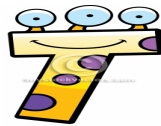
I-shaped personality type; who has a deep but narrow knowledge in a specialized field, is locked-in in his expertise. "I-shaped people have great credentials, great educations, and deep knowledge – deep but narrow. The geniuses who win Nobel prizes are I-shaped, as are most of the best engineers and scientists" (Donofrio, N. M. "Innovation that Matters", in: *Kauffman Thoughtbook 2011*, Kauffman Foundation).

The specialist descends down along the well of knowledge to grasp more and more details. How far down so as not to lose sight of the eye of the well?



"T-SHAPED"

How much are you "t-shaped", a generalist?



**"T-shaped" individuals instigate learning
across disciplinary boundaries.**

By combining depth with breadth across multiple disciplines, a chaotic mode is a distinguishing feature inherent to the IT-shaped personality type. From the “I” and “T” encounters and clashes emerge the creative expertise that pushes both knowledge and market boundaries.

“The revolutionaries who have driven most recent innovation and who will drive nearly all of it in the future are “T-shaped.” That is, they have their specialties— areas of deep expertise—but on top of that they boast a solid breadth, an umbrella if you will, of wide-ranging knowledge and interests. It is the ability to work in an interdisciplinary fashion and to see how different ideas, sectors, people, and markets connect. But even the most brilliant “T” will find it difficult, and perhaps impossible, to innovate entirely on his or her own” (Donofrio, 2011).

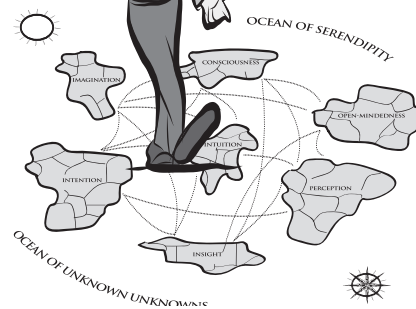


"PATH FINDERS AND PATH CREATORS" ARE YOU A "FINDER" OR A "CREATOR"?

IDEA 1 HORIZON



IDEA 2 HORIZON





Path finders seek and search by reviewing **the knowledge maps (tacit and explicit maps)** they hold and behaving accordingly. They are consistent with the world of knowing.

The finders **face risk** when they decide to set out in search of a path within their maps



Path creation occurs through a learning process of creative performance that is at complete odds with knowing. Discarding any form of knowledge map, path creators go beyond the limits of reason, to penetrate the 'not-knowing' space.

The creators live the uncertainty and unpredictability of those who create a new path from nothing. They do not resort to knowledge practices, rules and handbooks.

The pace of a path creator is not slowed down by the **uncertain consequences** that they must face; quite the contrary, in fact the pace is accelerated by the **motivations** that led them to proceed.




HOW MUCH ARE YOU : LEADER, ENTREPRENEUR, MANAGER



LEADERSHIP
The leader always sets the trail for others to follow.

Entrepreneurs replace "I wish" with "I will"



Your profile is.....

<div>Managers</div> <div>↑</div>	Linking dispersed resources and skills <ul style="list-style-type: none"> • Team builder • Knowledge of community of practices, understanding of interpersonal dynamics • Attitude to integration and flexibility 	Reconciling short-term and long-term commitments and pressures <p>Ability to fine-tuning</p> <p>Understanding short-term priorities as the means and long-term goals as the ends</p> <p>Acuteness</p>	Encouraging, supporting extroverted initiatives <p>Ability to pass responsibility on to subordinates, to empower</p> <p>Knowledge of the individuals' quality, understanding how to influence them</p> <p>Be a coach, a supporter</p>
	Attracting new skills and resources <ul style="list-style-type: none"> • Ability to motivate and drive people • Knowledge of skills and resources in and out of the cluster • Attitude to attract and engage 	Continuous performance improvement <p>Ability to take care of demanding targets</p> <p>Knowledge of the business</p> <p>Spirit of competitiveness</p>	Creating and pursuing opportunities beyond the clusters horizon <p>Ability to grasp the new potential</p> <p>Knowledge of the changing times</p> <p>Creative, intuitive, eager to challenge the unknown</p>
	<div>Leaders</div> <div>↑</div> <div> </div> Building a context of strong trusting relationships <ul style="list-style-type: none"> • Inspiring confidence and creating beliefs • Knowledge of the business culture, structures, processes • Fairness 	Creating in the cluster a spirit of common purposes and ambitions <p>Ability to communicate</p> <p>Broad knowledge of all players in the business</p> <p>Insightful</p>	Challenging the embedded success factors by a new vision <p>Questioning and demanding</p> <p>Understanding of how doing new things in new ways</p> <p>Visionary-minded</p>

