• INTRODUCTION
• CASES
• CREATIVITY
• PRODUCT INNOVATION
• INNOVATION SUSTAINABILITY
In recent years, we have assisted to the rise of Creative Industries and many places in Europe have seen the rebirth of high added-value crafts and semi-industrial activities, led by young entrepreneurs or already established businesses and ‘makers’ inspired by ‘new blood’. These movements have contributed, and we believe they have the potential to contribute even more, to the economic value creation, job creation (in particular youth employment) and in some cases to the urban, social and economic revitalization of degraded city areas.

Despite the renewed interest in the crafts and semi-industrial activities, still much that can be done in Europe to foster businesses inspired by a new approach to these high added-value sectors. One of the main challenges to the growth of a high added-value crafts and semi-industrial sectors has to do with the lack of vision, entrepreneurial attitude and innovation practices in crafts and semi-industrial businesses that have subsisted over the years, which can make them grow and create impact.
The Handbook on Creativity and Product Innovation is a learning tool specially designed to support the Module 3 (Creativity and Product Innovation) of the Course on Innovation and Competitiveness in the Crafts and Semi-Industrial Activities developed under the Craftsmanship+ Project. It includes learning contents regarding themes such as innovation management, creativity processes and product development in the context of crafts and semi-industrial activities. For such, they are used several cases to illustrate well succeeded innovation practices adopted by organizations from different countries, based on an intensive research work conducted by all the partners involved in the project. The cases were adapted into training materials to support learners, aiming at promoting better products with a stronger added-value.
About Craftsmanship+

Craftsmanship+ aims to promote new and creative businesses in traditional crafts and semi-industrial business areas anchored on high added-value production techniques, by offering an innovative learning solution for the younger adults entering the labour market and for the existing craftsman.

Craftsmanship+ proposes a new approach to the teaching of Crafts and Semi-Industrial activities with a specific focus on business, integrating production, entrepreneurship and innovation as support contents for an ICT based training course. By doing so, the project proposes to contribute to the economic and social development by supporting the growth of Crafts and Semi-Industrial activities in Europe and by addressing specific political priorities under Europe 2020 strategy, namely by creating favourable conditions for young adults to create their own employment but also by equipping adult workers with the skills and competences in entrepreneurship and innovation that enable them to keep being active members of society.
Learning objectives

• Understand what creativity is, how it emerges and how creative thinking can be developed in order to generate more diverse and better ideas;

• Comprehend that there are different types of product innovation as well as some internal and external barriers to it;

• Understand the challenges associated to the sustainability of innovation within organizations, notably concerning the establishment of models, routines and responsibilities for the management of and allocation of resources to innovation processes;

• Identify the similarities and particularities of crafts and semi industrial activities based on case studies from different countries;

• Apply the concepts learned to the context they work and reflect on their application to their (future) businesses;

• Look at creativity and product innovation tools and methodologies as an opportunity to become and to stay competitive in the market
How is the handbook structured?

This handbook is organized in four main sections. First, it is presented a short description of the cases with some information about the organization, its location, foundation year, website and sector or subsector where it operates.

The remain sections are devoted to the topics of creativity, product innovation and innovation sustainability. In each one of these sections are presented the main concepts related to those topics, complemented with some examples from the collected cases. At the end of the each section are suggested some questions to promote a reflection on the application of the concepts to the learners’ context.
CASES
**CASE 1**

**Organization.** REG’ART

**Country.** France

**City.** Lyon

**Foundation year.** 2013

**Website.** [https://www.facebook.com/reg.art.opticien](https://www.facebook.com/reg.art.opticien)

**Craft sector/subsector/activity.** Optician-glasses maker

**Short description.** Florentin Robert has a BTS Optician’s diploma and is specialized in contactology, optometry and low-vision. Before launch is own business in 2013, he worked for 3 years in the Meilleur Ouvrier de France (a winner of the prestigious MOF craftsmen’s competition) in order to deep him knowledge on how to produce glasses. Currently, he creates custom glasses adapted to the customer’s anatomy and tastes, using unusual materials (e.g. textiles, wood, horn, granite or stone) to make unique designs. His latest innovation is a fully inlaid lens he created by developing a process involving a stream of water.
CASE 2

Organization. YUME PEMA

Country. France

City. Régnié-Durette

Foundation year. 2012

Website. www.yumepema.com

Craft sector/subsector/activity. Haute façon Laser workshop

Short description. Mariane Sornin has graduated as a “haute couture city milliner” at the GRETA des métiers du Luxe in Paris and began her career in luxury prêt à porter. Following the bankruptcy of the last millinery company where she was artistic director, she decided to create her own company. Passionate about crafts, fine materials, the preservation of ancient practices, and avant-garde production technologies, she founded YUME PEMA, specialized in engraving and laser cutting of flexible materials (e.g. silk, Alcantara, leathers and even feathers), finding new ways to use these raw materials in the luxury market in sectors such as luggage, haute couture, luxury watchmaking, visual merchandising and packaging.
Organization. One & Only – Handmade accessories

