DEGREBE

Development of Green Skills for Better Employability

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Module 2 Circular economy, creativity

1. Introduction.

Society relies on nature to obtain raw materials from which, after some transformations by manual or industrial processes, it acquires the needed output that will be consumed as products or services by the entire population.

However, the extraction of both energy and materials has reached disproportionate levels, as well as the demand and consumption of products and services. This endangers the conservation of our precious nature, making it difficult to maintain its resources, and preventing the guarantee of its regenerative capacity.

It is in this context that the classic linear economic model has proven to be unsustainable from an environmental point of view.

As a consequence, the survival and sustainability of natural resources, endangered by the impact of human activities, is at stake. For this reason, many sectors around the world are concerned with designing alternatives capable of preventing, mitigating or compensating for the damage caused by human activities. Moreover, measures are being sought to mitigate the environmental consequences of excessive consumption, waste and the generation of wastes and residues.

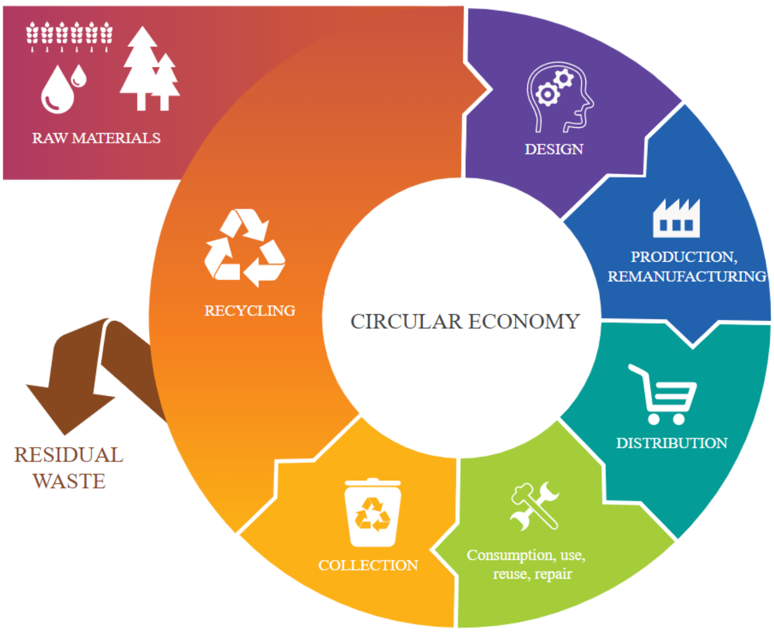
2. Concept of circular economy.

The current state of environmental conservation requires urgent changes in our socio-economic model. The circular economy, the new economic model proposed by the European Union, is presented as a viable alternative to the old production and consumption model, the **linear model**. It was created with the Industrial Revolution and has sustained our societies until today. This traditional method consists of extracting raw materials to manufacture products, produce them and then throw them away, without taking into account its respective environmental footprint and its consequences. In other words, it is a "take, make, dispose" model. It seemed to be effective years ago, when society was living in an era when energy and resources were thought to be unlimited and easy to obtain. All this without being aware of the serious environmental consequences that this model provoked.

Consequently, the **circular economy** is proposed as a viable alternative, which corrects the main problems of the linear model. The goal of this new method is to ensure that the products, components and resources maintain their usefulness and value at all times. In other words, the system intends to have no waste. This new model implies a radical change in the current production and consumption systems.

In fact, it is a production and consumption model designed to share, rent, reuse, repair, restore and recycle existing goods and resources for the longest possible period. As a result, products' life cycle is prolonged.

Image 1: How does circular economy work?



Source: The World Economic Forum

Following this model, when a product reaches the end of its useful life, its components are, whenever possible, preserved within the economy. These can be applied repeatedly, which will create additional value.

Therefore, the circular economy concept focuses on the **3-R approach**:

- Reduce: diminish the use of raw materials to the minimum.
- Reuse: maximal reusability of products and components.
- Recycle: reutilization of raw materials.