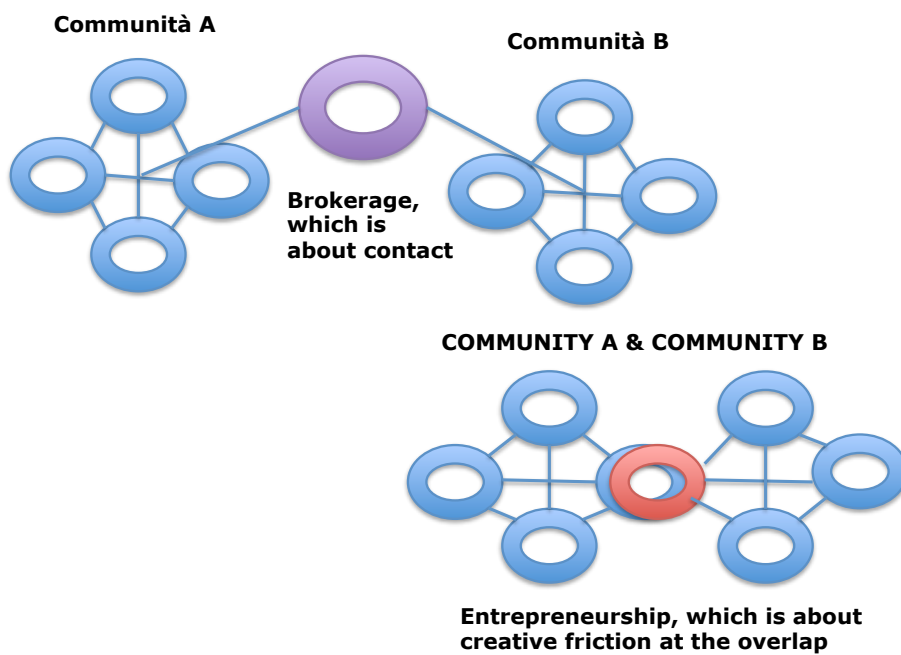
There are three categories of individuals who take initiative and create the context on which the entrepreneurial economy thrives. The first category includes the **"catalysts"**, those who instigate entrepreneurship formation and renewal. They shape an environment of collaborative behaviour and challenge the status quo and success factors. **These individuals are acknowledged as the industry leaders.**

The second category features the **"doers"**, those who build on the foundations established by the industry leaders. Their profile is that of the **entrepreneurs** who have not had the chance to gain a foothold on the industry-leaders ladder. They are either owners of family companies or empowered managers and employees who are responsible for the company's entrepreneurial initiatives (**"intrapreneurs"** – as they have been termed). Entrepreneurs constitute the glue or the "jam in a sandwich" between leaders and operational managers. Their major tasks involve attracting of new skills and resources for supporting trust-based inter-firm relationships, endeavouring to achieve continuous performance improvement needed to nurture the spirit of common ends and aspirations, and the creation and pursuit of opportunities in accordance with the new ideas the leaders have envisioned.

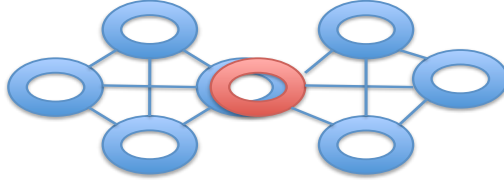
"Developers", the third category, are those who transform the ideas of the leaders into concrete proposals, which the entrepreneurs then convert into reality. The developers' profile is similar to the **operational managers**, who link resources and skills attracted by the entrepreneurs, develop the initiative for the opportunities that the entrepreneurs have opened up, and align short- and long-term commitments on the basis of the entrepreneurs' performance metrics.



ENTREPRENEURSHIP VERSUS CONSULTANCY: YOUR PROFILE IS.....



COMMUNITY A & COMMUNITY B



“Friction of rivalling principles increases the rate of mutation”, which means:

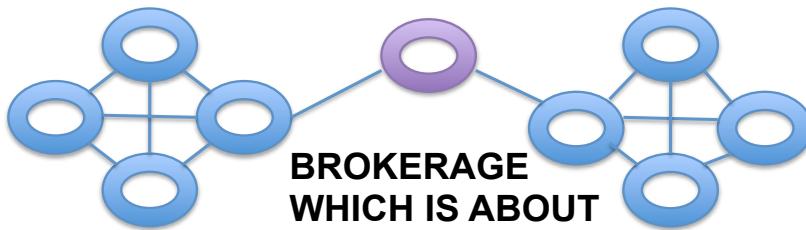
- redefinition
- redeployment and
- recombination of resources

**ENTREPRENEURSHIP
WHICH IS ABOUT
CREATIVE FRINCTION AT
THE OVERLAP**

Source: David Stark, *The Sense of Dissonance: Accounts of Worth in Economic Life*, Princeton University Press, 2009

COMMUNITY A

COMMUNITY B



**BROKERAGE
WHICH IS ABOUT
CONTACT**

Source: David Stark, *The Sense of Dissonance: Accounts of Worth in Economic Life*, Princeton University Press, 2009



MASKELYNE OR HARRISON ?



THE ENGLISH ASTRONOMER ROYAL, NEVIL MASKELYNE (1732-1811)



THE CARPENTER, CONNOISSEUR OF CLOCKS, JOHN HARRISON (1693-1776)

In exploring the business idea, do you feel akin to the astronomer Maskelyne or the craftsman Harrison?

Is your business idea treated as an assumption or conjecture based on incomplete information, imprecise or vague knowledge, and creative ignorance?

THE ENGLISH ASTRONOMER ROYAL, NEVIL MASKELYNE (1732-1811)

- Fundamental tenets of formalized knowledge.
- Perfect synchronization between the inquisitive mind and the knowledge accumulated through education, research and innovation.

THE CARPENTER, CONNOISSEUR OF CLOCKS, JOHN HARRISON (1693-1776)

- A wide range of vision.
- Proceed on barefoot (i.e., little or no monetary and relationship capital).
- Along a course that swerves from the route traced by today's knowledge.

The tercentenary of the Longitude Prize in 2014 has invited us to consider the person of John Harrison (1693–1776), the English carpenter and connoisseur of clocks who, by building a series of highly accurate and reliable maritime clocks, succeeded in providing the means for the accurate determination of longitude. As Dava Sobel's bestseller *Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time* (New York, NY: Walker & Company, 1995) shows, the inquiring mind of the artisan Harrison repeatedly ran into brick walls of advice and solutions raised by the most knowledgeable astronomers of the day. As Sobel writes,

'Renowned astronomers approached the longitude challenge by appealing to the clockwork universe: Galileo Galilei, Jean Dominique Cassini, Christiaan Huygens, Sir Isaac Newton, and Edmond Halley, of the comet fame, all entreated the moon and the stars for help. Palatial observatories were founded at Paris, London and Berlin for the express purpose of determining longitude by the heavens.'