Country. Greece

City. Attica

Foundation year. 2014

Website. https://www.facebook.com/one.only.handmade/

Craft sector/subsector/activity. Hand-crafted crochet bags and related accessories

Short description. In the middle of economic crisis in Greece, Irini Papadopoulou quit her career on marketing and sales and returned to an old passion she had left behind many years before: traditional crochet and knitting. Inspired by a famous Italian brand and driven by her passion, talent and high aesthetic, she started ideating and creating her own crochet bags by combining the greek heritage of crochet with the latest fashion trends. Bringing this totally new product in the global market, Irini creates unique 100% hand-made crochet bags and clutches that are one of a kind, using high quality raw material, and dedicating many hours to knit each one.
**Organization.** Kurelu – The art of the loom

**Country.** Greece

**City.** Crete

**Foundation year.** 2013


**Craft sector/subsector/activity.** Handmade loom rags, carpets and accessories

**Short description.** Aggeliki Genitsaridou studied interior design at the Technological Educational Institute of Thessaloniki. After working on interior design for many years, she decided to return to her roots and make her family’s old looms heard again. In 2013, she founded Kurelu (the Greek term “kourelou” refers to the Greek folklore rug made of pieces of rags, in particular old clothes) producing handmade loom floor covers and related products such as bags that are based on the rag rugs technique in their essence but modernized with the use of new materials and textiles, new patterns and a loom patent (an upgraded equipment that gives her the possibility to produce carpets of any size).
Organization. Materia Ceramica

Country. Italy

City. Perugia

Foundation year. 1975

Website. www.materiaceramica.com

Craft sector/subsector/activity. Ceramics, pottery

Short description. Pozzo delle Ceramiche, a ceramic and decoration of pottery laboratory, was founded by Maria Antonietta Taticchi in 1975. In 2015, she proposed a new and innovative line of ceramics and design from which the laboratory takes its new name, “Materia Ceramica – Pink-Lamp”, in which the shapes of objects become a result of an experimental research. The pink-lamp project consists in producing a set of table lamps in collaboration with Eng. Giacomo Benedetti, who was entrusted in designing and engineering of the piece. The idea is to insert in the traditional process of the clay piece a new phase, which would allow to obtain a tile biscuit that is crafted through 3D printing. This way, it is possible to offer to the craftsman a geometrically perfect piece and a process that generates a minimum impact to the environment.
**CASE 6**

<table>
<thead>
<tr>
<th>Organization.</th>
<th>REGENESI</th>
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<tr>
<td>Country.</td>
<td>Italy</td>
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<td>City.</td>
<td>Bologna</td>
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<td>Foundation year.</td>
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<td>Website.</td>
<td><a href="http://www.regenesi.com">www.regenesi.com</a></td>
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**Craft sector/subsector/activity.** Design and handmade accessories

**Short description.** Regenesi was born from the intuition and passion of Maria Silvia Pazzi. This organization designs, manufactures and markets original design products produced from post-consumer recycled materials. All the artefacts involve the use of recycled materials (e.g. aluminium, glass, leather or plastic cardboard), treated with novel processing techniques that ensure quality standards identical to those of virgin raw materials. The accessories cover a wide range of everyday life, from Home to Office such as furnishings, objects for the work up to fashion accessories. Every object, carefully made by hand by skilled Italian craftsmen, is produced to live Fashion and Design with full respect for man and environment.
CASE 7

Organization. MF Ceramics

Country. Portugal

City. Lisboa

Foundation year. 2011

Website. www.margaridamf.com

Craft sector/subsector/activity. Ceramics

Short description. Margarida Fernandes is a Lisbon Art’s Faculty alumni with a degree in Product Design. After graduating and some stints at design studios, Margarida embraced the Ceramic craft. She went to Denmark and Amsterdam where she learned new techniques. After her Northern European experience, Margarida returned to Portugal and opened her own studio. To complement her earnings and keep the studio, Margarida has been doing some gigs restoring tiles, but as the business grows and becomes more demanding, she is becoming less and less available for this kind of work. She focused her work on long lasting high quality and superbly looking food and kitchen ware.
**Organization.** Piurra Furnituring – “a tale of a cabinet makers family”

**Country.** Portugal

**City.** Porto

**Foundation year.** 2007

**Website.** www.piurra.com

**Craft sector/subsector/activity.** Furniture and cabinet making

**Short description.** Rui Viana was born in a family of wood craftsman. In 1995, Rui finished a professional course of architecture technical drawer. In 2002, he decided to go back to school and enrolled in an Industrial Design degree. After that, he started a stint at a furniture maker. He challenged the owner of the company and his boss to create a new furniture brand and at the end of 2007, Piurra was established. Currently, Piurra is owned by Rui and its operation was embedded in the family’s and woodworking business. The capacity to innovate, keeping in mind the capabilities of the family workshop and respecting the materials and raw matter but, at the same time, being able to foster partnerships and outsource competencies are some of the aspects which make it unique.
**CASE 9**

