

Green Startups

- **Startups: definition, characteristics, and creating phases;**
- **Sustainable Investing in Green Startups;**
- **Green Startups: The other face of green investements.**

I- **Startups: Definition, Characteristics, and Creating Phases :**

Many authors and international entities define startups differently according to many views and features. Differently than other enterprises, a **startup** can be defined as a project-based organization or company in various business fields that commercializes a new business model by combining innovative ideas or advanced technologies to deal with uncertain environments. It is an entrepreneurial venture in its early stages of operations that is typically aimed at resolving a real-life issue with an innovative product or service (built to search for a repeatable and scalable business model). These ventures are typically small in nature, new, and funded either by a founding entrepreneur or by a group of investors who believe in the entrepreneurial concept. They can be called "gazelle companies", meaning growing young ventures that are built to create wealth.

Startups can be divided into three types, mainly internet startups companies as the following:

- The first type of the start-up companies is called "**The Automizer**" whose characteristics are being focused on customers, attracting customers who show interest in a product, fast performance, common automatization processes that were previously performed manually, a large market, struggle on the existing market, use of new technologies, strong technology-oriented developers;
- The second type is "**The Integrator**" which belongs to start-ups characterized by high security, early profit, targeting small and medium-sized enterprises as well as smaller markets, high probability that it will keep small teams even after scaling (growth and expansion), etc;
- The third type is called "**The Challenger**", characterized by start-up companies having very high sales, as well as customer dependence, and also by complex and rigid markets, repeatable sales processes, more time in relation to the first and second type, in need of more capital, business-oriented teams, o has a large number of users and needs large teams in case of start-up scaling.

➤ **Characteristics of Startups**

Through the previous definitions, we can distinguish startups than other companies through the following features :

- They are characterized as those new companies with high growth potential or a project team starting the process of becoming a business and preparing for the entry to the market"
- According to The European Startup Monitor , enterprises are regarded as startups, if they are :

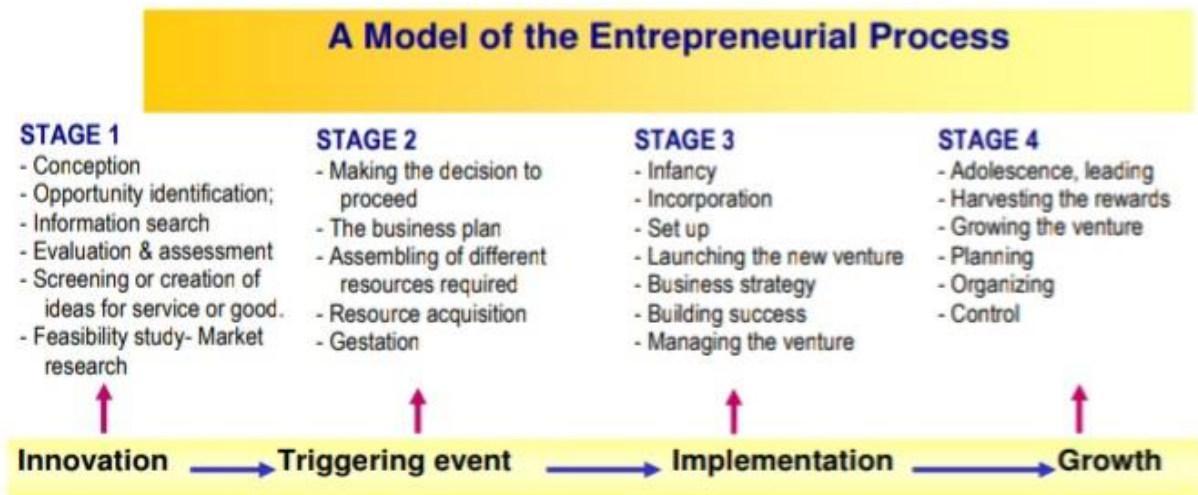
1. Younger than 10 years ;
 2. Using (highly) innovative technologies and/or business models ;
 3. Engaging a significant employee and/or sales growth.
 - The remarkable difference between startups and other sort of enterprises is that startups mean **innovation**, so a new business that doesn't bring innovation cannot be called a startup ;
 - They also cannot not be copied easily ;
 - They have the potential for rapid growth, they track the value of shares on the capital market and not necessarily profit ;
 - They are financed differently from other enterprises.(The Internal financing of these start-ups consists mainly in contributions from the founder and his family, but it is generally insufficient, so they have access to external funding through i) banks, ii) venture capital companies, iii) the Business Angels
 - In organizational terms, startups are approaching traditional SMEs, as their structures are very low and informal relations are very developed.
- According the Algerian legislation, The "Start-up" label is awarded to each company incorporated under Algerian law respecting the following criteria
- The company must not have existed for more than eight years;
 - The company's business model must be based on products, services, or any other innovative concept;
 - The annual turnover must not exceed the amount fixed by the national committee ;
 - At least 50% of the share capital must be owned by natural persons, approved investment funds or by other companies having the "Start-up" label ;
 - The potential growth of the company must be sufficiently large ;
 - The company must not have more than 250 employees.