The English Astronomer Royal, Nevil Maskelyne (1732–1811), one of the commissioners in charge of awarding the Longitude Prize (established in 1714 by an Act of Parliament), was vehement in his support for these stars of astronomy.

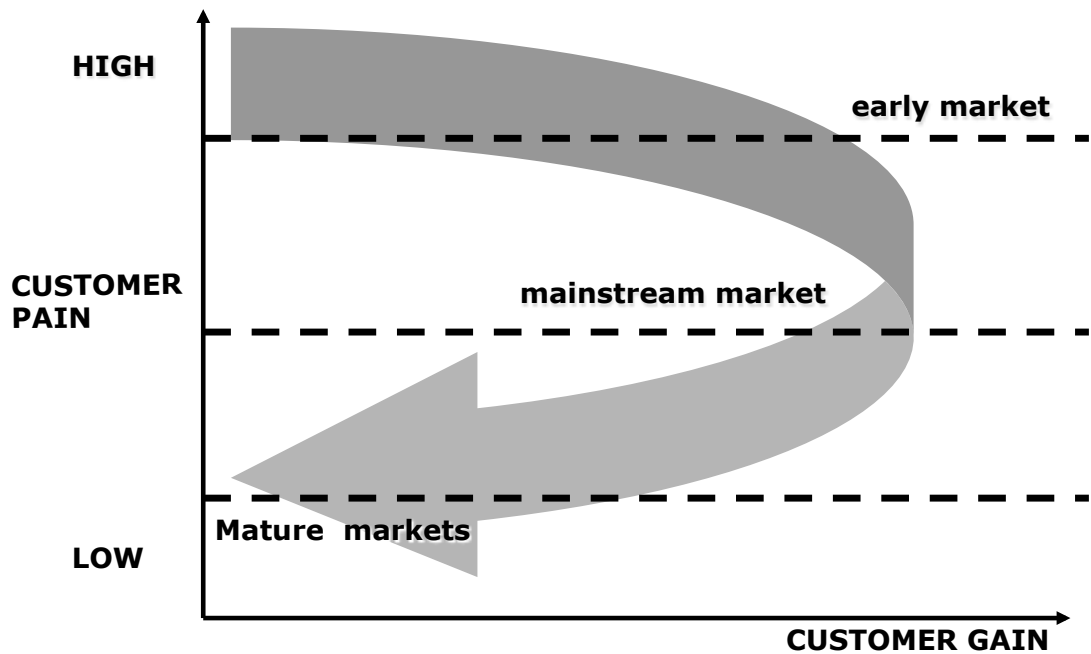
Thus it was a long, lonely journey, littered with obstacles artfully placed by scientists, that the **creative ignorant** Harrison undertook to create a path that would, centuries later, have taken mankind to the moon.

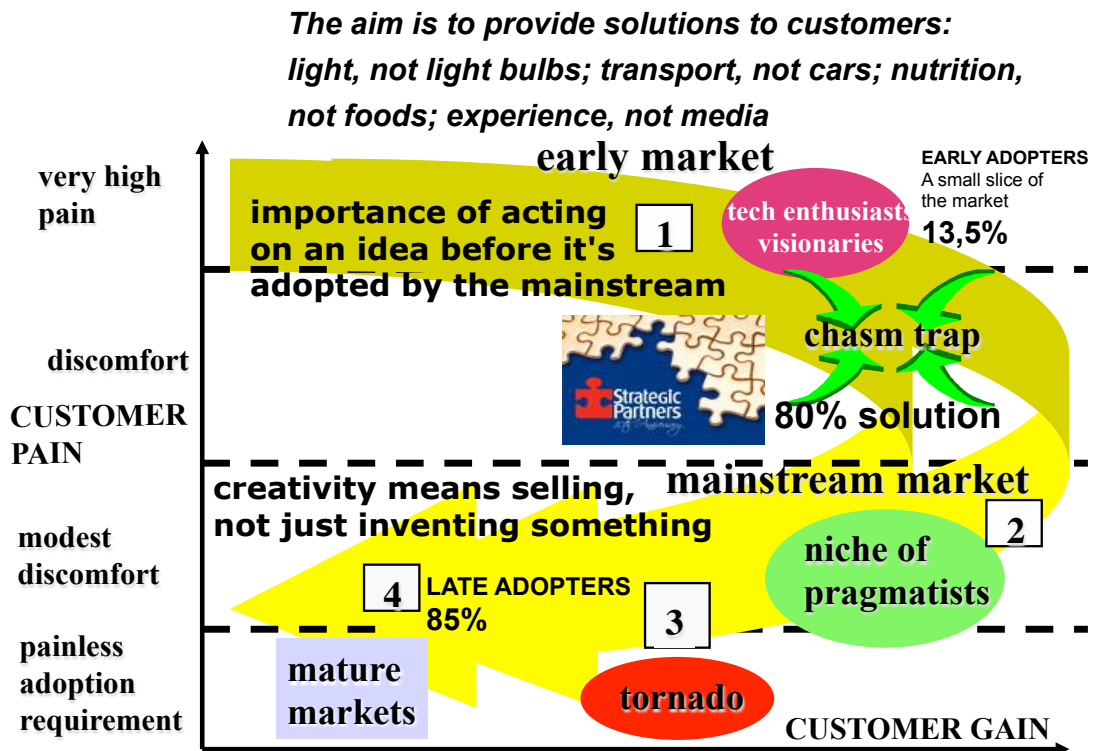
Creative ignorance encompasses events with a high degree of uniqueness and of unmeasurable uncertainty. The creative ignorant, focused on observation and curiosity for change, lays down new, unprecedented paths – for invention, innovation or entrepreneurship.



SOLUTIONS TO CUSTOMERS

Have you concerns about customers' discomfort?





