

# Frugal Innovation Classroom Course

## THE BUSINESS CASE FOR FRUGAL INNOVATION

### MODULE 1



## *How to do better with less?*

### COURSE CONTENT

1. **The business case for Frugal Innovation**
2. Market opportunities for frugal innovations in Poland/Hungary/Croatia/Ireland/UK
3. Creative problem solving
4. New market development, human centered design and prototyping
5. Sustainability and social inclusion in frugal innovation
6. Financial planning for innovation
7. Management of frugal innovations

#### *Do you know that...*

You can use modules in the way you wish. This course is tailored for individual needs. You can read full modules, you can focus on the main terms, which will be highlighted in each module, you can find examples or try to do the test. Either way we are sure that we will make you read more about how to profit from doing business frugally.

Icons you may come across in the course



Important term



Example



Test



Activity



Video



Source

## THE BUSINESS CASE FOR FRUGAL INNOVATION

Tired of books and articles, in which you cannot find practical and useful knowledge.

Start the module **The Business Case for Frugal Innovation**, which will provide you with information on:

- How to understand frugal innovation?
- Why it is getting more and more popular?
- How my company can profit from frugal innovation?
- Examples of frugal innovations.
- Experts' comments on frugal innovation.

We advise you to join the whole module.





## *Frugal innovation – why it is so important in nowadays business?*

Because

- it means: faster, better, cheaper;
- it allows companies to get high-quality products to market quickly using limited resources;
- it allows to be efficient and deliver what customer wants;
- high-quality products can be affordable and sustainable, as well as meaningful for end-users.

*If you still don't believe that “more for less” is possible, please take a look at the **example** below.*

Thinking about Tata Nano the cheapest car introduced in 2008? Good. But we would like to present you more European production, which would make frugal innovation more visible for you. In 1999 Renault's CEO dreamed about modern, reliable and affordable car that would be retailed at \$6000. He was inspired by Lada when he visited Russia. Lada was selling faster on Russian market comparing to Renault, which was twice as expensive as the Lada. What were the advantage of the Lada – simplicity and affordable price.

In 1999 Renault acquired a Romanian car company called **Dacia**. This step was strategic for the plan of producing cheap and reliable vehicles, as Renault's decision was to place the production in Romania. It was a marriage of two extreme approaches: French design sensibility with post-communist nature of doing more with less (world of limited resources was typical for communist countries). As a result Dacia Logan was launched in 2004. What is more, initially planned for only for emerging markets, Logan also found buyers in affluent western Europe. Logan van, Logan pickup, Sandero hatchback and Duster SUV have become more and more popular in western Europe.

Watch how professionals assess

Dacia Duster

<https://youtu.be/xu0BohBFYx0>



## *Features of frugal innovations based on Dacia example*

Engineers developing Dacia did more with less:

- 50% fewer parts than a typical Renault,
- more space inside,
- reduction of raw materials and costly tooling on the shop floor (thanks to e.g. dashboard made from a single module, a flat windscreen, symmetrical rear-view mirrors),
- reduction of pricey electronic components (which means cheaper production and repair),
- affordable price of €5,000 (\$6,000)

### *Frugal innovations mean:*

- *Do better with less*
- *Turns constraints into an advantage*
- *Resource efficiency*
- *Not altruistic but simply common sense*
- *Faster, better, cheaper*
- *Affordable and sustainable products*

### *Do you know that...*

Dacia Logan was targeted to rural Romanians. In order to fulfill their expectations, original design brief summarised the project of a vehicle in the following way:

A car that would carry “four adults, a pig, a sack, and 100 kilos of potatoes”<sup>1</sup>.



<sup>1</sup>Radjou N., Prabhu J., *Frugal Innovation. How to do better with less*. The Economist, London 2016, p.2



## *Other examples of frugal innovations*

### **Mitti Cool**

#### **Clay fridge without electricity**

When earthquake hit Gujarat, Mansukhbhai Prajapati lost his clay workshop.

He then observed the victims of the cataclysm and problems which they had to face and decided to create a clay refrigerator which can run without electricity.

Mitticool, priced at \$50, soon became a market hit in India, because it fulfilled the needs of masses and thanks to very affordable price, almost every family could buy it.



<https://youtu.be/KGfZti2HfV4>

### **FOLDSCOPE**

#### **The Paper Microscope**

Foldscope is the ultra-affordable, paper microscope that you assemble yourself. It is an origami-based print-and-fold paper microscope designed to be extremely portable, durable, and to give optical quality similar to conventional research microscopes (magnification of 140X and 2 micron resolution). Price: \$1



<https://www.youtube.com/watch?v=h8cF5QPPmWU>

## *Are we facing the frugal economy?*

### *Do you know that...*

Aravind has handled over 52 million out-patient visits and performed over 6 million surgeries. Most of the surgeries were free or at very preferential rates. Dr. Govindappa Venkataswamy- the founder of Arvind Eye Hosptial managed to implement th eservice effeciency of McDonald's to the eye care.