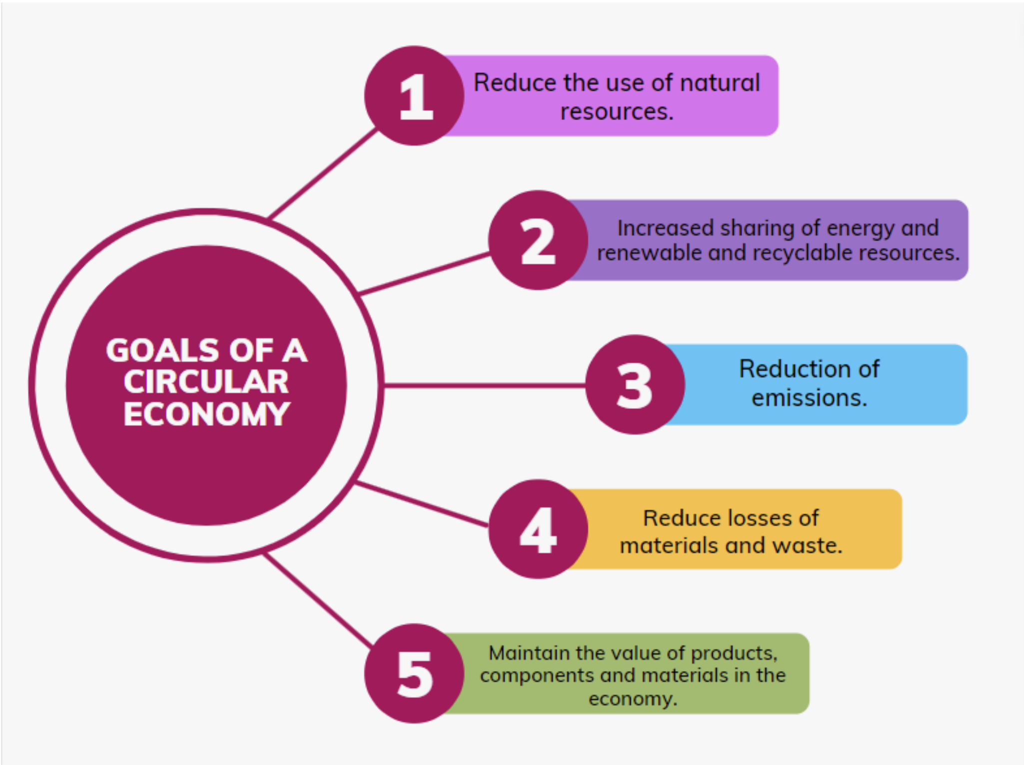
Under this approach, the circular economy advocates the use of biodegradable materials in the manufacture of consumer goods so that they can be returned to nature without causing environmental damage when they reach the end of their useful life.

In cases where it is not possible to use this type of environmentally friendly materials, the aim is to give them a new life, reincorporating them into the production cycle and creating a new output. This means that, in a perfect circular economy system, the value of products and materials is maintained for as long as possible; waste is minimized, and resources are conserved within the economy even when a product has reached the end of its useful life, so that they can be reused repeatedly and continue to create value.

2.1. Goals of implementing a circular economy.

This system gives great importance to the reduction of natural resource consumption and encourages their rational use: reusing and recycling those resources that still have a useful life or can be transformed to enter the new production chain. This makes the production and consumption processes more efficient, reducing possible negative effects to the environment.

Image 2: Goals of a circular economy.



Source: own elaboration.

To reduce the consumption of natural resources (our own or imported), it is necessary to carry out a minimum and optimal exploitation of raw materials. The main goal consists in replacing non-renewable resources by renewable ones. This way, a higher proportion of recyclable and recycled materials will be used.

Moreover, it is necessary to minimize the accumulation of waste, and limiting the amount of waste incinerated and landfilled. To this end, the model proposes extending the useful life of products while maintaining their value in use.

Another goal consists of eliminating the negative externalities, working to reduce the harm caused to different areas and ecosystems that, in turn, affect the people living there. If these negative externalities can be avoided, the circular economy proposes management and compensation for them. Some examples of these negative externalities are polluted air, water and land; noise pollution; emissions of toxic substances and climate change.

In fact, this innovative method has many goals. Below, some of them are explained:

- **Eco concept:** considering the environmental impact throughout the life cycle of a product.
- **Industrial and territorial economy:** industrial organization characterized by an optimal management of stocks and flows of materials, energy and services.
- **The functionality economy:** favouring use over possession (the sale of a service over a good).
- **Second use:** reintroducing into the economic circuit those products that no longer correspond to the initial needs of consumers.
- **Reuse:** reusing certain wastes that can still be used to make new products.
- **Repair:** finding a second life for damaged products.
- **Recycling:** taking advantage of the materials found in waste.
- **Recovery:** taking energetic advantage from the waste that cannot be recycled.

2.2. Benefits of a circular economy.

The main reason why the society is not shifting towards a circular economy is the gigantic change and effort that this requires of individuals, governments, and businesses. This change would need a lot of coordination between different actors and a significant change in the mind and behaviour of the society.

However, if these challenges could be overcome, the benefits of a circular economy would significantly help not only the environment, but also society and companies.

Actually, the circular economy aims at the implementation of production and commercial processes that are committed to a better balance between economy and the environment. Companies that have implemented this system are finding that reusing resources is much more profitable than creating them from scratch. Therefore, it is a system that generates economic as well as social and environmental benefits, as opposed to other economic models, where the economic aspect takes precedence.

One of the great benefits of the circular economy is the fact that it prevents practices such as planned obsolescence. Planned obsolescence is a strategy to ensure that a current product will become outdated or obsolete in a predetermined amount of time. Consumers will definitely look for substitutes in the future thanks to this proactive move, which will increase demand. The avoidance of this type of practices can provide consumers with innovative and environmentally friendly products. Since these kinds of products are more durable, they will generate an economic benefit to consumers.

Other beneficial approaches in the circular economy include eco-design of products and services, waste prevention and reuse. These approaches help companies save money. They also contribute to a significant reduction in greenhouse gas emissions.

In addition to reducing pressure on the environment, the circular economy generates employment. A 2015 report by WRAP and the Green Alliance estimates that, based on the current policy towards sustainability, 200,000 new jobs will be created in the EU by 2030, reducing unemployment by 54,000. Another estimation, under a scenario where policy is more aggressive, the report estimates that 500,000 new jobs will be created, reducing unemployment by 102,000.