Source: Moore, G. A., (1999), *Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers* (revised edition), A Harper Business Book

Geoffrey Moore (1999), Chairman of the Chasm has drawn up a model that has much to say about forward signals that help technopreneurs to bridge the gap or "chasm" between early adopters of a new-brand technology and pragmatic buyers in order to reach the lucrative mainstream market.

Technopreneur

A technopreneur (i.e., technology entrepreneur) is a person who effectively brings together research talent, venture capital, new business concepts and management skill in order to create commercially successful technological innovations or, alternatively, uses technology to effectively leverage innovations.

Technology-based start-ups strive to create high-tech products tied to the spirit and culture of their potential buyers. So, the solutions they offer have to be not only functional and convenient, but also stylish and attractive. Technopreneurs' products must be functional material objects and they must appeal to the human spirit. In this sense, one can say that techopreneurs operate in a culture industry.

In doing so, they need early adopters gaining experience from those solutions. Since most novel technologies –Moore argues – can offer only partial solutions, a new market, he further states, can bedisclosed only by **enthusiasts or visionary customers** – that is, by early adopters ready to accept a very high pain in exchange for a very high gain provoked by

an innovative but imperfect response to their requirements. Early adopters overcome “self-incompatibility”, as it has defined that kind of lock-in dependence which arises from the products or services already in use. Self-incompatibility arises in consequence of both the costs of learning how to use a new product and the difficulty of using it alongside other products the adopters already own. On the other hand, they are not affected by the “external incompatibility” – that is, by the fact that buying the innovative product they make a choice incompatible with the preferences of the majority of consumers. The latter prefer to continue with the most familiar product because the rival does not look much better in terms of advantages and disadvantages that its use entails.

In contrast to those visionary customers, who are keen to make a quantum leap forward, **pragmatic buyers** constitute the early majority looking for such an improvement in the newproduct that makes it a complete solution through which they can get a very high gain while suffering only a modest distress. The vendor, who fails to get the remaining x percent in order to deliver a whole product, will be falling into an abyss. Technopreneurs, therefore, have to be very attentive in decoding the signals transmitted by the pragmatic buyers “who look to each other for guidance during the chasm phase”: if “no one like them is adopting, so they too hold back” – Moore maintains. Correctly interpreting those signals means that technopreneurs have been focusing on a niche of pragmatists as a chasm-crossing mechanism.

Visionary customers and pragmatists

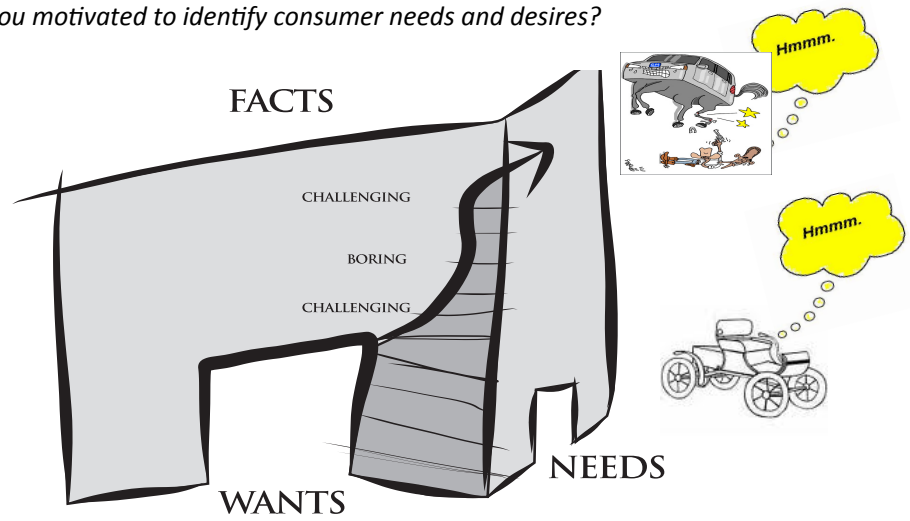
Visionary customers and pragmatists are comparable to lighthouse keepers who, by means of gain (green light) and discomfort (red light) innovative products and services cause them, transmit signals to technopreneurs navigating in technology markets.

Once in the mainstream market, those technology-based start-ups committed to make available a painless adoption with a high gain, can capture the benefits of the market take-off: what Moore calls the **“tornado of an hypergrowth phase at triple-digit rates for several years”**. Finally, the innovative product or service being utterly successful (a “must-have” item), the tornado’s vortex will change into the calm of a mass-adoption market: a mature phase that rewards customers with a pair of very modest gains and no discomfort.



WANTS AND NEEDS

Are you driven by the customers' wants or are you motivated to identify consumer needs and desires?



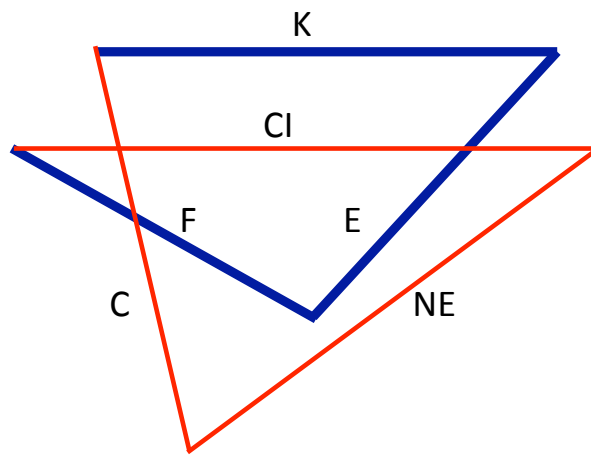
In the Knowing Land the wants are the big front door that gives free access to the facts that happen in the markets, with producers who as market readers have a good command of their knowledge maps, are focused on their strongest “knows” and surrounded by experts who supplement their “knows”, scrutinise the demands of consumers, capture the consumer’s “wants”, and meet specific requirements of the most faithful customers.