Watch about Arvind Eye Hosptial



<https://www.youtube.com/embed/3lYyfZuTOh4>



Shall we associate frugal innovations only with emerging markets? For example India can boast of many frugal innovations like Tata Nano, Mitti Cool or Aravind Eye Hospital – the world's largest provider of cataract surgery.

The answer is no, we shall not. Many changes can be observed which appoint new “frugal” trends in a global economy:

- Advanced economies in nowadays world are characterized by widen inequalities among consumers.
- The crisis from 2008 imposed an age of austerity, which means frugal living and consuming.
- Various research prove that middle classes in advanced economies point out that they purchasing power shrink.
- Governments have become more cost-conscious. States' deficits, ageing populations and thus pensions burden have made many governments reduce their budgets.
- Consumers, apart from being cost-sensitive, have become more value-conscious. Social and ecological aspects are increasingly considered by consumers while shopping.



*In these times of economic turmoil and rising prices for raw materials, resource efficiency is where environmental benefit and innovation growth come together.*

Janez Potočnik , The European Commissioner for Environment 2010-2014

*Frugal innovation proposes a breakthrough approach to solving some of the most complex issues of our global economy as it empowers human beings to use their creativity to generate economic and social value while preserving the environment. (...)*

Bruno Rocher, Special Adviser to the G20 French Presidency Mission on Social Justice & Globalisation, and Chief Economist, Mars Incorporated

*Business have to innovate in an increasingly resource-constrained environment. Addressing clients' pain points and dreams in frugal way requires a focus on simplicity and agility. (...)*

Sophie Vandebroek, chief technology officer, Xerox and president of Xerox Innovation group

*Less is more.  
(more or less)*







*Are you ready for a definition?*

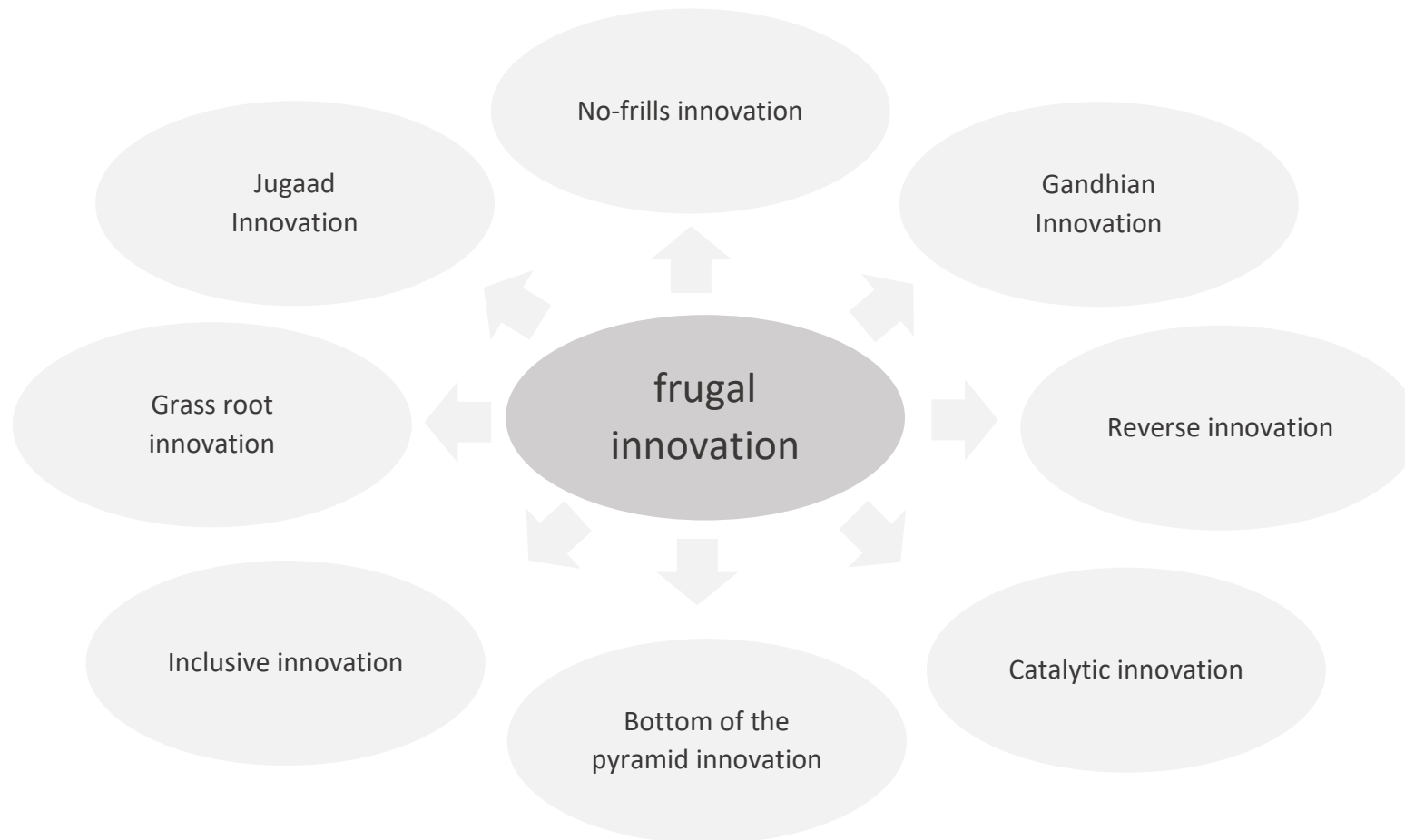
After exploring many sources, like books, scientific articles, analysis, reports, we decided to choose the definition proposed by NESTA, which in our opinion reflects the spirit of frugal innovation the best.

