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**CREATIVITY ≠
UNLIMITED FREEDOM**

'Help, my creativity is blocked. Too many constraints!'

For a lot of people, freedom and creativity go hand in hand. To create, you have to be free, because any

restriction inhibits your creativity. This entrenched assumption also originates in the artistic world. People perceive an artist as a rebel who opposes all values, norms, and laws, and accepts no form of authority. That is a romantic vision, and while it is not totally without merit, it nonetheless has to be qualified. True, really innovative art needs a measure of revolt. Great artistic schools of thought have often grown out of frustration and discontent with established values and/or by experimenting with totally different forms of artistic expression.

In the world of applied creativity too, disruptive innovation demands a largely defiant attitude. But what we don't appreciate is that really groundbreaking ideas that lead to total renewal are rather rare. And in everyday life, creativity is usually about an incremental improvement of what already exists, and the circumstances we work in are anything but limitless. In other words, reality forces us to take limits and constraints of any nature into account. Accepting these limits is often freeing and inspiring, because who would want to start with a blank page every day?

This book is about this last misunderstanding. Total freedom is a fallacy, but that doesn't have to be a downer to our creativity. On the contrary, limitations can be liberating and have a stimulating effect. They give us structure and put us in the cage that we often need in order to come up with strong, original ideas.

“Accepting these limits is often freeing and inspiring, because who would want to start with a blank page every day?”



and not only in the emerging markets of Eastern-Europe but also from consumers in the Western, Northern, and Southern parts of Europe. Whereas enlarging the existing means is an important driver of demand, smart solutions can appeal to consumers who are looking for organic and 'ethical' products. Instead of assuming that frugal innovation only applies to certain groups of consumers, it may be smarter to see it in the light of what economists call 'high elasticity of demand'. This is most certainly the case when it is about products where, by crossing a particular threshold, a price cut (based on a more focused functionality) will lead to a strong rise in demand.

It is crucial that frugal innovation offers solutions that are not only cheaper but also better. This is achieved by focusing on users' needs and by drastically prioritizing functions that are of singular importance to customers. To that end, with frugal innovation one must sometimes reinvent a product or solution that already exists in another form. Concretely, frugality can be achieved in several ways. These ways include: de-featuring (taking away unnecessary functions of an existing product), enhancing the robustness and durability of a product to extend its life, improving the

“Instead of assuming that frugal innovation only applies to certain groups of consumers, it may be smarter to see it in the light of what economists call 'high elasticity of demand'.”

efficiency of manufacturing processes and supply chains or using resources more efficiently (for instance by improving the product's design), using waste products in a circular economy model, or rethinking how often-hidden assets (including people) can be put to good use. And the very process of innovation itself can also be made more frugal, for instance by crowdsourcing ideas instead of utilizing traditional R&D processes.

LEARNINGS & IDEAS

This is your free space to reflect on what the previous story might have taught you and how you can use this knowledge in your own (work) environment. Let the questions here below stimulate you, take a pen and start writing!

- Do you have the social and ecological courage to go frugal?
- Is there a potential market for your products and/or services of people with less means that you can service?
- Are you in a price battle with your competitors and could frugal innovation be a possible solution?



How it works:

STEP 1

- Print the tools you downloaded previously on www.whentheboxisthelimit.com/techniques/frugalizer
- There are two tools:
 - The poster (*The Frugalizer poster.pdf*), which you should print on an A2 size or bigger and hang it on the wall
 - The 12 mechanisms (*The Frugalizer tent cards.pdf*), which you should print on thick paper (at least 200 gr) on A4 size, fold them in two and put them on the table as a tent card
- Let the participants sit around the table. The bigger the group, the better (ideally at least 8 people, but less is also possible). I suggest you work in teams of at least two people.
- Give each team a sufficient number of post-its.

STEP 2

- Each team now chooses one or more tent cards to put in front of them on the table.
- During five to ten minutes (depending on the number of cards each team has chosen), each team comes up with as many ideas as possible related to the mechanism on the tent card(s).
- All ideas are written on post-its and pasted on the table for the time being
- When the time is up, the teams stop generating ideas.

STEP 3

- Repeat STEP 2, but with new tent cards per team.
- Of course, when some mechanisms / tent cards have not yet been dealt with, they are given priority. In case they have all been treated, they are simply interchanged between the teams.

STEP 4

- You decide how many rounds of idea generating you need and when you're done, all the ideas on the post-its should be attached to the Frugalizer poster.
- The best ideas will be worked out.

On the next pages, you will discover the 12 mechanisms of The Frugalizer (which are also mentioned on the tent cards).