Apart from these benefits, a circular economy also improves competitiveness, innovation and economic growth.

Summing up, these are the main benefits of a circular economy:

- Economic benefits:

    - Creates balanced wealth.
    - Generates jobs.
    - Reduces expenses and investments.
    - Leads to more sustainable, efficient, innovative, and profitable production methods.

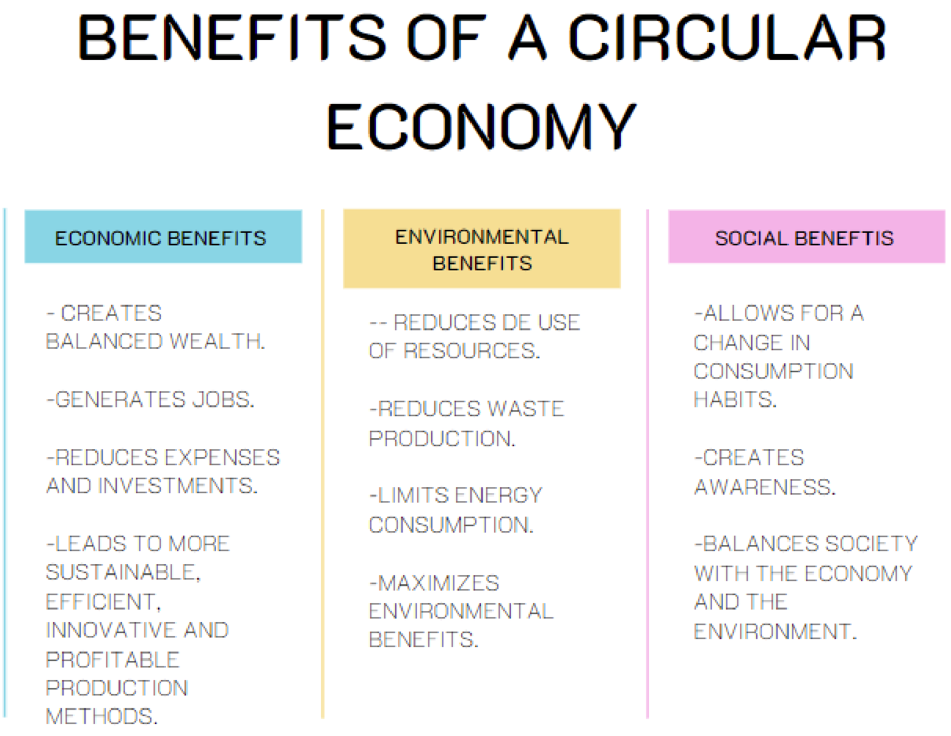
- Environmental benefits:

    - Reduces the use of resources.
    - Reduces waste production.
    - Limits energy consumption.
    - Maximizes environmental benefits.

- Social benefits:

    - Allows for a change in consumption habits
    - Creates awareness.
    - Balances society with the economy and the environment.

Image 3: Benefits of a circular economy.



Source: own elaboration.

In summary, the circular economy protects the environment by minimizing the consumption of natural resources and reducing waste generation, as well as reducing greenhouse gas emissions. It also benefits the local economy by encouraging the reuse of nearby waste as raw material in new production models. It also favors independence from the importation of raw materials by being able to reuse local waste as raw material. It also stimulates innovation and the development of new jobs in line with a healthier and more ecological economic model.

2.3. Policies pursuing a circular economy.

Many institutions have acted in order to implement a circular economy. Measures to follow this path include more sustainable products, reduction of waste, promote circularity in sectors that use more resources and produce more waste and motivate society to adapt to these changes. These actions have been taken for different industries and scopes, which include electronics and ICT, plastics, textile, construction and buildings, packaging, batteries and vehicles and food. *(Circular Economy Action Plan - background guide — EUbusiness.com | EU news, business and politics*. (2020, March 11). EUbusiness.)

For the success of these objectives, the various organisations and bodies have created their corresponding policies and action plans. The EU has set specific measures to achieve the agreed targets. It provides the steps that all the organizations and citizens need to follow to reach a more competitive and cleaner Europe. The process in based on the cooperation of all the actors and it is future oriented. (*EUR-Lex - 52020DC0098 - EN - EUR-Lex*. (2020, March 11). EUR-Lex).

There is only one planet Earth, but the society is consuming its resources as if there were three. Therefore, to achieve climate neutrality by 2050 the EU must accelerate the process of giving back to the planet more than what we take from it. We must also lower the carbon impact and increase the usage of circular materials.

Collaborating to develop the framework for sustainable products will create new opportunities for companies within the EU and beyond. In fact, according to a recent study implementing circular economy concepts across the EU economy could boost GDP by an additional 0.5 percent by 2030.

There are various activities that have been undertaken for this cause. Hence, the EU commission has created a "right to repair", which consists of increasing the duration of the products by making them more sustainable related to tablets, smartphones, and computers. Furthermore, they want to transform the market and convert all the plastics reusable and recyclable by 2030, maintaining an economic viability. In addition, the plan boosts the private financing through financial instruments (i.e. InvestEU) in order to obtain more support for the circular economy.

Regarding more specific plans, each European country has developed its own strategies and policies in order to achieve a circular economy. Here are some examples for country based Circular Economy policies.