*Frugal innovation responds to limitations in resources, whether financial, material or institutional, and using a range of methods, turns these constraints into an advantage.*

Source: Nesta, <https://www.nesta.org.uk/feature/frugal-innovations/>



*You can also come across some other terms related to frugal innovations*



## *Criteria of frugal innovations*



- Concentration on core functionalities (“frugal innovation aims to respond with extreme efficiency to some essential need”<sup>1</sup>, which means minimizing materials and financial resources).



- Lower costs, encompassing reduction of production costs and thus lower purchasing price (affordable price).



- Sensible quality, which depending on the product should entails terms like: durable, sustainable, reliable, easy-to-use, robust, environmental-friendly, low maintenance, cheap repair.

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<sup>1</sup> Cunha, M. P. e., Rego, A., Oliveira, P., Rosado, P., & Habib, N. (2014). Product innovation in resource-poor environments: three research streams. *Journal of Product Innovation Management*, 31(2), 202–210.

## *Innovation experts about frugal innovations*

Watch what innovation gurus say about frugal innovation



Navi Radiou:

*(..) entrepreneurs from India, China, Africa and South America, and they keep amazing me. (...) They don't invent stuff in big R&D labs. **Street is the lab.** (...) They don't have the kind of basic resources you take for granted (...). When external resources are scarce, you have to go within yourself to tap the most abandoned resource – **human ingenuity.***

<https://www.youtube.com/watch?v=cHRZ6OrSvvl>



Charles Leadbeater

*We live in a world of tightening, if not **severe constraints.** (...) The second thing is **rising inspirations.** (....) Roughly 70 million people a year are moving to cities. (...) we have apparently blessed with technology **limitless opportunities for collaboration.** (..) The future: frugal, digital and well designed for a world of severe constraints, rising aspirations and boundless opportunities for collaborative innovation.*

<https://www.youtube.com/watch?v=UjYMd2NExd0>





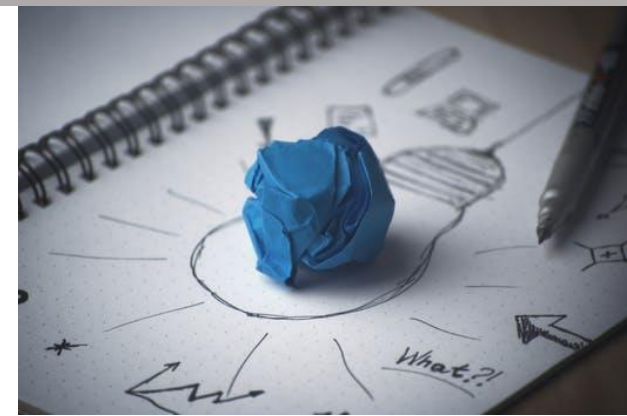
## *SUMMARY*

Compressed knowledge packet provides you with essential information which was presented in the module.

- ★ Even though frugal innovations can be very often observed in emerging markets, they become more and more crucial in advanced economies. Rising limitations related to environmental issues, shrinking natural resources, the uncertain economic future, and demographic and social processes, all of these strands impose the necessity of implementing frugal innovations, regardless the stage of development of economy.
- ★ Some experts underline that frugal innovations provide better value proposition for less affluent consumers. Some highlight creative problem solving which aims at improving resource efficiency and access to products, and thus, social and ecological sustainability.
- ★ Frugal innovations can have various dimensions:
  - Local solutions to meet low-threshold demand on less developed markets (e.g water filter powered by motorbike, solar light bulb)
  - Local solutions for sustainability challenges on less developed markets (e.g. agriculture innovation)



- Product based frugal engineering, corporate “mass frugal” based on defeating and affordability (e.g. Tata Nano)
- Product based frugal innovation, based on increased utility through robustness and sustainability (e.g. Nokia 1100, Jaipur Foot)
- Process based cost reduction, based on leveraging emerging market conditions and smart processes for cheap production (e.g. Dacia’s dashboard).
- Mass customized solutions for less developed markets based on cooperation with local partners (e.g. household appliances)
- Standardized frugal solutions for less developed markets based on customized delivery concept (e.g. models to rent solar panels).
- Globally transformative solutions based on challenges initially identified in frugal environments (e.g. Skype, mobile phone banking)<sup>2</sup>.