Picture 1: A wine rack becomes an elegant plant pot holder by simply turning it 90°



Picture 3: Wooden IKEA binders transformed into a coffee table

Or a boring pine dresser that looks a lot more charming after some coloring and decoration (see picture 2)?

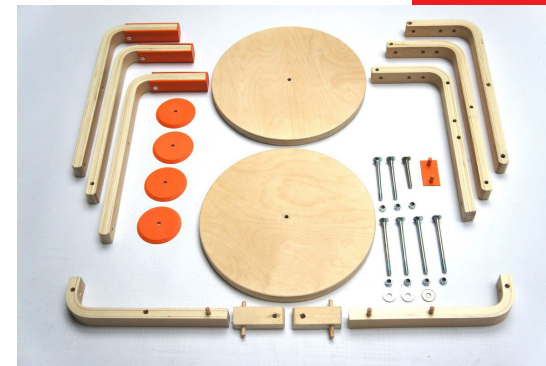
Things can get even more inventive, like a modulated coffee table made out of binders (see picture 3) or a children's wooden walking bicycle made primarily out of bar stool parts (see picture 4).

A beautiful example of how you can transform a simple piece of furniture into a quasi-work of art that still proves extremely functional is the Mandala bookcase (see picture 5). And it gets even crazier when decorative elements get a practical function, like the bathroom wall in an Amsterdam loft that is comprised exclusively of IKEA

Picture 2: A classic IKEA pine dresser becomes a fancy piece of furniture after coloring and decoration



Picture 4: A stool becomes a walking bicycle




 TECHNIQUE IN
BRIEF ON
PAGE 181

The 'Find & Replace' technique: **Tree of Trade**

Limitations often are incredibly powerful in stimulating creativity, because they force us to think laterally, in alternatives. And, as it turns out, that is the very difference between a linear and a creative thinker: where the first group is satisfied with only one solution - even though it is the obvious way to go and consequently not really innovative - the second group will only be satisfied when there is more than one idea on the table. That means that numerous alternative ideas are evaluated, selected, combined, and enhanced to come to a totally new solution in the end.

Tree of Trade is a technique that is built on thinking in alternatives. We start with listing the essential elements that are inherent to the question, look at the needs they fulfill, and, afterwards, try to find alternative elements that cater to the same needs. In the last step, we will - if necessary - translate those elements realistically so that they result in genuinely useful solutions.



You can apply this technique all by yourself, but like many other techniques, it's way more fun and much more rewarding to do this in a group. You can download the PDF-file of the graph free of charge at www.whentheboxisthelimit.com/treeoftrade or scan the QR-code on the left.


 The background features a stylized tree structure with a central trunk and several branches. Each branch and trunk segment is represented by a circle. Some circles are dark green and contain the text 'TRANSLATION 1', 'TRANSLATION 2', or 'TRANSLATION 3'. Other circles are a lighter green and contain the text 'ALTERNATIVE A', 'ALTERNATIVE B', 'ALTERNATIVE C', or 'ALTERNATIVE D'. A central circle contains the text 'RELATED NEED'. The title 'TREE OF TRADE' is written in large, bold, white capital letters across the bottom left of the image.


TREE OF TRADE

The urban legend of Hemingway's **six-word story**

How do you tell a story in only six words? Most people will undoubtedly frown at this crazy idea. And although we are now accustomed to expressing messages in few words (think Twitter), this assignment seems a bit absurd.

The inception of the 'six-word-story' legend has been debated profusely for years, but frankly, it doesn't matter. According to lore, it finds its origins with the famous writer Ernest Hemingway. The story goes that at a dinner, Hemingway engaged in a wager with his companions - all of them writers - that he could write a complete story in only six words. The challenge was accepted, and Hemingway wrote the legendary sentence '*For sale, Baby shoes, Never worn.*' on a napkin. He passed the napkin around and collected the money. Or so the tale goes.

True or not, the concept presented in the story is interesting in its own right and poses the question of how far one can go with literary constraints. Nowadays, one can find a great number of Internet communities that have set up websites based on this challenge, with a



**For sale,
Baby shoes,
Never worn.**

Ernest Hemingway. He challenged his friends with the six-word story and came up with the legendary phrase here on the left - at least, according to (urban) legend.

Stay dry and agile

As an ambassador for the Polar Regions, Dixie is very concerned with the climate: *'Global warming has caused the polar caps to melt, leading to more open water that breaks up ice fields. Those zones force us to make detours of many kilometers to retrace a junction to the relatively straight line of our destination. To avoid that, we prefer to cross the water.'* But that is not without peril. In addition to unpredictable currents that

Dixie Dansercoer: "Global warming has caused the polar caps to melt, leading to more open water that breaks up ice fields."

can drag you away, you don't want to get soaked with icy water because it takes a few days for everything to dry, especially with all the salt that your clothes absorb. For this reason, a waterproof suit is the best solution. They are common in the boating industry, but they are not tailored to the specific circumstances of the Polar Regions. They are too thick, too heavy, too cumbersome...