In Greece the National Circular Economy Strategy has been developed, in order to improve the country's economic situation. This National Strategy aims to unlock growth potential and speed up circular economy initiatives. It can generate new employment opportunities, support small and medium-sized businesses, develop new trades, and stimulate Greece's underdeveloped social economy. Some of the actions that this strategy wants to implement are launching a series of institutional interventions that will reinforce circular economy, modular planning and open innovations, policies facilitating the establishment of 'smart factory' plants, which will be innovative, applying high technology, green, modular and, probably digitised, communicative strategy to raise citizens' awareness along with the provision of incentives, etc. (Ministry of Environment and Energy, 2018).

In Cyprus, the "Cyprus Action Plan for the transition to a circular economy 2021-2027" was approved by the Council of Ministers. Thanks to this plan of moving to a circular economy, more opportunities for the transformation of companies and industry will be created, in order to gain more competitive advantages and become more competitive, resilient and more sustainable at a local and international level (*Presentation of the Cyprus Action Plan for the transition to a circular economy*, 2021). This plan is based on the following pillars:

- Cultural change for a circular economy: It includes informing the business community and consumers about the prospects and business opportunities of a circular economy, information campaign for the sustainable management plan “Pay as you throw” and providing training on circularity issues.

- Providing incentives for investments in a circular economy: It includes the development of a Consulting and Financial Guidance Plan, the development of “Go Circular” Grants schemes by the Research & Innovation Foundation for the development of new circular products and services and the utilization of HRDA plans for training on circular economy.
- Development of circular economy infrastructures: A study to identify the appropriate waste streams to be declassified, create an online sharing platform that will enable companies to share equipment, services, facilities, waste, etc., and create an integrated system of supervision and monitoring of waste management projects.
- Municipal Waste Management: Development of a “Pay as you Throw” scheme, for the separate waste collection in mountainous areas, development and operation of a network of Green Recycling Points to help remote communities, domestic composting of organic waste, etc.

The Circular Prague 2030 - Prague Strategy for Transition to a Circular Economy provides the city with a framework for activities that will support its continued growth in this direction. By approving the Strategy, Prague made a commitment to continuously reduce its environmental and carbon footprint (measure of the resource intensity of consumption) and to achieve carbon neutrality by the year 2050. Prague is encouraging the city's stakeholders, including the commercial sector and the general public, to manage resources and consume sensibly in order to realize this objective. Prague is reducing its overall CO2 emissions and saving money by putting cost-cutting measures into place and minimizing waste. The proposed strategy includes several objectives which then translate into specific measures (*Prague Strategy for Transition to a Circular Economy,* 2022).

One of the largest upcoming infrastructure projects in Prague is the biogas plant, which is to serve as the end technology for using biodegradable municipal waste (BMW) unsuitable for composting, with an expected annual capacity of 50,000 tonnes. In addition, this waste is intended to be used in the construction industry. Apart from the city-wide collection of biodegradable municipal waste, there will be a creation of multicommodity collection (i.e. the joint collection of plastics, beverage cartons and metal packaging) that will promote the reduction of bulky waste by encouraging sharing, repair, and reuse (*Prague Strategy for Transition to a Circular Economy,* 2022).

In Bulgaria, the Action plan for increasing the share of circular procurement was developed by the Smart Circular Procurement project. Circular public procurement is an approach to greening procurement which recognises the role, which public authorities can play in supporting the transition towards a circular economy. It can be described as the procedure by which public authorities make purchases of projects, products, or services that aim to support closed energy and material loops within supply chains while minimizing, and in the best case scenario, avoiding, adverse environmental effects and waste creation throughout their entire life cycle. The main objective is to increase the implementation of circular procurement under the targeted policy instruments so that the circular economy principles and criteria are incorporated into them or taken into account as a horizontal principle (Bulgarian Association of Recycling. *Action Plan: Bulgaria 2021).*

This action plan has specific measures for the development and increase of the share of the circular public procurement in Bulgaria: the National Waste Management Plan 2021-2028. This plan will try to achieve a change in the behavior of the public sector and improvement of waste management in general. It will improve the capacity of the institutions dealing with waste management, as well as will expand the circle of stakeholders. Also, this plan will try to reduce the harmful effects of waste by preventing its generation and encouraging its reuse, with the sub-program for the prevention of food waste. In addition, non-investment measures to develop new product designs and technologies that require fewer natural raw materials will be created, which contain fewer hazardous substances, and generate less waste after using the products, and products and technologies with better "environmental behavior" (Bulgarian Association of Recycling. *Action Plan: Bulgaria 2021)*.

To finish with, we have the Climate and Nature-protection Action Plan in Hungary which provides a set of well-defined climate protection tools. Some of the objectives of this plan are: to get rid of illegally discarded waste, to ban single-use plastics and create deposit return schemes for glass and plastic bottles and metal cans, to protect Hungary's water resources, to revive habitats and create conditions for conservation across 150,000 hectares of protected natural areas, to support renewable energy production by SMEs, to transform the Mátra Power Plant into an environmentally friendly facility, which will enable Hungary to significantly reduce its greenhouse gas emissions; to plant one million trees every year, to increase Hungary's solar energy production capacity and to use affordable electric cars and having environmentally friendly public buses (Climate and nature-protection action plan – Policies – IEA, n.d.).