The hidden needs are just a small side entrance, almost invisible and made inaccessible. Those going through that door are the need seekers who, having set their imagination in motion to go everywhere, dismiss ideas that are purely practical (i.e., tried and true) in favour of creative ones – novelties which trigger feelings of uncertainty.



KNOWLEDGE VERSUS CREATIVE IGNORANCE

Are you ready to raise cognitive conflicts?



K = Knowledge – E = Expert- F = Path Finding
CI = Creative Ignorance – NE = Non-Expert – C = Path Creation

Cognitive conflict can be regarded as creativity-oriented disagreement that arises from differences in perspective. Affective conflict, in contrast, is a disagreement arising from personal disaffection.

Cross-Triangulation of Knowledge and Creative Ignorance in the Experimental Lab

Knowledge and Creative Ignorance are intertwined. Cognitive conflicts characterize their relationship.

Knowledge moulds the experts. They rely on knowledge maps to find paths of innovation.

With their wealth of creative ignorance, non-experts create paths of innovation not marked on the knowledge maps.

Blue colour is associated with depth and stability. Depth of knowledge and stability of the path.

Red colour is associated with courage, passion, and good fortune. Courage to become creative ignorant, passion and good fortune in creating paths.



HOW TO COMMUNICATE YOUR BUSINESS IDEA

Do you communicate the objective of an incremental innovation to be attained or the need that a radical innovation satisfies?

POLE VAULT

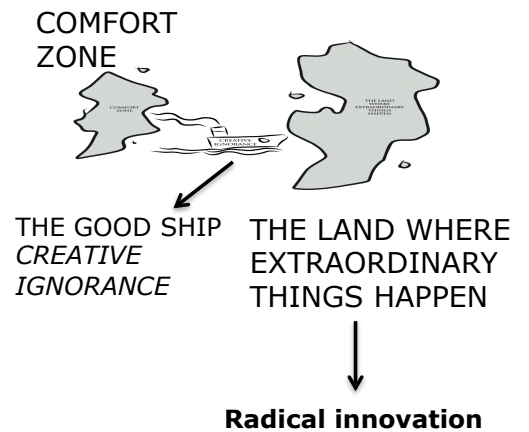
The technique makes the difference



**The hole is your pin:
The product or service
you are going to
improve / change**

**The jump is your
incremental innovation**

THE SEARCH FOR A METAPHORICAL LANGUAGE



What is your trajectory of innovation to communicate?

COMMUNICATION TARGETING MARKET DEMANDS

If you're taking a road that ends in incremental changes of the products and services available in the market, then you are faced with consumers who have already had experience of those products and services. By interacting with expert consumers, your communication must use the language of the expert, the technical language.

COMMUNICATION ADDRESSED TO NEEDS

If you need to communicate a business idea that so profoundly transforms the market to have a radical impact on people's behaviour, then a metaphorical language / figurative language is more effective.

Think of Henry Ford that so disclosed his innovation:

"I will build a motor car for the great multitude...constructed of the best materials, by the best men to be hired, after the simplest designs that modern engineering can devise...so low in price that no man making a good salary will be unable to own one-and enjoy with his family the blessing of hours of pleasure in God's great open spaces".

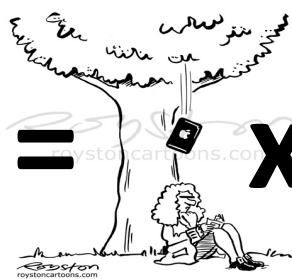


THE THREE CREATIVITIES OF AKIO MORITA

Where is your creativity? How are you calibrating your creativity?



Power 3 Creativity



Creativity in technology



Creativity in product planning



Creativity in marketing

S [Science] does not equal T [Technology] and T does not equal I [Innovation]

This is the title of a famous lecture by Akio Morita, Sony's founder, at the Royal Society in London, in 1992.

The progress in business knowledge is relevant as much as developments of science and technology. From Morita's perspective, "just having innovative technology is not enough to claim true innovation". True innovation is made up of three key elements which Morita call the "three creativities":

- **Creativity in technology**
- **Creativity in product planning**
- **Creativity in marketing**

Contrary to the common belief, creativity in technology, or **technological clairvoyance**, is far from enabling technology entrepreneurs to succeed. Technology, even a good one, does not sell itself.

Creativity in product planning, argued Morita in that lecture, "is so important, though many do not seem to recognise this... What difference does it make how fantastic and innovative your technology is if you do not have the ability to design a useful, attractive, user-friendly product?" "Videotape recording technology – Morita observed – was first introduced to the consumer market in 1965, but the home video market was not born until 1975. That was when innovative product planners took the tape out of the reels and put it into a convenient Betamax cassette for home use.

Creativity in marketing also cannot be overlooked. Again, if you have great technology and even a great product, you will only find success if the market is informed enough to welcome your product".

Borrowing an example from Sony's history, Morita made reference to the case of the Walkman. He submitted that many have called it an innovative marvel, but where is the technology? All components to make it were already available on the shelves. "Frankly, it did not contain any breakthrough technology. Its success was built on product planning and marketing".

In search of creativity

Random Events

*Serendipitous moments when innovators stumbled on something
They were not looking for but immediately recognised its significance.*

Solution Spotting

Finding a new way of using an existing piece of technology.

