

## Open Schools Journal for Open Science

Vol 3, No 3 (2020)



### Circular economy and innovative business

A. Loizidou, P. Argyri

doi: [10.12681/osj.23360](https://doi.org/10.12681/osj.23360)

Copyright © 2020, A. Loizidou, P. Argyri



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/).

### To cite this article:

Loizidou A., & Argyri, P. (2020). Circular economy and innovative business. *Open Schools Journal for Open Science*, 3(3). <https://doi.org/10.12681/osj.23360>

# Circular economy and innovative business

A. Loizidou<sup>1</sup>, P. Argyri<sup>2</sup>

<sup>1</sup>11<sup>st</sup> Grade of Evangelical Model High School of Smyrna, Athens, Greece

<sup>2</sup> Mathematician, Evangelical Model High School of Smyrna, Athens, Greece

## Abstract

Taking into consideration the financial and environmental conditions of our era, I want to combine the “Functional Goals” that every business has, such as the pursuit of profit, the increase of its production and the social responsibility, with the innovation, the sustainable development, the protection of the environment and the rules of the well-known “circular economy”. In these terms in this paper, I present the project of an innovative business called “No Recycling Decoration”, to transfer the message that young people can make responsible decisions for their future.

## Keywords

Environment; economy; business; recycling; innovation



## Introduction

The project presented in this paper is about “Circular economy and innovative business”. I decided to deal with the “Abundant Resources”, the 9<sup>th</sup> and the 12<sup>th</sup> Sustainable Development Goals of the United Nations, also known as “Industry, Innovation and Infrastructure” and “Responsible Consumption and Production” respectively, and the “Innovative Business”. The targets I want to achieve by the end of my project are : i) Sustainable Development can become the main principle for every company, ii) Present my school’s innovative business called “No Recycling Decoration” proving that a trend and an innovative idea can be transformed into a business, iii) Encourage the companies to follow the rules of “circular economy”. Achieving these goals can become beneficial both for the companies and the environment, as the former would gain many financial advantages and the latter would become better for the people.

### 9<sup>th</sup> Sustainable development goal of the United Nations: Industry, innovation and infrastructure<sup>1</sup>

According to this goal of the United Nations, investments in infrastructure, such as transport, irrigation, energy and communication technology, are crucial to achieving sustainable development and empowering communities in many countries. These investments can fight unemployment and social inequalities and improve the quality of life index in every country around the world. In order to achieve that, it is critical for the industry to utilize technological progress and innovation; innovative ideas and investments in the sector of technology can become really beneficial for the industrialization and the sustainable development.

Despite of the above, there are also some other key elements for the growth of the industry and infrastructure. Quality and reliability should be the priority for every investment in order to ensure its success and support economic development in local and national level. Moreover, investments in the field of health and science can lead to new technological capabilities, encourage innovation and create many new jobs. Finally, least developed countries should be offered technological, technical and financial support in order to help them approach to growth rate of the most developed ones.

---

<sup>1</sup> UNDP. (2010). Goal 9: Industrial innovation and infrastructure | UNDP. [online] Available at: <https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-9-industry-innovation-and-infrastructure.html>



## 12<sup>th</sup> Sustainable development goal of the United Nations: Responsible consumption and production<sup>2</sup>

According to this goal of the United Nations (UN), sustainable consumption and production is about promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life.

In this way, we can combine the economic development, the raise of profit and productivity of the companies and the reduction of unemployment with the reduction of Carbon Dioxide emissions and, generally, the protection of the environment. Since sustainable consumption and production aims at “doing more and better with less”, industry should turn to renewable energy resources and use recycling or even reuse non-recycling raw materials.

That can bring a lot of positive financial and environmental effects. The resources’ use and the air pollution will be reduced, and the quality of life and the life expectancy will be increased. But responsible production should be linked with responsible consumption, too, in order to have significant results. People should adopt a new consumer behaviour and a sustainable lifestyle, providing them with adequate information through standards and labels. Only then, we can achieve the sustainable management and efficient use of natural resources and we can reduce waste generation through recycling and reuse.

### Renewable energy sources

Modern societies consume huge amounts of energy for transportation, heating, electricity production and industrial use. Due to economic progress and a rising standard of living, the demand for energy is continually increasing. At present, the largest amount of energy is derived from conventional sources of energy, such as petroleum, gasoline and coal. These are non-renewable sources of energy which will be drained. The production and use of energy derived from these sources create a series of environmental problems.