'A suit like that needs to be fairly sturdy,' Dixie continues, *'because you have to break with your body the chunks of ice you encounter in the water.'* He joined forces with textile manufacturer Sioen and designed a suit to meet those specific needs. First, there was the weight. The target was to stay below one kilogram without compromising on sturdiness, including extra pads for damage-prone areas like knees, backside, and soles. Agility was also a prerequisite: the suit had to be donned over already bulky thermic wear and not in the most comfortable of circumstances.

'Also, it had to be compatible with ski materials, so we looked for a simple click-on system, making it possible to keep using skis easily.' Dixie recounts.

That the suit had to be water proof was clear from the beginning. *'But you don't want to be inside a plastic bag.'* Dixie explains, *'Wading through water is rather straining, making you perspire easily.'* He decided to use the well-known 'Immersion' Goretex fabric, which allows for moist body warmth to go from the inside to the outside, but at the same time blocks moisture from coming in.

'Of course, we're talking about a very exclusive suit that is used under very specific circumstances. A suit like that you're not going to produce for the mass market, because the number of polar explorers in the world you can easily count on two hands,' Dixie laughs.

The fruits of this kind of extraordinary designs you will only reap success with the innovation of products for a larger market. For the manufacturer, Dixie's extreme operational circumstances are a fortunate form of field R&D with a clear win-win as a result.

**You want to go on a polar expedition with Dixie Dansercoer?
www.polarcircles.com**

HOUSTON, WE HAVE A PROBLEM...



When the **box** has to fit the **tube**

How creativity saved three astronauts

On 13 April 1970, on the third manned mission to the moon, one of the Apollo 13's two oxygen tanks exploded. Unexpectedly, astronauts Lovell, Swigert, and Haise had to abort their mission and were forced to return to earth. Not a walk in the park, because their vessel was badly damaged. The legendary words 'Houston, we have a problem' find their origin here. In its 60 years of existence, NASA has put men on the moon and robots on Mars. But maybe this was the biggest 'tour de force' in its history: saving the lives of the three stranded astronauts 300,000 kilometers from Earth. It was a show of creative thinking with two real constraints as the challenge: time and means.

All non-essential systems were shut down to save energy. The astronauts moved to the lunar module that had enough means for two men for two days. Now those means would have to last long enough for three men for four days. There was enough oxygen on board, but energy and water had to be rationed. And carbon dioxide build-up would most likely prove to be the biggest problem. That's why Mission Control worked on the filter problem. The containers with lithium hydroxide that were used to filter the carbon dioxide in the lunar module were tubular shaped, while the available containers in the mission module were cubically shaped.

How do you fit a round tube into a square box? That was the assignment put before the three astronauts. The materials they had on board were very limited, and the clock was ticking because with every minute

The Frugalizer.

PAGE 42

WHAT IS IT?

Based on the idea of **frugal innovation** (= making products and services available and affordable to the masses with limited resources), you will enhance your product or service via twelve frugal mechanisms.

WHEN TO USE?

The Frugalizer is developed for a broad kind of applications. If you want to enhance a product, a service, a process, a structure, an idea, a design, a vision or any other form of innovation issue you are working on, then give it a go. The focus is on frugal, which means that you might consider making your 'subject' more available and affordable to a large target group with limited resources.

WHERE DO I FIND MORE INFO?

You can find a full description of the technique on pages 42 to 49.

WHAT DO I NEED?

- 4 to 12 participants recommended
- 45 to 90 minutes of time
- Post-its and pens
- The Frugalizer poster + The Frugalizer tent cards, both downloadable on www.whentheboxisthelimit.com/frugalizer

Tree of Trade.

PAGE 62

WHAT IS IT?

Tree of Trade is a technique that is built on **thinking in alternatives**. Your goal is to replace essential elements of your subject by creative alternatives that cater the same needs.

WHEN TO USE?

The technique is an ideal mindstretcher to enhance products, services, processes or any other form of innovation issue you are working on. Participants who have an open mind will generate quite surprising and creative ideas with this technique.

WHERE DO I FIND MORE INFO?

You can find a full description of the technique on pages 62 to 66.

WHAT DO I NEED?

- 4 to 10 participants recommended
- 45 to 90 minutes of time
- Post-its and pens
- Tree of Trade poster, downloadable on www.whentheboxisthelimit.com/treeoftrade