2.4. Circular economy in the agricultural sphere.

When it comes to the agricultural sector, there is still much to do to turn it to a circular economy. There are real challenges that stop the linear economy to convert in a circular one, and that is exactly the case in the agricultural sector. The waste generated is still a big problem, as food is highly related to single use plastic.

This sector is still very traditional and lacks innovation, which has a negative impact on the modernization of their techniques and capital, and therefore affects the conversion to the circular economy negatively. New systems should be developed to achieve the objectives set in the actions plans (*Agriculture and the Circular Economy*. (2021).

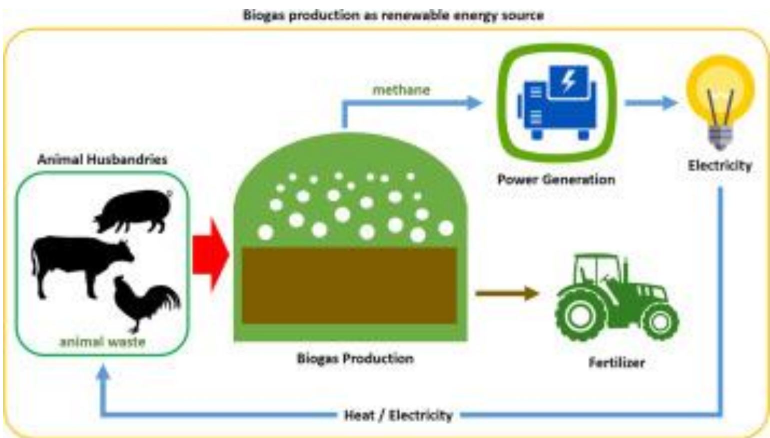
Agriculture has a significant negative impact on the environment. Actually, it is the industry that generates the most greenhouse gas emissions and water consumption. Given the many advantages of a circular economy, it might seem confusing why this sector still operates following a linear model. Indeed, circular economy could be used to reduce the negative impact that the sector has over the environment, at the same time that it keeps feeding the global population in a sustainable manner.

One of the main challenges that agriculture faces when turning into a circular economy is the existence of by-products, which are classified as wastes and immediately thrown to waste disposal. This way, the sector is not allowed to consider the possibility of using these wastes as resources for other processes according to the present waste management regulations. Hence, the linear agricultural model does not extract economic value from waste.

There are many ways in which agriculture could support the shift towards a circular economy. First, by using organic waste to create fertilizers. This is a practice that has already been used for decades. Since biological waste (i.e. leaves, animal waste, crop stalks) is very rich in nutrients, it can be converted into fertilizers. This reduces the cost for agrarians and their demand for synthetic fertilizers, which are more harmful for the environment.

Moreover, agricultural activities create a lot of waste water. This, if treated correctly, could be reused for plant irrigation and pasturing. It is also possible to use plant and animal waste to create biofuels that can be used to generate heat, power, or vehicle fuel.

Image 4: Biogas production as renewable energy source.



Source: Waste to energy technology: The potential of sustainable biogas production from animal waste in Indonesia.

Furthermore, precision agriculture can be used to increase efficiency in the sector, controlling that the right quantity of resources is being used in the right place at the right time. It is a method that uses information technology (IT) to make sure that soil and crops get the nutrients they require for their maximum health and productivity. Precision agriculture aims to guarantee efficiency, profitability, sustainability, and environmental preservation.

Lately, circular economy has been successfully implemented in some farms of different countries. One example is a farm in Uganda, where a variety of animals and plants are raised on the farm and their waste is reused within the system to create fertilizers, pesticides, and energy. In this farm, animal waste is used to feed worms, which are used as feed for fish. Moreover, insects' waste and wastewater are used as fertilizers and plant irrigation. Biogas production is also used to convert animal waste into biogas for cooking. Hence, this farm reuses residual waste within the system to create further value and consequently achieve environmental and economic sustainability.

Another example is an Australian company, GoTerra, which uses the protein that the larvae create in order to create animal, cattle and fish feed. This constitutes a cheaper and more sustainable protein source. Also, the waste generated by the insects is used as compost in order to improve the farm's soil quality.

As can be seen, the implementation of circular economy in agriculture is still not very popular, although it has a great potential to be the change towards sustainability that the future needs.

3. CREATIVITY

3.1. Concept of creativity.

Creativity is defined by Cambridge dictionary as the ability to produce or use original and unusual ideas, but it is far from being an easy word to define. There are many interpretations of this concept, as it encompasses a wide and unexplored scope. As it happens in all abstract topics, this causes many different views of what and what is not creativity.

From the beginning of the history this has been a difficult word to explain. In the ancient Greek the Hellenic philosophy this idea was connected with divinity. They considered that this was a supernatural inspiration given by gods to produce ideas or products. For them creativity was a gift accessible only to some selected few people (*The Concept of Creativity throughout History*, 2022).

It was not until modern age that humanism arrived, and they started to have the idea that the individuals are the ones constructing their own future and present. With this new perspective, the creativity was not being seen as something innate although there were some trends held by Kant which state the contrary. Consequently, they were already facing some discrepancies about the idea, and this continued for decades (*The Concept of Creativity throughout History*, 2022). Indeed, after more than 2000 years we still don't have a clear answer to define the concept.