This makes us think that it is time to turn to the renewable energy sources, which are inexhaustible. A few types of renewable energy sources are the following:

- Solar energy

This type of energy comes from the sun and it can be exploited by the use of active and passive solar systems, bioclimatic design and photovoltaic solar systems.

- Wind energy

---

<sup>2</sup> UNDP. (2013). Goal 12: Responsible consumption and production | UNDP. [online] Available at: <https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-12-responsible-consumption-and-production.html>



It is the kinetic energy which is produced by the power of the wind and is converted into usable mechanical energy and electricity.

- Hydroelectric power

Hydroelectric projects make use of falling water in order to generate electricity or to convert it into usable mechanical energy.

- Biomass

It is the result of photosynthesis, which converts solar energy into a series of processes in both land and water-based plant organisms.

- Geothermal energy

It is thermal energy which is produced in the Earth's interior and manifests itself in natural steam, in surface or underground hot water and hot dry rock.

- Hydrogen

It makes up 90% of the Universe and it could become the "fuel of the future".

The use of the above renewable energy sources can yield many advantages both for the companies and the environment. Firstly, they are less expensive than the non-renewable energy sources, since they usually have low operating costs. Therefore, companies can achieve bigger profit with the same productivity. Moreover, these types of energy are inexhaustible and contribute to reducing dependence on conventional energy resources. That means lower Carbon Dioxide emissions and a healthier environment. Another advantage is that they can be found everywhere on Earth in an abundant amount.

Taking into consideration the above, we understand how important it is for the industry to turn to the renewable energy sources and how many advantages we can gain both financially and environmentally. Finally, renewable energy sources seem to be the future of the industry and our planet and the sooner we understand that, the better it will be for humanity.

### Sustainable development and circular economy

Sustainable Development is the improvement of people's standard of living through a successful utilization of resources and a financial system that contributes to people's prosperity. In order to achieve it, we should follow a new economic model, which will reduce the waste and the need for more resources, leading to a lower financial and environmental cost. My proposal to achieve this goal is through circular economy, namely the assembly, recreation and reuse of non-recycling objects. In my opinion, circular economy is a copy of the real life, an alternative way of thinking



and perception of the production process. Circular economy is the evolution of recycling and refers to a model according to which every object can be reused. In circular economy, the target is to increase the life span of every object through its reuse.

According to my research there are some organized attempts of business plans of circular economy in Europe and there is, also, a turn to this kind of companies. In Greece, circular economy is already used, but it can be extended also to the fields of domestic items, recycling products, food waste, clothes and even tourism. More specifically, the examples of business that follow the rules of circular economy are allocated to 5 basic categories:

- Efficiency of resources and recycling: improvement of energy efficiency and collection and reuse of products and raw materials that have reached to the end of their lives. For example, the company “Aurora Sustainability” reuses the rubbish of coffee and the heat from the distillery of scotch whiskey for the production of dry fresh mushroom
- Renewable energy sources: use of renewable and recycling materials and renewable energy sources for the creation of new products. For example, the company “Timberland” cooperates with the company “Omni United” for the production of footwear from recycling tires. Also, Pharrell Williams collects the plastic from the sea and converts it into knitted fiber.
- Communal platforms: maximization of the use of products and resources for the expansion of their life span with the use of digital platforms for rental, sale and reuse. With the monthly subscription in “VIGGA<sup>3</sup>”, the clients are given 20 pieces of children’s clothes. When the clothes do not fit anymore to the child, they are returned, and the client takes another 20 pieces in bigger size. In this way, the company creates high-quality clothes with direct fulfillment of the clients’ needs.
- Expansion of life span of furniture: The company “Pa-Ri Materia<sup>4</sup>” expands the life span of furniture. The company operates in Finland from 2017 and renews and sells a lot of second-hand furniture.
- Product as a service: The company “Parking Energy<sup>5</sup>” uses parking lots for the charging of the battery of the car as well as parking place.

All the above indicate that companies turn to innovation and circular economy gaining a lot of advantages and showing the path to the future.