**Organization.** Beleza do Sal

**Country.** Portugal

**City.** Aveiro

**Foundation year.** 2014

**Website.** [www.belezadosal.pt](http://www.belezadosal.pt)

**Craft sector/subsector/activity.** Cosmetics

**Short description.** Father and son joined to create a beauty business, founded on a traditional raw-material, the salt of Aveiro. The business was born when the father, Carlos Castro, decided to create some “consumables” for his wife’s hairdresser, with the purpose of adding value to the existing services. This way, they were created the exfoliant, the manicure cream and the pedicure bath salts. When the son of Carlos Castro finished the master's degree in Marketing Management in 2012, he joined the project and they created a company specialized in the production of certified quality natural and handcrafted products, available at affordable prices and based in the recovery of old recipes and re-launch of memories.
CASE 10

Organization. Rosabengala

Country. Portugal

City. Aveiro

Foundation year. 2005

Website.
https://www.facebook.com/designbyrosabengala/?fref=ts

Craft sector/subsector/activity. Plaster modelling and illustration

Short description. Sónia Machado is an architect. As she had few projects as architect, she decided to explore her artistic facet and in 2005 she opened a children’s decoration store called Rosabengala. However, Sónia realizes that having to manage the store and painting the furniture was taking too much time and she had no time to do the creative work. Two years later, when she was mother for the second time, she decided to close the store in order to be able to spend more time with her children and to do some creative work. Currently, Rosabengala is known by the plaster modelling work, using plaster as the main raw material.
Organization. Centro Cerámica Talavera
Country. Spain
City. Toledo
Foundation year. 1992
Website. www.ceramicatalavera.es
Craft sector/subsector/activity. Artisan Pottery

Short description. The Centro Cerámica Talavera is an artisan pottery Workshop that since 1992 has specialized in producing ceramic pieces rooted in the tradition of Talavera de la Reina. In 2012 a new piece, a cutting edge product, has been created by the ceramists Ana Fernández-Pecci, Ramon Gonzalez and Juan Carlos Albarran Tailpiece to confront the economic crisis in the sector – a pottery skull. They designed, modelled and painted it with twenty different models and, before exposing the piece in the workshop they show their skulls on social networks. The skull iconography posed by the centre is ground-breaking. Some customers ordered these pieces because they have seen them in the networks, probably they would never acquire craft but want to have a “customized skull”.

Some customers ordered these pieces because they have seen them in the networks, probably they would never acquire craft but want to have a “customized skull”.
CASE 12

Organization. Cerabella

Country. Spain

City. Barcelona

Foundation year. 1862

Website. www.cerabella.com

Craft sector/subsector/activity. Chandlery

Short description. Cerabella is a company dedicated to the production and commercialization of handmade candles and its origin date back to 1862 when the owner Francisca Abella opened her first workshop. Initially, its production was oriented towards products of ecclesiastical use and basic consumption that supplied the lack of electricity. Later, the fourth generation of the family initiated the modernization process and started researching in the decorative possibilities of candles beyond mere functional use. Thus, it began diversifying its production by adding the decorative candles to its traditional product. The candles manually go through different washes for texture or colour effects and the process may involve from hours to a whole day for a single candle.
CREATIVITY
Creativity

VALUE CREATION

Imagination

Innovation

Creativity

Empathy
What do we mean about creativity?

Talking about creativity is not easy. It corresponds to turn real new and imaginative ideas. Matches the ability to recognize the world in new ways, finding hidden patterns, turn real connections between initial non connected events and be able to raise innovative solutions.

In order to create we need to think and then execute. Having new ideas but stay still, means that someone is imaginative but not creative. The sampled crafts believed in their ideas and decided to be creative.

It is defined as a skill that can effectively be developed and a process able to be managed. It starts with a foundation of knowledge, by learning a discipline but certainly by mastering a way of thinking.

Any person can learn how to be creative. You can experiment, explore, question assumptions, use ideas, imagination and taught and learn it by understanding how to synthesize information.
Creativity and Innovation

Many questions and statements arise around creativity and innovation because the two are different concepts but interrelated.

“Creativity is the capability or act of conceiving something original or unusual.”

“Innovation is the implementation of something new.”

“Invention is the creation of something that has never been made before and is recognized as the product of some unique insight.”
What are the sources of creativity?

There are many different viewpoints about the creativity definition. The challenge lies partially in the nature and definition of creativity. **It may take many forms and it may be found in a variety of contexts.**

**It may be embodied by individuals with a broad range of personal characteristics and different backgrounds.** It is not only the destiny of some but a possibility to all. We just need to believe in ourselves and do not wait to put in practice the new ideas that emerge.

While doing brainstorm meetings we can think about dozens of new ideas. We are thus evidencing creativity but it will only turn into innovation when it will be implemented. So, we need to take risks in order to a creative idea would be turned into an innovation.

**A product, a service, a device or a method that did not existed previously** are considered inventions and every invention is seen as innovation. But the other way around is not always true.
What are the sources of creativity?

- **Creative thinking**
  - relates to how flexibly and imaginatively people approach problems. It depends on personality and thinking or working style.