It is common to see this word as an adjective accompanied by other words, more or less accurate, such as: creative cuisine, creative medicine, creative writing, etc. They define the capacity for innovation that is related to creativity.

As mentioned, the exact meaning of creativity is ambiguous and therefore leads to many misunderstandings of the idea. There are many people that believe that it is a trait by which people are born, making some people better for it. In other cases, this is more related to an innate, trainable quality that can be developed.

According to experts, creativity could play an essential role in business and economics. In fact, latest data affirm that creativity should be developed as it could become the most weighted skill to have in a company (Skillicorn, 2021).

The word creativity appears continuously in the mass media and seems to be a very important tool in different fields of work, among other things, in the search for suitable staff in companies. In other fields, creativity is strongly related to the expression of art, music, science, and it has been an indispensable tool to renew education and change the future.

Nowadays, it is considered important to stimulate creativity, using strategies that adhere to the disciplines that guide the various proposals or theories developed for this purpose. A large part of the studies highlights the importance of creativity in areas such as philosophy, art, administration, politics, psychology, and education. Thus, the interest of researchers has increased in order to widen the field of action, facilitating a novel approach of the concept of creativity with aspects such as intelligence, personality, motivation and human movement.

In short, creativity is a practical skill that leads to an alternative way of thinking which comes from an open-minded perspective and gives a range of new possibilities as a result. Although it is difficult to be accurate in such an abstract term, we can all agree that this skill is very valuable and it's a key factor for innovation.

3.2. Theories of creativity.

Different authors propose that the capacity to create creative outputs is directly influenced by the environment around the individual, which impacts the level of creativity they have. Therefore, this implies that this skill may consist of different components: the expertise, the creative thinking, and the motivation that the intrinsic task generates (Al-Ababneh, 2020)

Experts have discovered that each side of the brain has different uses, the right side being related to the creative aspect. They also found that people favour the left side of their brain for more logical thinking. However, both hemispheres are equally needed and equally essential to achieve the best performance. Therefore, it is not only the analytical way which we should train but also the creative one, with persistence, discipline, and some techniques (i.e. Brainstorming).

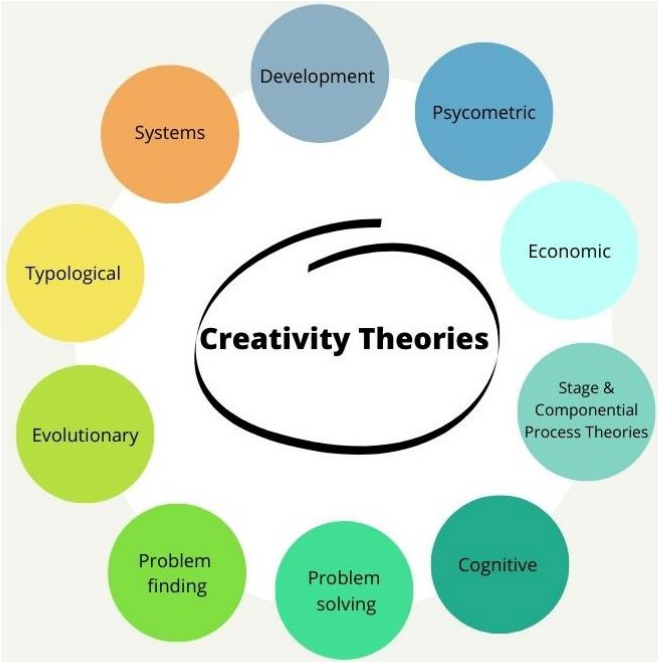
We must keep in mind that there are several theories to explain how creativity is created or from where it is obtained, but all of them have to be taken with moderation. The moderation refers to the fact that, although we refer to a change of perspective when talking about creativity, this variation should not be extreme since it can lose relation with the subject or problem treated (Al-Ababneh, 2020).

The literature on this subject has been created over the decades based on different methodologies and levels of analysis. Among the most notable theories we find developmental theories, psychometric theories, economic theories, stage process and componential theories, cognitive theories, theories based on problem solving and experience, problem finding, evolutionary theories, typological theories, and systems theories (Kozbelt et al., 2010).

- **Developmental Theories:** Talk about how creativity can be evolved in time and that the contact with other people and the environment around the individual is a source of improving the skill. These theories believe that there is a process in which the individual can go from less creative to more creative.
- **Psychometric Theories:** stress that creativity is measurable and that it can be validated.
- **Economic Theories:** state that markets influence the behavior of individuals and therefore creativity depends on the cost-benefit analysis made.
- **Stage and Componential Process Theories:** These theories believe that creativity has a process in which the individual needs to go through different stages or components. The process can be linear and/or have recursive moments.
- **Cognitive Theories:** They are based on the idea that there cannot be creative achievements without some level of cognition. People who manage to be creative need a minimum of knowledge to be able to be creative. That is why this theory dictates that knowledge is essential for an individual to be creative. Some ideas focus on capacities such as memory or attention. On the contrary, others focus on much more differential capabilities such as the divergent thinking of the individual.
- **Theories Based on Problem Solving and Expertise:** Innovative solutions come from previous experiences and related expertise and a general knowledge related to a rational process.
- **Problem Finding Theories:** People who are creative don't just solve the problem but have the ability to identify them. This thinking goes against the previous theory, as that fails to explain how creative people identify the issues and find the motivation to solve them.
- **Evolutionary (Darwinian):** Creativity is the result of the development process of generations.
- **Typological:** Innovators differ along significant individual distinctions connected to both macro- and micro-level elements and can be categorized using typologies.