---

<sup>3</sup> <https://we-economy.net/case-stories/vigga.html>

<sup>4</sup> <https://www.pari.fi/>

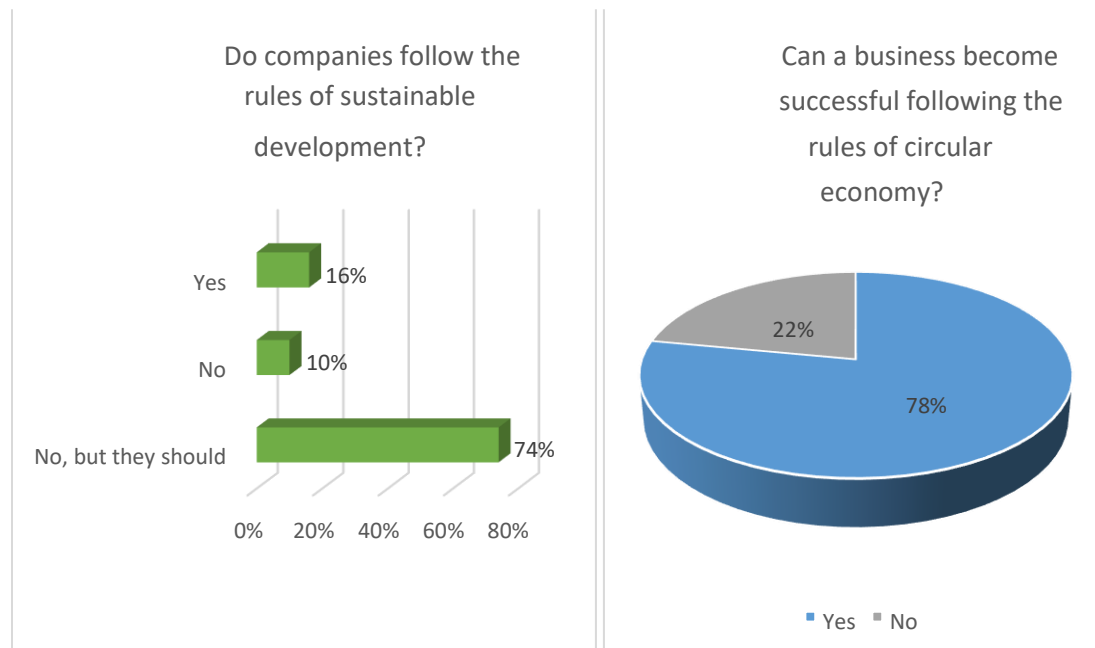
<sup>5</sup> <https://www.parkingenergy.com/>