- **Personality**
  - generally accepted as key to creative production, and the most important motivators are intrinsic passion and interest in the work itself.

- **Knowledge**
  - all the relevant understanding an individual brings to bear on a creative effort, demanding expertise which can be on the form of technical knowledge, procedural or intellectual.
What are the sources of creativity?

Creative skills are not just about good ideas, are also about having the skills to make good ideas happen.

We may find several explanations for creativity. It may be seen as a property or characteristic of human beings, converted into a very important change in the organizational world.

Creativity is not only being original; it is something beyond positive psychological characteristics.

That is why a reasonable definition may not be provided and there is no consensus in this subject.
What are the sources of creativity?

To understand what creativity means we need to analyze:

• **Context**

• **Creativity product**

• **Creation process**

• **Cognitive characteristics of the creative person**
Context

We need to observe all the elements which constitute a situation in which creative processes emerge. The combination of elements composing the context may have a catalytic or inhibitory effect.

The new lens developed by REG’ART (Case 1) were a unique model that the director wanted to show in his business. It took time to develop the innovation, and it was a time of some major difficulties. The finished product was not intended for sale, but the buyer was found immediately at the end provided the process was so original.

What makes MF Ceramics (Case 7) a success and an innovative case is Margarida autonomy and independence in the creative process and at same time the deep connection with her influences and roots.

When Sónia still had the children’s decoration store open (Rosabengala, Case 10), Sónia decided to try do something different in collaboration with another designer. They organized an exhibition with their work and it was a success.
Context

Rui Viana (Piurra, Case 8) was born in a family of wood craftsman. During his studies and already employed, Rui never stopped dreaming and planning a more independent path in the furniture market. With a very particular vision in mind, he challenged the owner of this company and his boss to create a new furniture brand.

Beleza do Sal (Case 9) wants to differentiate from the competition not only by unique and quality products (without chemicals), but also by using eco-friendly and recyclable packaging, promoting regional products (e.g. through the incorporation of salt and algae in its products) and adopting handmade processes.
Creativity product

The final result is a combination of behaviors, incomes, ideas, objects and any other kind of human activity.

Creativity as creative income cannot be measured with great objectiveness and so depends over a set of criteria’s hardly applied in the traditional psychological evaluation.

Kurelu (Case 4) has introduced several innovations in the weaving:

- New materials and textiles
- Modern patterns
- A loom patent

Centro Cerámica Talavera (Case 11) is the example about how to face the economic crisis by using creativity and without losing quality and the sight of the traditional ceramics.

“We wanted to renew ourselves within the tradition, continue the process of evolution, always with the utmost respect”.
Creation process

Includes all mental operations which composes the “creative taught”. It is also related to cognitive characteristics of a creative person.

Some persons assume that all the creativity activity emerges from previous existent experiences in the brain, as a result of internal and external perceptions.

**Creativity may be understood as an interaction of cognitive processes**, a characteristic of personality, thinking styles and environmental conditions, which occur on the basis of the family, professional or social context.

Being art school trained and following her own learning path, immersing herself in the process with different professional cultures and learning distinct techniques, provided Margarida (MF Ceramics, Case 7) the basis for the development of a certain way of making ceramic products. This, allied to an outstanding visual culture, created her signature style.
How the creative thinking does emerges?

Creativity cannot be seen as something only available for artists and inventors. In reality, human mind has a creative impulse integrated in its operative system, integrated in its most basic programming code. As such, any one may give rise to creative ideas!

The individual, as a creative human being, has some psychological characteristics which turn him a creative person in both relative and absolute terms. So, we may include intellectual factors, personality, motivation and variability in the use of creative thinking.

So, the creative thought emerges from the combination of cognitive capacities of individuals with factors like temperament and character. It may happen from several perspectives.

It may be a process of becoming aware of the difficulties, problems, missing information, missing elements, anomalies, to make mistakes and formulate hypotheses about deficiencies, to evaluate errors and hypotheses, possibly review them and prove them, and in the end, communicate their results.
How the creative thinking does emerges?

In the middle of economic crisis in Greece, Irini Papadopoulou (One & Only, Case 3) quit her career on marketing and sales and returned to an old passion she had left behind many years before: traditional crochet and knitting. Inspired by a famous Italian brand and driven by her passion, talent and high aesthetic, she started ideating and creating in home her own crochet bags by combining the greek heritage of crochet with the latest fashion trends.

Florentin Robert (REG’ART, Case 1) obtained his BTS Optician’s diploma and before specializing in contactology, optometry and low vision, taking a bachelor’s degree. The challenge that the young manager faced was how to publicize and develop his business? Creating custom glasses, that were adapted to the customer’s anatomy and tastes. To do this, he used unusual materials to make unique designs. The latest innovation is a fully inlaid lens, which he has created by developing a process involving a stream of water.
How the creative thinking does emerges?

As such, creativity is a person’s capacity to produce ideas, discoveries, restructuring, inventions, and new and original artistic objects, which are accepted by specialists as valuable elements in the science, technology and art domains.