- **Systems:** Creativity is the consequence of a complex system of interconnected and interacting forces.

As we can see there are several thoughts, some that are complementary or similar in some points, and others that are contrary. However, most of them express creativity as a capacity which can evolve.



Source: own elaboration based on (Kozbelt et al., 2010)

3.3. How can creativity be improved?

A popular opinion is that creativity is a gift that some people possess since they are born. On the one hand, it is partially accurate to say so since this skill is acquired in a natural way by some personality types. But, on the other hand, creativity is a skill and like any other such, it can be learnt and developed. Hence, creativity is not only a skill which humans are born with, but it is also a skill that can be improved. Therefore, it is essential to find some methods and techniques to train these capabilities.

To improve creativity, constancy, discipline and effort are required, along with the practice of different techniques. These techniques can have different objectives and procedures and can be adapted for different situation. Among the most outstanding ones we can find Divergent, Vertical and Lateral thinking, Brainstorming, Six Universal Questions, Six Thinking Hats, Lotus Blossom Techniques and Checklist.

- **Divergent/Vertical/Lateral Thinking**

  - **Divergent Thinking**

Divergent thinking is to obtain many different solutions to one problem or idea. In other words, it means obtaining a range of possible solutions. The concept of divergence is related to the idea of having different directions, and when we connect this term with thinking, we obtain a way of finding as many outcomes as possible for one question or problem.

This is one of the most important techniques for creativity, as it is directly associated with generating many proposals. In addition, for this method to be correctly carried out, it should be spontaneous, free-flowing and should not be linear (Shrestha, 2019.) This is believed to be the opposite technique of vertical thinking.

  - **Vertical Thinking**

Vertical thinking is a method of assessing, interpreting, and applying information that is logical, systematic, or direct, which doesn't give much space for innovation here. There is usually a pre-structured method for processing information and putting that information to use (Vertical Thinking: Definition, Method & Examples, 2017)

- **Lateral Thinking**

Lateral thinking is finding new solutions by looking at the problem from other perspectives. The lateral way of thinking provokes a wave of new ideas that could never come up by thinking vertically, traditionally, using the accustomed logic. People who are able to think in this way are much more creative because they have many more ideas and innovative solutions.

Brainstorming

Brainstorming has become one of the most famous and used techniques in all fields. This well-known method is based on the creation of ideas, which boosts creativity and as a result, outcome is much more original and an effective result can be obtained.

It is based on defining a topic or problem, and then individuals expose all the ideas that cross their minds in connection with it, without exception. In this phase, there is no need to use logical thinking and ideas are not dismissed, all the contributions are received, no matter what they are. Then in the phase of evaluating the ideas obtained we can discard those that are not considered valid. Finally, among the best ideas, one is chosen, and with it an action plan is developed.

Six Universal Questions

This method consists of asking 6 questions, each one of them starting with a different question word: How, What, Where, Who, When and Why. Through this beginning, we pose different questions about a topic or problem. The individual or group must give an answer to each one of them and in this way, we will understand the problem in a broader perspective, and we will be able to give a better solution.

For example, with the "*what*" question we will understand what our objective is and with the "*how*" question we will understand the way to act. The "*why*" question will give us the reasons to do it. By answering the 6 questions we will find a much more innovative and creative way of thinking.

Six Thinking Hats

This method is used in order to get many perspectives and thus arrive at an optimal solution through constructive thinking. In this way the team examine 6 different approaches to the same insight and after using the technique you should have 6 different ways of dealing with the problem (*Six Thinking Hats®: Looking at a Decision in Different Ways*, 2020)