Market Research

Wants Spotting

Actively looking for an answer to a known problem

Trend Following and Mental Inventions

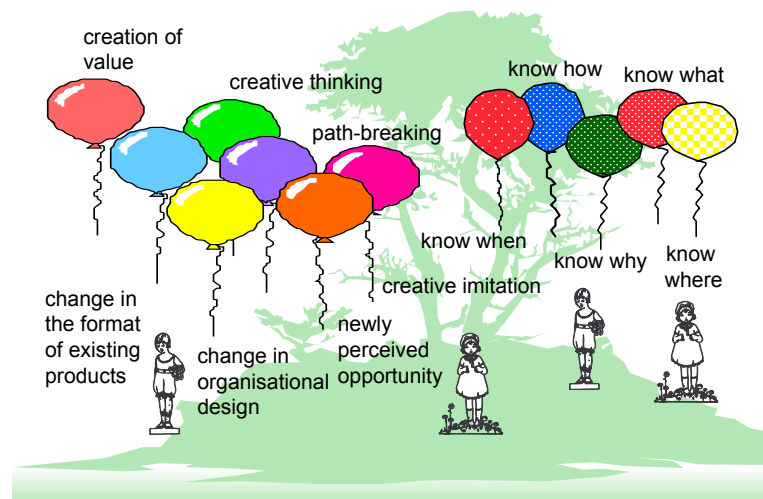
Things dream up in the head with little reference to the outside world.

Source: Carl Framklin, *Why Innovation Fails*, Spiro Press Landon, 2003.

2

PLAYING WITH BALLOONS

With a business idea that is buzzing around in your head, which of these balloons goes into the air first?

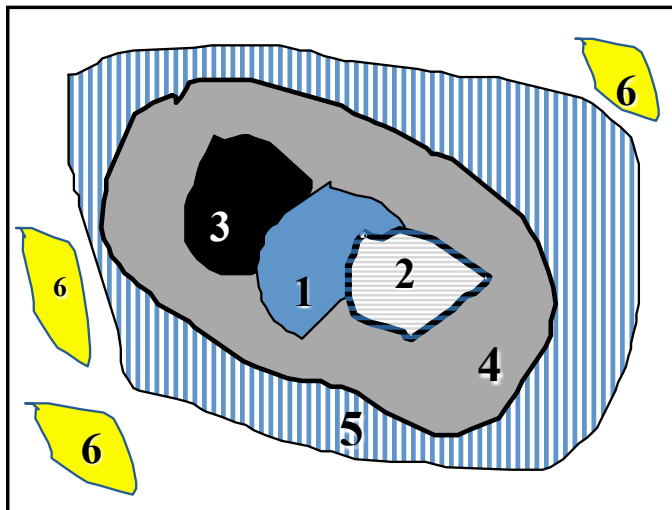


Each coloured balloon represented a type of knowledge translated into innovation.



BUSINESS ECOLOGY

Which cells of the entrepreneurial body are relevant to your business idea?



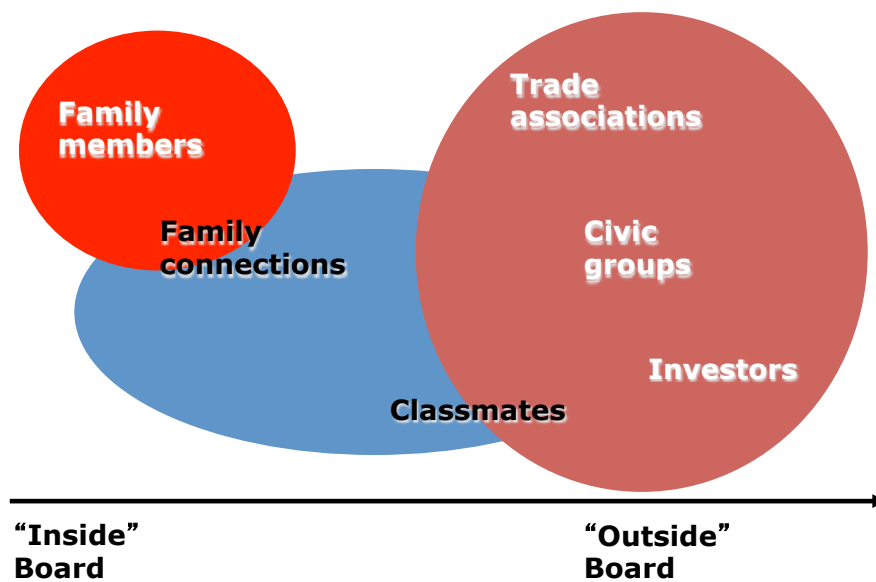
- 1 - core competence
- 2- known unknowns
- 3- unknown unknowns
- 4- current competitors
- 5- potential invaders
- 6- technology islands

- The core competence or domain expertise (that is, what the entrepreneurial body is good at – Cell 1).
- Known unknowns (Cell 2).
- Unknown unknowns (Cell 3) nearby the core competence.
- Knowledge of the current competitors (Cell 4).
- Knowledge of outsiders as potential invaders (Cell 5).
- Perception of original technologies from today's new scientific discoveries that can turn into tomorrow's markets: "technology islands" (Cell 6).



START-UP BOARD

Which types of board have you in mind for getting the most out of it? The plus and minus of your choice

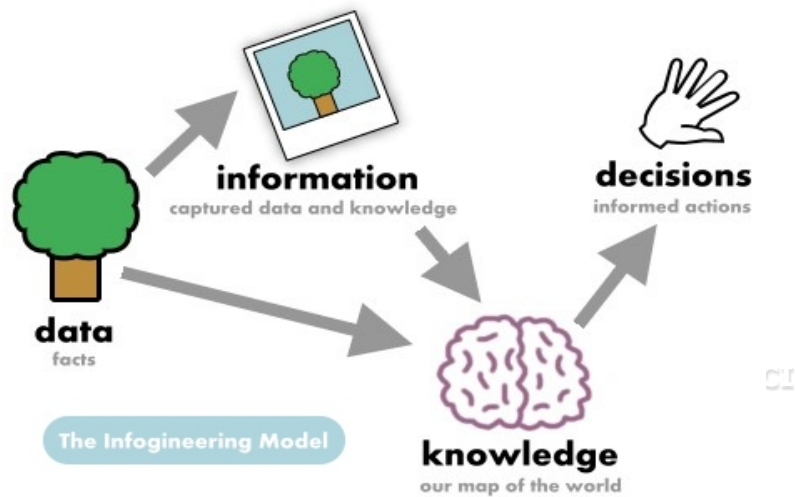


- **An "inside" board?**
 - **What most small business owners form first.**
 - An inside board is comprised of friends, family, and contacts you **trust**.
 -
- **An "outside" board?**
 - An outside board is made up of people you recruit based on their **skills** because you need them to **expand your business**.
- **Your business is not yet incorporated?**
 - You may want to form a board of advisors. An advisory board is **more informal** than a board of directors in that it generally does not have regular meetings.