**Originality, utility and value are properties of the creative process.** Creativity also demands that opportunities are taken out as in the cases pointed previously.

*Sometimes opportunities emerge and we need to know how to take advantage from these, especially in the crafts area.*
“Thinking draws upon logic, imagination, intuition and systematic reasoning, to explore possibilities of what could be and to create desired outcomes.”
The founder of **YUME PEMA (Case 2)** works according to *Design Thinking* approach. Here is how the 3 pillars of this method are used to develop the innovative marquetry process:

- **Human values** (usability, desirability)
  - Valuing the Lyon Silk (and by extension fine textiles) in Luxury decoration

- **Business** (viability)
  - Reaching the high end markets with high added value range. The hourly rate applied may thus be higher than in competitive activities.

- **Technology** (feasability)
  - Using the laser as a tool for technological production to exceed the human hand in the execution of engraving and complex cuts

The luxury sectors are always looking for visual, sensory and technical innovations to satisfy demanding customers with a taste for the cleverness of the hand and the finest materials.
Some ways to develop your creativity

Examine and remove perceptual blocks

Avoid quick decisions and conclusions, look for alternatives

Recognize and overcome limited resources

Think how you can make your idea work, who are available who might help you and how you can substitute the expensive resources you think you need

Practice divergent/convergent thinking

Generate multiple answers to a problem or put diverse and disparate ideas, concepts and objects together to create a new object, idea or concept

Collaborate

Share your thoughts promote the divergent/convergent thinking and then the production of more alternatives and diverse ideas

Learn

Creativity requires knowledge. Generally, the most creative people are those who can apply the knowledge from one domain to another.
Among the cases, we can find examples of craftsmen for whom collaboration and learning were key for the creative process.

After years of survival at the Workshop, the artisans of Centro Cerâmica Talavera (Case 11) organized the "Work in progress" exhibition to celebrate the Center's 15th anniversary. The commissioner proposed to invite new artists from different areas (e.g. textiles, plastic art, graphite, etc.) to use ceramics as a medium. Among those who accepted the invitation were the trio of Rubenimichi painters. Ceramic skulls were created by them within this collaboration.

Margarida Fernandes, the founder of MFCeramics (Case 7) decided to embrace the ceramic craft after some stents at design studios. However, after making some unsuccessful contact with Portuguese workshops, she went to Denmark where she learned new techniques. Being a woman, young and educated, she was probably far from the “normal type” in her homeland traditional male oriented pottery “industry”. After Denmark, Margarida went to Amsterdam where she had the opportunity to learn different techniques. After this Northern European experience, Margarida returned to Portugal and opened her own studio in the family’s garage at Lisbon outskirts.
Applying the concepts to your context

1. Think about other businesses in crafts and semi-industrial activities sectors that you know, based in your community, country or even in other countries.
   - *How did the context influence the creative process?*
   - *What were their sources of creativity?*

2. Now think about your business.
   - *How would you describe your business according to the three pillars of Design Thinking?*
   - *What strategies could you adopt to develop your creativity?*
PRODUCT INNOVATION
What is product innovation?

**Product**

any tangible offering that might satisfy the needs and aspirations of the consumer

**Innovation**

being innovative is not just "being new" or "different"

An important current reference to the definition of innovation can be found in the Oslo Manual. This document, by the Organization for Economic Cooperation and Development (OECD), aims to guide and standardize concepts, methodologies and the construction of innovation research indicators in industry. It adopts the following definition for innovation:

*The implementation of a new or significantly improved product (or service), or a process, or a new marketing method, or a new organizational method in business practices, workplace organization, or external relations.*
What is product innovation?

Product innovation focuses on the development and improvement of product features - technical specifications, intended uses, software or other embedded immaterial – which differ significantly from all products previously produced by the company and in the market. The product must be introduced into the market place so that consumers or other firms may benefit. This distinguishes an innovation from an invention or discovery.

Product innovation can be progressive through a significant technological enhancement of a previously existing product whose performance has been substantially increased or improved. This is the type of innovation most easily recognized by the consumer, as it implies the creation of new products or the improvement of existing products.
Categories of product innovation

- New product line
- Product line extensions
- Improvements on existing products
- New to the world
For the case of crafts, the innovation of artisanal can take place:

1. In creating a product or a collection;
2. In the substitution of a raw material that is becoming scarce by a more abundant one;
3. The exchange of more effective instruments of work;
4. By the use of new tools that facilitate the work, but without forgetting that in some techniques only the human hand can execute, with its imperfections and small differences;
5. By changing techniques or more productive processes;
6. Change in shape, appearance and function;
7. Change on how to present products commercially.
REG’ART (Case 1) makes custom glasses by using unusual raw materials such as textiles, wood, horn, granite and stone. It also created a fully inlaid lens by developing a process involving a stream of water.

→ Use of new materials and new techniques or tools

Kurelu (Case 4) produces handmade loom floors covers (and other products such as bags) based on the greek folklore rugs.