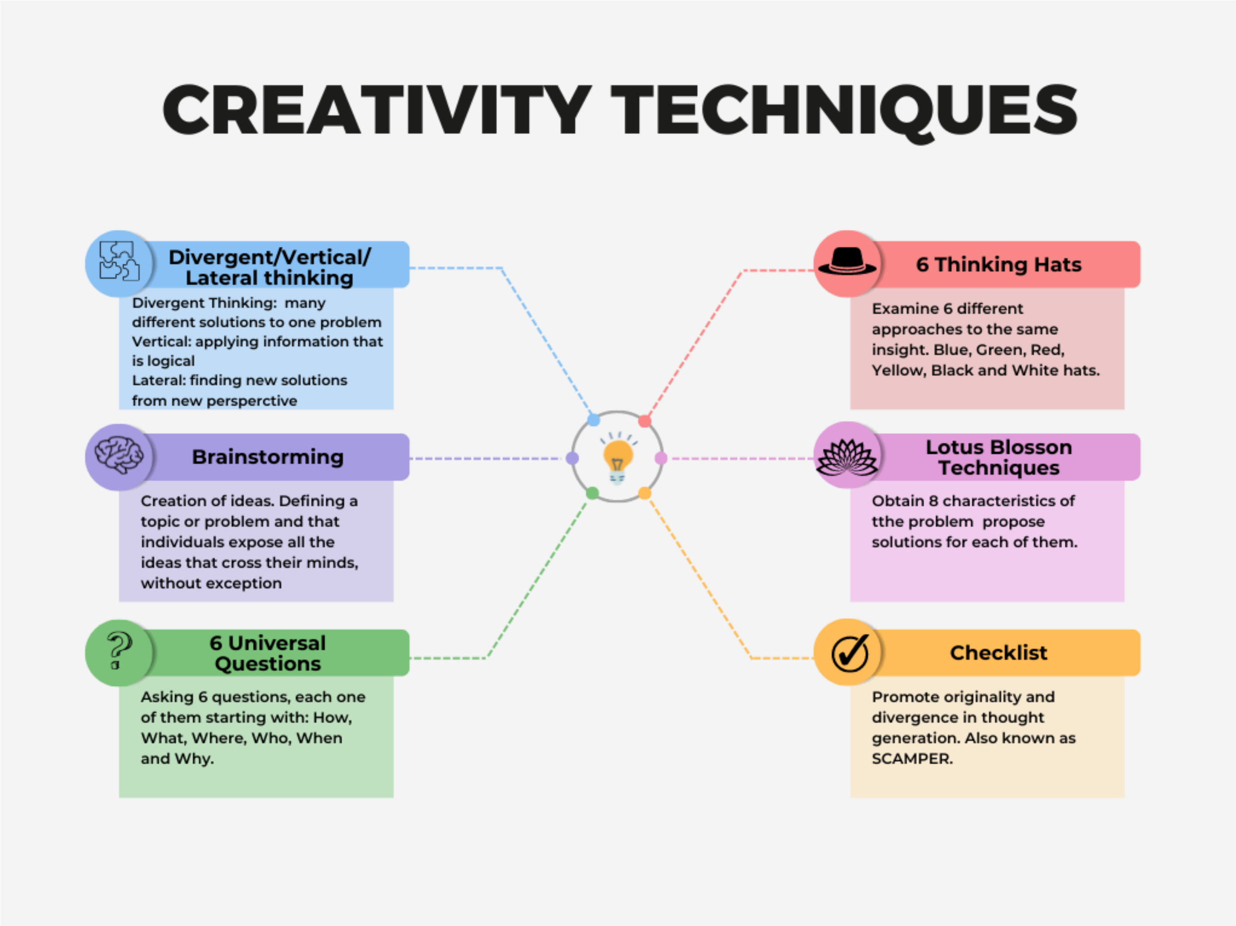
- **Blue hat**: Manages the decision-making process
- **Green Hat**: Represents creative thinking
- **Red Hat:** Represents the heart, that is, feelings.
- **Yellow Hat:** Looks at the problem in the most positive way.
- **Black Hat:** It's the critical judgment and it represents the risk and concerns.
- **White Hat**: It's the one in charge with information gathering. It provides the information for all the others.

Lotus Blossom Techniques

From the original concept there are 8 characteristics generated. Each of these characteristics becomes the core of the problem and solutions are proposed for each of them. With this process, a new range of solutions is generated and a diagram with many solutions is created. This method is based on brainstorming that focuses on the problems of interest and expands to other areas, generating a much broader vision.

Checklist

Osborn's checklist is a basic tool that can be used individually or in groups to promote concept development and to transform ideas. The goal is to promote originality and divergence in thought generation. Sometimes it's also referred to as S.C.A.M.P.E.R., which means Substitute, Combine, Adapt, Modify, Put in other use, Eliminate and Reverse.



Source: own elaboration.

Some **other** recommendations for improving creativity are:

- Use “what is...” questions.
- Use metaphors and analogies.
- Do not ignore little ideas or ideas that at first glance seem insignificant.
- Daydream and let your mind fly.
- Play “let’s suppose...”.
- Try alternative ways to express creativity (art, cooking, photography, dance, sports)
- Write down all your ideas.
- Play strategy games such as chess.
- Learn a foreign language and open your mind to be able to think in different ways.

3.4. How can creativity be used in order to achieve sustainability?

Creativity improves performance in the areas of the environment, society, and the economy. Hence, enhancing creativity is essential for fostering green innovation inside firms and improving sustainability performance (Laužikas & Mokšeckienė, 2013).

It is important to take into consideration that creativity leads to new ideas, innovation, technology. Therefore, companies should seek for employees who are creative. This skill will provide a lot of value to the company, since it will make it more efficient, profitable, and sustainable due to the implementation of new and creative ideas (Laužikas & Mokšeckienė, 2013). Hence, in order to make the agricultural sector more sustainable and turn it into a circular economy, it is essential to encourage young farmers to be more creative and therefore innovate in their practices, leading to a more efficient sector.

Moreover, in this constantly changing world in which sustainability is the main concern, creativity plays a key role. In fact, it is essential for developing innovative processes, products, and services, and find alternative solutions to issues.

In conclusion, creativity is the core competence of sustainability and therefore new generations should be educated on creative thinking and be prepared to implement innovative solutions and processes to achieve sustainable businesses.

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