KNOWLEDGE AND/VERSUS INFORMATION

You, a messenger of information or a knowledge maker?



Distinctive attributes of knowledge and information

KNOWLEDGE	INFORMATION
<ul style="list-style-type: none"> • Mental tools that make sense of things. • An evolving set of beliefs about the world. • Knowledge is a crucial production factor that changes old routines in new ones. • Knowledge makes mere information valuable. 	<ul style="list-style-type: none"> • A message that reduces uncertainty.
<ul style="list-style-type: none"> • Dynamic • Dependent on individual • Tacit • Analogue • Must be recreated • Face-to-face communication 	<ul style="list-style-type: none"> • Static • Independent of individual • Explicit • Digital • Easy to duplicate • Easy to broadcast

Leonard, Dorothy A. (1998), "Mining Knowledge Assets for Innovation", *Knowledge Management*, Vol. 1., No.1, August-September

Sveiby, K. E. (1997), "Knowledge Management and EU. Challenging the Perspective", in: "Seminar on Knowledge Management and the European Union – Results of the Workshops", Utrecht, 12–14 May

Knowledge is not **information**. The latter **is a static activity of reading, duplicating and broadcasting news**. The former is a purposeful and dynamic process of selection and interpretation of information, and of face-to-face interactions through which knowledge is continuously recreated and meanings are assigned to facts that otherwise would remain unintelligible. There is no information without rendering it explicit. Conversely, there is knowledge although not explicit. The producer of knowledge, unlike the manufacturer of a physical product, still keeps it once knowledge has been surrendered in exchange for money. This raises two points.

From one point of view, knowledge goods are, in economic parlance, "*non-rival*" (that is, they can be used by their vendors and buyers simultaneously). "Knowledge – as knowledge experts say -- is not given up in exchange for money in the same way as a cream cake. You can't eat your cake and have it, but you can sell your knowledge and keep it" (Hampden-Turner C. and Trompenaars, F., *Mastering the Infinite Game. How East Asian Values are*

Transforming Business Practices, Oxford: Capstone, 1997). Conversely, things made up by mass or energy are "rival" in that they cannot be used by two or more persons at once.

Rival and non-rival goods

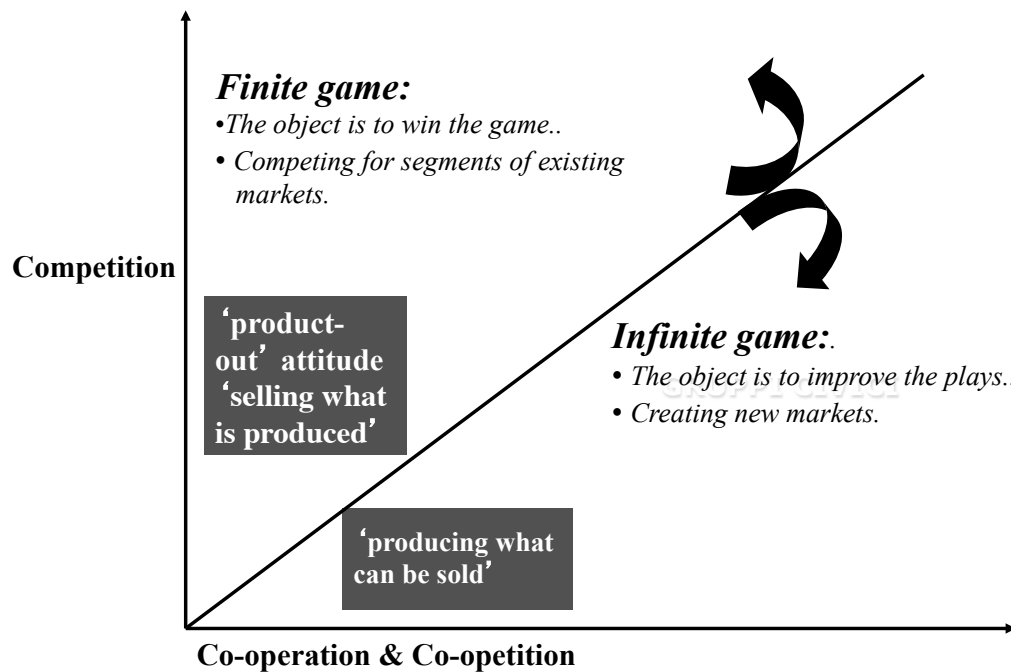
Paul Romer, the founding-father of the new growth theory, divides the economy into ideas or "non-rival" goods, which can be stored in a piece of string, and things or "rival" goods with mass or energy. For example, cars are rival goods; recipes, formulas and techniques used to rearrange things are non-rival goods.

From another point of view, knowledge is not a limited-resource market like agriculture, mining and bulk goods, where a fixed-resource constraint is put on their trading. Knowledge markets are not affected by a short supply of ideas: the potential for finding new ideas is infinite.



FINITE AND INFINITE GAMES

What your business idea will involve, a finite or an infinite game?