→ Changes in shape, appearance and function

Materia Ceramica (Case 5) created the “Pink-Lamp” combining hand skill and digital capability (3D printing).

→ Use of new techniques or tools

Piurra (Case 8) retought its strategy closing the store and focused on traditional methods to create new designs.

→ Changes on how to present products commercially

Beleza do Sal (Case 9) recovered old recipes and developed a methodology to produce a cosmetic product line that uses handmade processes and molds to get a product made of selected local and national raw materials, 100% natural and free of chemicals.

→ Creation of a new product line

In Centro Cerámica Talavera (Case 11), it was created a pottery skull, a cutting edge product in the ceramics sector which made sucess in social networks as well as among young people, artisans and designers.

→ Introduction of a new product
Barriers to the development of product innovation

There is always some reason to be pointed out to justify the failure of a product innovation, namely a **poor market research**, **technical problems** or **bad timing**.

Furthermore, there are some factors that affect the development of innovation (barriers):

- **Economic factors**
  
  *e.g.* perceived excessive risks, very high cost, lack of funding, etc.

- **Characteristics of the company**
  
  *e.g.* insufficient innovation potential, lack of qualified personnel, lack of information about technology and Markets

- **Other reasons**
  
  *e.g.* lack of technological opportunity, lack of infrastructure, no need to innovate due to previous innovations

*(OECD, OSLO MANUAL, 2004)*
Barriers to the development of product innovation

These factors may be divided also in **internal and external barriers**. On balance, internal factors are likely to be more important core determinants that innovation plays a key role in success or failure than are external factors.

Understanding the barriers to innovation and product innovation may be important as it may lead to review of innovation strategies and efforts. From this reflection, the entrepreneur may develop better conditions to overcome obstacles.

Taking the example of **YUME PEMA (Case 2)**, Mariane Sornin works alone and struggles to find someone to teach the necessary skills. Due to a rare and expensive knowledge, the company works in high value-added niche markets. These markets are difficult to access, it needs to be patient and know how to communicate and participate in exhibitions to promote the product and establish strategic partnerships with non-competing professionals acting in similar markets.
Why?

Product innovation on a firm is of prime importance in today’s competitiveness environment.

Companies should be increasingly attentive to ways to remain competitive in the marketplace since in today's world rapid technological change is a constant that involves organizations.

Markets and consumers stimulate product creation and promote the differentiation of goods and services.

On the opposite side of the sales counter, consumers have a strong appetite for innovation, but they are increasingly demanding and expect more choice than ever before.

Despite their peculiarities, micro- and small-scale semi-industrial and crafts enterprises have to innovate constantly to be sustainable.
Why?

Product Innovation can (and should) be part of everyday small-business.

However, a number of factors need to be taken into account in order not to make innovation a wrong track for small entrepreneurs. It is necessary to make innovation not a myth, but a way of contributing to the quantitative expansion of these companies, improving their standard of competitiveness.

Aggeliki, the founder of Kurelu (Case 4), is the first weaver in Greece who introduced a special patent in the big-sized loom enabling her to make large woven carpets, customizing to her clients' needs and preferences. This allowed her to penetrate in the market much easier. Facebook, Pinterest and Skype also help her considerably towards this direction, enabling her to be globally visible and coming in touch directly with her clients and see their spaces making suggestions on the length, color, texture of the products to be produced.

The Kurelu case illustrates the openness of a new generation of craftsmen to reinvent the traditional and to innovate, using the social media tools which are at their disposal to better meet consumers' expectations and requirements.
How?

Sources of change:
- Internal (or endogenous)
- External (or exogenous)

Innovation is an essentially interactive process. Having the right information and knowledge are vital for their development.

Information on the market and consumers, on technology and techniques used in the new product

In crafts the ability to innovate involves a process of learning in diverse areas, culminating in the artisan know-how.
How?

Product innovation should be done in function of the market, through the need to **produce something differentiated capable of drawing the attention of consumers**, either by the **new functional characteristics** or by the **aesthetics of the product**.

The innovation process in small enterprise, namely on crafts and semi-industrialized, assume specific characteristics.

*Product innovation in crafts and semi-industrial activities* must mean **adapting to the new requirements of the market**, both from the point of view of quality and technique, but keeping the characteristics and traditional values of each artisan.

*Many craft products are ancestral and must be preserved, even if only as living testimony of the culture.*
Cerabella (Case 12) is a family business which origin date back to 1862, when candles were produced for ecclesiastical use and basic consumption that supplied the lack of electricity. However, the fourth generation of the family decided to initiate the modernization process and to start researching in the decorative possibilities of candles beyond mere functional use. Cerabella diversified its production by adding the decorative candles to its traditional product. Some processes have been mechanized but most of the production still result from a craft work. Although in many of its decorative candles molds are used, then they manually go through different washes for texture and color effects. The process may take from hours to a whole day for a single candle.

This case is not only an example of success of products upgrade but also of continuous product innovation. Currently, Cerabella has a catalog divided into different lines encompassing, besides the church candles, products for decoration, gifts, special occasions, scented candles, candles outside as well as author candles developed in collaboration with recognized illustrators and fashion designers.
How?