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<sup>2</sup> A conceptual analysis of foundations, trends and relevant potentials in the field of frugal innovation (for Europe). Interim report for the project "study on frugal innovation and reengineering of traditional techniques" – Study, Directorate-General for Research and Innovation , Fraunhofer ISI , Nesta, European Commission, 2016-08-04, p. 11-12



TEST

*Ready for a quick TEST?*

**T**

You can quickly verify the knowledge you gained after attending this module.

**1. Do you think that frugal innovations should be associated with the resource efficiency:**

- a. Regardless the environmental issues
- b. Only because of the cost reduction
- c. Provided that ecology and cost reduction matter.

**2. Frugal innovations can be observed:**

- a. Only in India
- b. On advanced and developing markets
- c. Only on emerging markets

**3. An example of a frugal innovation can be:**

- a. Defeatured Nokia 1100
- b. Rolex made of gold
- c. Handmade Maserati



**4. Frugal innovations can be also called:**

- a. Low quality innovations
- b. Jugaad innovations
- c. Reverse innovations

**5. Frugal innovations should be associated with:**

- a. Concentration on core functionalities
- b. Affordable price and low quality
- c. Affordable price and sensible quality

**6. The sources of frugal innovations are mainly:**

- a. R&D
- b. Hi-tech solutions
- c. Limitations in resources



**7. Frugal innovations can be described by the following slogan:**

- a. Slower but cheaper
- b. Faster and cheaper
- c. Do better with more

**8. Which global trends would you associate with frugal innovations:**

- a. The crisis from 2008 imposed an age of austerity, which means frugal living and consuming
- b. Consumers, apart from being cost-sensitive, have become more value-conscious
- c. Social and ecological aspects are increasingly considered by consumers while shopping

**9. Product-based cost reduction means:**

- a. High R&D costs
- b. Increased utility through robustness and sustainability
- c. Local solutions to meet low-threshold demand on less developed markets

# A

## *Are you ready for a frugal thinking?*

Use your ingenuity and try to imagine how you can make your nearest surroundings frugal.

With your frugal mindset please imagine any of your household appliances or things from your everyday use which is more simple, has less features (because you usually use only basic ones) and thus could cost less?

Maybe in your kitchen: a coffee machine? Or a food processor which you barely use (too complicated, too many functions, too many parts to collect)?

Or in your garage: your car? Does it have a lot of electronics and if something breaks down you need to get your car repaired in an authorized car service? Do you know that our fathers could do it on their own?

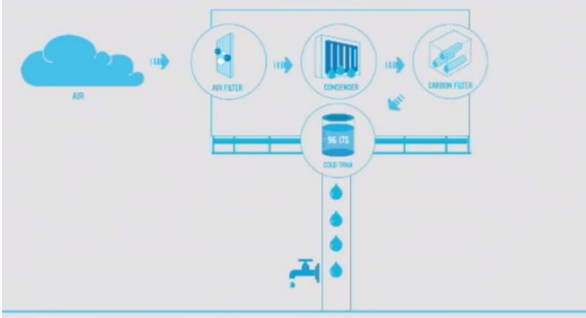




## Sources



More examples, discussions and texts, which might interest you.



Amazing Highway Billboard Makes Drinking Water Out Of Thin Air

[https://www.youtube.com/watch?v=QT\\_2KABVF9E](https://www.youtube.com/watch?v=QT_2KABVF9E)



Jugaad Innovation: Jaideep Prabhu at TEDxUCL

<https://www.youtube.com/watch?v=LNhGbfljtq0>



## Sources



What is frugal innovation? Three defining criteria, Weyrauch, T. & Herstatt, C. J Frugal Innov (2017) 2: 1. <https://doi.org/10.1186/s40669-016-0005-y>, Springer Singapore

Radjou, N., & Prabhu, J. C. (2014). *Frugal innovation: how to do better with less* (1st ed.). New York: PublicAffairs.

*A conceptual analysis of foundations, trends and relevant potentials in the field of frugal innovation* (for Europe). Interim report for the project "study on frugal innovation and reengineering of traditional techniques" – Study, Directorate-General for Research and Innovation , Fraunhofer ISI , Nesta, European Commission, 2016-08-04