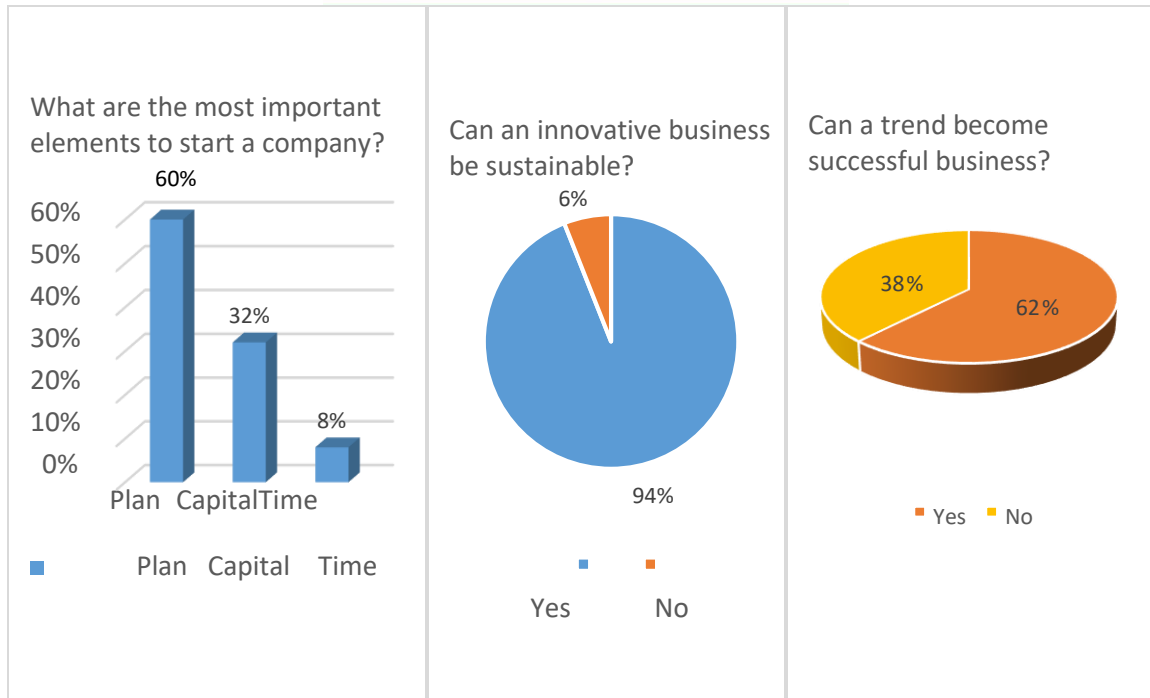


### Innovative business and trends

Nowadays, uniqueness and innovation are crucial factors for the success of a business. Moreover, in 2020, social media are the most important way for people to communicate and get informed. They are an integral part of our lives and influence greatly the way we think and decide. So, the question is: can trends turn into successful business?

In order for the project to become more intelligible, I made a research using a questionnaire with the following questions, which was filled by 50 people aged, 13-30.





From the above, we understood that the responses of the people who took part in the survey were exactly what was expected. Most of them were in favor of a strong business plan at the beginning of a company; they supported both sustainable development and circular economy as crucial parameters for the success of every company and said that even the existing ones should follow these rules. Moreover, innovation is considered as a critical factor for the sustainability and success of every newly founded business.

Furthermore, it is believed that trends can become sustainable and successful companies. That is also proved by the example of “Tik Tok” application which managed to become “viral” in very little time. The last two questions are closely related to each other. They clearly indicate that if we want to have a successful business, we should follow the rules of sustainable development and circular economy, even if most of the companies do not do so.

### “No Recycling Decoration”: The innovative business of my school

Talking about trends that become successful companies, I would like to present the innovative business of my school, ‘No Recycling Decoration (No.Re.De.)<sup>6</sup>. Our business adopts fully the rules of sustainable development and circular economy, as we assemble, recreate and reuse non-recycling objects to produce new ones. We created a network of collection of non-recycling

<sup>6</sup> <https://blogs.sch.gr/norede/>





objects with financial reward as a motivation for people to bring us these objects and we sell the new items in very low price.

Our business operates in the following way:

- We collect non-recycling raw materials in low cost.
- We assemble and amend them.
- We sell the new objects in low price.

Our business has both short-term and long-term targets:

a) Short-term Targets

- From every sale to have a profit of 30% or above
- To urge on people with innovative ideas to set up a company in local and national level with total respect to the environment
- To show the importance of the skills of cooperation, communication, creativity and innovation

b) Long-term Targets

- To help people adopt a new consumer behaviour for the utilization of nonrecycling items
- Our business plan to become an example for every other company
  - To set off the advantages of circular economy
  - To show that trends and innovative ideas can become successful companies

No.Re.De. shows that trends following the rules of sustainable development and circular economy can become successful and profitable companies. In the first months of its operation (December 2019-March 2020), No.Re.De. had €116 as Receipts and the Cost of the sold items was €63,50, which means it had 54% of Gross Profit!

## Conclusions

Overall, I am glad to have decided to take up this project and to point out some important elements for the future of industry and our planet. It is apparent that the development of industry is a crucial factor for the general development of a country, the fight of unemployment and the improvement of life quality in every country. Therefore, we should find ways to ensure that the field of industry and business will be strengthened in the upcoming years. In order to achieve that, “Sustainable Development” and “Circular Economy” should become the main principles for every company and industry and they should turn to renewable energy sources and to reuse no recycling items as raw materials. In this way, the companies could achieve a raise of their productivity and profit with the simultaneous reduction of production cost. Furthermore, it



is clear that nowadays, the economic competitiveness has been raised radically and only unique and innovative ideas can survive and thrive in our era. I really hope that No.Re.De. will show that trends and innovation are the future and I wish many companies will follow our example and our model in order to maximize their profit, but also to reduce their environmental footprint and to take care of the environment in the path of a better and “green” planet.

### Acknowledgments

The project No.Re.De. took part in the competition and educational actions of Junior Achievement Greece, (ΣΕΝ/JA Greece) <http://senja.gr/programmes/lyceum.html>. It was an innovative educational action in the terms of development creativity and critical thinking and mostly become familiar with the concept of entrepreneurship, the importance of the economy, the role of business in the global economy, the value of competitiveness and innovation.