The application of product development methodologies for these small business does not follow the traditional steps.

When it comes to an alternative sector of production, such as crafts, the methodology assumes even more peculiar characteristics, being able to be built and deconstructed at each moment, representing a very singular way of proceeding in the development of products.

Even though, it is possible to draw the stages of the process:
Applying the concepts to your context

1. Think about other businesses in crafts and semi-industrial activities sectors that you know, based in your community, country or even in other countries.
   - What kind of product innovation did you find in those examples?
   - Which barriers have they faced introducing those product innovations?

2. Now think about your business.
   - What kind of product innovations have you introduced in the past?
   - What were the stages you went through in the development and introduction of those product innovations? Were those the same that were described previously?
INNOVATION
SUSTAINABILITY
How can organizations maintain a sustainable innovation practice?

Innovation is a matter of discipline. It requires a continuous investment from the organization in order to implement relevant routines, and practices that assure an adequate allocation of resources and the commitment of everybody in its pursuit.

The management of innovation requires the definition of a model/approach and the implementation of a set of processes and routines supported by methods and tools.

*In short, organizations need to set up some innovation management program i.e. a set of strategies, methods and tools to identify and manage innovation opportunities in a continuous basis.*
Innovation processes

Innovation must be addressed as a process, i.e. a set of activities aimed at a goal (e.g. developing new products, services, etc.), and needs to have sufficient resources and key personnel qualified to bring together knowledge from different areas, including marketing, design, R&D, process redesign, etc.

The innovation process involves activities that are related both to the design and development of new products, addressing some specific market focus. Keeping updated on the target market evolving needs and trends is therefore critical!
Innovation process: the marathon approach

Innovation management has often been compared to a marathon for it requires enduring practice. Moreover, whereas it is dependent on the resources and efforts of the organization, it cannot be disconnected from its context (e.g. target market, partners, etc.). This means that looking outside its boundaries is fundamental in order to increase the range for the identification of opportunities.
Implementing Innovation Management Routines

The implementation of an innovation management approach requires actions at three levels:

- Strategic Level
- Organizational Level (i.e. processes)
- Institutional culture.

In the case of small companies or organizations, like in the context of Craftsmanship+, these elements are often in the hands of one single person – the craftsman or entrepreneur.
Implementing Innovation Management Routines

Innovation Strategy

Innovation needs to be embedded into an organization/company’s strategy, and in the vision of its leader/entrepreneur.

A great volume of ideas for new products are often generated in day-to-day work, e.g. in a conversation with a customer, in the relationship with suppliers and partners who often present something new that unlocks the door to a whole new product. When these ideas come up they need to be effectively managed, i.e. led to its tangible development. Ideas can be lost by lack of awareness or support led by the load of the day-to-day work.

The organization must identify a champion, i.e. someone responsible (e.g. the entrepreneur himself) for capturing emerging ideas.
Implementing Innovation Management Routines

Innovation Organization

Innovation needs to be connected to a clear organizational process. When a new idea arises it is necessary to have clear where/whom to redirect it and lead it from, often, an informal concept emerging in a conversation (e.g. in a meeting, exhibition, customer visit) towards a project that is addressed in a systematic manner (i.e. captured, prioritized, developed, tested, etc.).

When someone identifies a new idea there is the risk of loosing an innovation opportunity if it is not clear whom to the idea should be communicated, and who is responsible to develop it, test it, etc. In some cases this process can be tracked in a software or some kind of record (e.g. excel file, shared documents, etc.).

*The organization must define a clear process for allowing an easy follow up of emerging ideas and opportunities, clearly identifying the responsible persons to involve.*
Implementing Innovation Management Routines

Innovation Culture

Innovation needs to be embedded into an organization/company’s culture so that the innovation process is not one-off exercise, but rather a way of life for the organization, the entrepreneur and any staff involved.

Developing an innovation culture can be a lengthy process. However, small simple steps can be of great help. For example by sharing positive good stories of innovation results can motivate all collaborators to believe that they can also contribute and their ideas could also lead to good results! Other practices include the promotion of bonuses for innovative ideas, prizes, either with financial or in-kind incentives, etc.

*The organization must adopt practices that promote the visibility of innovation results and stimulate every collaborator to feel motivated to advance with new ideas of their own.*
How well do we manage innovation?

The organization should promote regular exercises of assessing how well is innovation being managed. One popular approach is to conduct *innovation audits*, i.e. assessment exercises, aimed at self-questioning the existence, awareness and functioning of innovation attitudes and practices.

This type of internal inquires allow for the identification or areas for improvement (e.g. innovation strategy, organization and culture, etc.)
How well do we manage innovation?

A popular innovation audit approach was proposed by Tidd, Bessant, and Pavitt (Managing Innovation, 2005).

The assessment exercise shall loo at the following five different dimensions, that frame the innovation performance:

**Strategy**

- *Is there a good understanding (i.e. entrepreneur, collaborators, etc.) of the benefits of innovation?*
- *Is there some form of planning process for innovation?*
- *Is there an effective market feedback mechanism in place?*
How well do we manage innovation?