Finite game:

- *Leans toward competition.*
- *The object is to win the game.*
- *Adherence to contract terms.*
- *Competing for segments of existing markets.*

Infinite game:

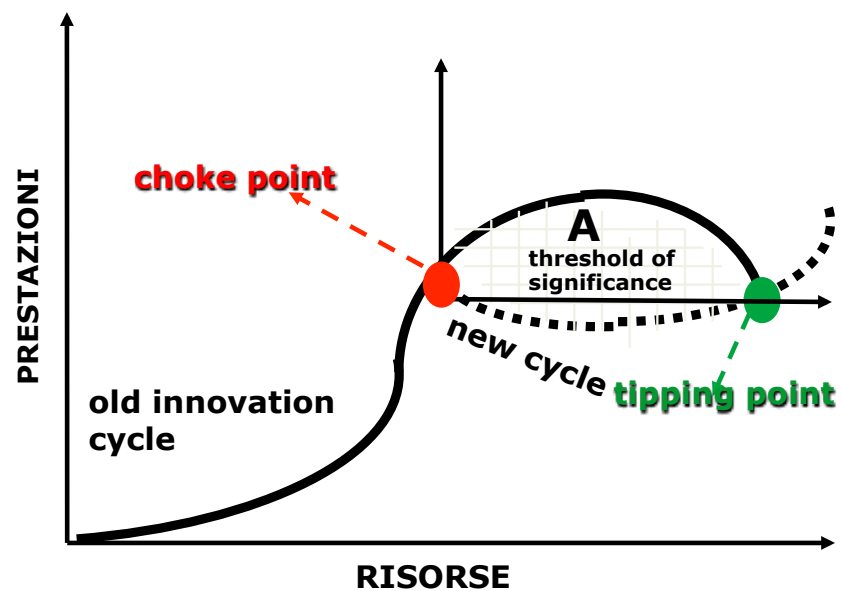
- *Leans toward co-operation.*
- *The object is to improve the plays.*
- *Dynamic reciprocity of relationships:
One partner does more than the
contract specifies and obligates the
customer to do more also.*
- *Creating new markets.*

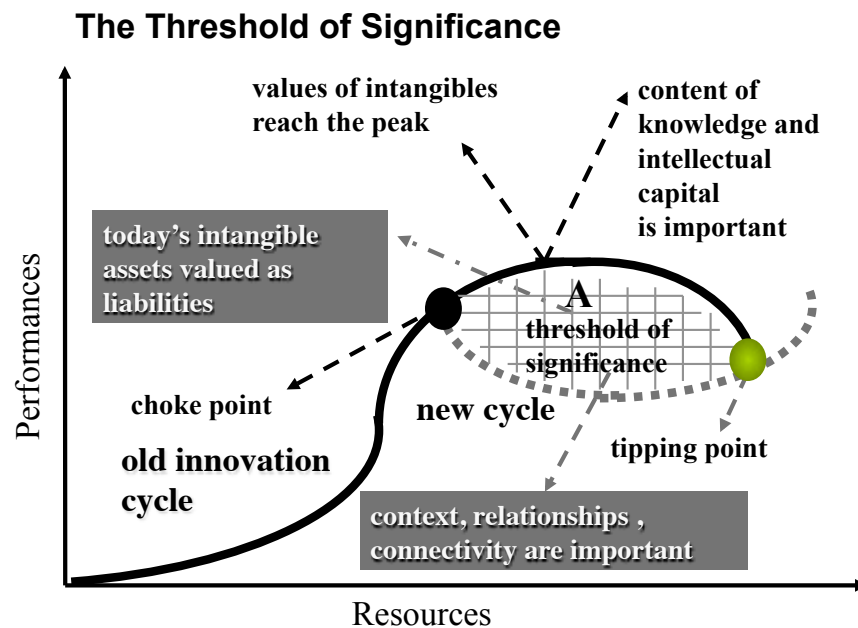
Co-operation and competition mix in various ways. Hampden-Turner and Trompenaars (*Mastering the Infinite Game. How East Asian Values are Transforming Business Practices*, Oxford: Capstone, 1997) state that varying blends of competing and co-operating correspond to different “co-opetition” games. The two authors call **“finite games” those situations in which co-operative competing is an attitude that leans toward competitiveness.** Conversely, endless or ‘infinite’ are those **games that incline toward cooperativeness.**



THE THRESHOLD OF SIGNIFICANCE

If your business idea falls into a new innovation cycle, how do you address issues related to the threshold?





The threshold of significance coincides with the “strait of discontinuity” (**region A**) between two innovation cycles where past and future coexist in the present. The moment when unexpected, radical changes suddenly become a reality is represented by a grey dot at the exit of the “strait of discontinuity”. This is the moment of critical mass or “tipping point” at which the significance of a new round of innovation precedes its momentum. As Gladwell (*The Tipping Point. How Little Things Can Make a Big Difference*, Boston-New York-London: Little, Brown and Company, 2000) puts it: “the world of the Tipping Point is a place where the unexpected becomes expected, where radical change is more than a possibility: it is – contrary to our expectations – a certainty”.

Actions consist first in detecting and then taking possession of particular business activities that control the flow of profits throughout an industry (so called “choke points – the **black dot**) at the entrance of the strait, so as to open up the navigation to start-ups in technologically progressive new firms enjoying fast sustained growth.

There is an inevitable time lag between the decline of today’s stars and the success of tomorrow’s businesses. **Non-tangible assets show the highest values when the economy has reached the peak of the old innovation cycle. But this make people blind to novelty.**

A tiny vanguard of individuals, who are giving birth to far-reaching changes to come, is overshadowed by the majority made contemptuous by the current values of human capital,

marketing skills, patents and brands, and so on – when all these intangible assets are indeed incoming liabilities. So, a stubborn complaisance towards the present endowment of intangibles is an impediment to looking outward from today's business environment and forward into the future. At the surface it seems that the economy has been doing everything right, but seen from a closer perspective that mentality is counter-productive and condemning the economy to its future decline.