(cont.)

Process

• *Is there a clear specified process for new product develop (i.e. tasks, calendars, responsible, etc.)?*

• *Does the organization/entrepreneur have well developed project management capabilities?*

• *Does everyone in the organization understand (and keeps updated about) customer needs?*

Organization

• *How well does the organizational structure support agile decision-making?*

• *Do people work together across different functions?*

• *Are there rewards and recognition systems that stimulate innovation initiatives?*
How well do we manage innovation?
(cont.)

Linkages

• How much does the organization/entrepreneur foster the collaboration and information sharing with its suppliers?

• To what extent the organization/entrepreneur resorts to diverse and reliable sources of new knowledge (e.g. research centers, exhibitions, etc.)?

• How well does the organization/entrepreneur develop external networks for collaboration (e.g. customers, partners, competitors, etc.)?

Learning

• Is there a benchmark routine towards other organizations?

• Does the organization/entrepreneur allocate time to learn about past errors and successes?

• Are there some indicators set up to help in monitoring the innovation activity?
Auditing your innovation management system

Innovation audits are a popular approach employed to monitor the performance of the innovation systems and to identify key areas for improvement.

Innovation audits involve enquiring employees about the importance and the perceived performance of a set of practices that are relevant for a healthy innovation system.

In small companies, as it is common in the case of crafts, the exercise can be adapted to promote a reflection of the entrepreneur/artisan about its practices and routines for gearing and developing new ideas.
Auditing your innovation management system

Popular innovation audit frameworks include the “Pentathlon Framework” developed by Goffin and Mitchell (2005).

The Pentathlon Framework classifies innovation into outputs (such as products, services, processes, and business models) and five aspects of innovation management: strategy; ideas generation; prioritization; implementation; and people, culture and organization. Questions address items related to each of these dimensions.

**Examples of innovation audit questions:**

Our main innovation strategy is clear (for example, first-to-market or fast follower).

We have a clear/specific definition of innovation that is shared throughout the business.

(...)

The general climate within all of our departments and functions is supportive of the process of generating ideas.

*Source: [http://www.som.cranfield.ac.uk/apps/innovationaudit/](http://www.som.cranfield.ac.uk/apps/innovationaudit/)*
Challenges of Innovation Management in Small Organizations

Many of the prevalent innovation management models are designed to fit large organizations where often specific department and resources are institutionally allocated to innovation. However, the logic and tools of innovation frameworks can be adjusted to guide the entrepreneurial practice in this domain.

Nevertheless it is important to bear in mind the specific context and challenges of small companies, such as:

• Lack of resources or scale to hold technical innovation specialists/teams, which makes them generally unable to support a formal R&D structure.

• Lack of time and resources to identify and use external sources of information, technical and scientific expertise, leading to a more frequent occurrence product and process improvement rather than radical innovation.

• Difficulties in attracting risk capital for innovation and new product development.

• Difficulties in managing large or rapid growth and the associated complex organizational and decision making processes.
Learning from Others: Common Success Practices

Studies on the innovation practices of successful small companies have highlighted several good practices, at three different levels:

**Internal**
- Systematic pursuit of knowledge management, adoption of IT applications, promotion of an innovation culture, innovation friendly human resource practices.

**External**
- Closeness to customers, good knowledge of supply chain and competitors, proactive engagement with the environment for acquisition of technology and new knowledge.

**Bridging**
- Adoption of creative business models, development of partnerships and integration across stages of the product development cycles.
Among the crafts there are several examples of innovation management practices:

Two of the most visible collaborations of Piurra (Case 8) were quite different from each other, but have a great influence in innovation practices. In one hand, the “Arts on chairs” project was a great opportunity to go beyond a more commercially driven process and to explore new and complex techniques. In the other hand, the collaboration with the wood dealer was the opposite process, with the design being completely defined by the available raw matter.

The philosophy of Kurelu (Case 4) is based on interactivity and communication with the customer, ensuring that every creation is unique and tailored to clients preferences in terms of color pallet, combinations, shape, size, etc. Aggeliki visits physically or virtually her clients and make suggestions on colors, etc.

Over the last years, Sónia (Rosabengala, Case 10) has been invited by local entities or local stores to create some pieces allusive to a certain personage/figure, which implies the conduction of some research work in order to respect its characteristics and to meet customers’ expectations (e.g. Fogaceiras from Santa Maria da Feira, São Gonçalinho and Nossa Senhora da Apresentação from Aveiro, Santo António from Lisbon).
Applying the concepts to your context

1. Think about other businesses in crafts and semi-industrial activities sectors that you know, based in your community, country or even in other countries.
   - Which success practices do they adopt in terms of innovation management?
   - How well do they manage innovation according to the audit approach proposed by Tidd, Bessent and Pavitt (2005)?

2. Now think about your business.
   - Which innovation management practices did you implement in so far?
   - How could you improve innovation processes in your business?
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