➤ **Phases of startups' creation :**

As any other sort of enterprises, Startups in general follow some steps in creation process, as the following :(The entrepreneurship process.:

1. **Innovation**, which includes generating the idea, innovation, identifying a market opportunity, information search, conception, screening ideas for feasibility, identifying where to extract value and the development of the product or service.
2. **Triggering event**, which includes gestation, the motivation to start a business, the decision to proceed, the business planning, identifying the different resources required, risk assessment, resource acquisition and assembling.
3. **Implementation**, which includes infancy, incorporation, setting up and launching the new venture, business strategy, implementing the business plan, running the business, deploying of resources, building success and managing the venture.
4. **Growth** which includes adolescence, maximizing profits, harvesting the rewards and continually growing the venture to include other opportunities. The figure below illustrates the main stages.

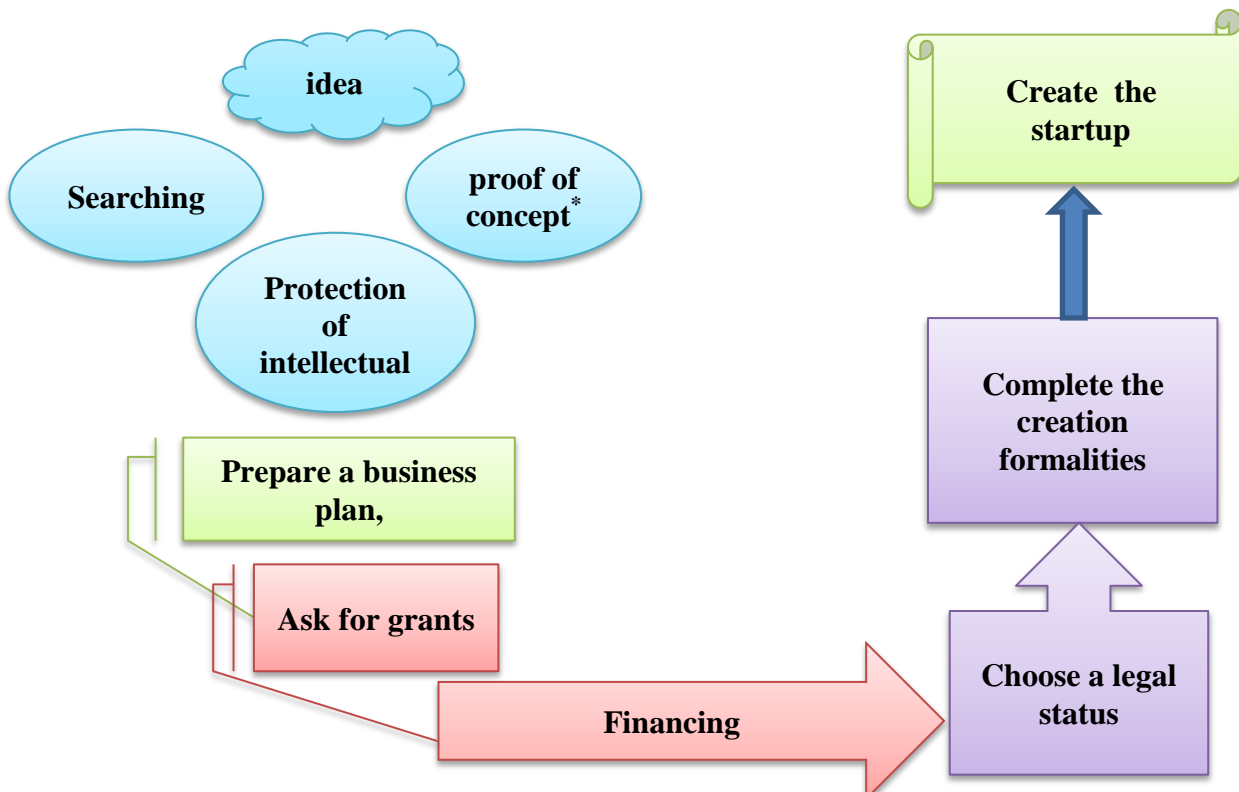
Figure 01 : The entrepreneurial Process



Source : The entrepreneurship process. http://accioneduca.org/admin/archivos/clases/material/identificacion-of-business-opportunities_1563991153.pdf

In Algeria, entrepreneurs should follow seven steps to create a startup, as the following :
 -Searching for the idea, -protect the idea, prepare a business plan, -ask for grants, access to external financing sources, - Choose a legal status, -Complete the creation formalities, then ; -create the startup.

Figure 2 : Steps of creation a startup



Source : General directorate of scientific research and technological development. 2020. P :07

***Proof of concept:** is a concrete and preliminary, short or incomplete, experimental realization of a certain method or idea to demonstrate its feasibility.

➤ **The importance of Startups :**

Whatever the sort of startups, or their characteristics, they play a crucial role in fostering competition, inducing innovation and supporting the emergence of brand-new sectors, they are both a vital source of job creation and productivity gains

Startups may affect economies directly and indirectly. Direct effects of startups can be seen in:

- offering new employment and new production,
- contributing in migration and increasing regional productivity.
- declining or closing of incumbents that cannot face the new competition,
- enhancing the regional competitiveness and growth.

On the other side, startups may have indirect impacts on economies by:

- 1) Securing efficiency: startups force incumbents to behave more efficiently;
- 2) Accelerating the structural change: incumbents are substituted by new firms- startups-;
- 3) Amplifying innovation: startups may introduce radical innovations,
- and 4) Greatening variety: startups may lead to greater variety of products and problem solutions.

Startups have not only an economic impact factors such as the creation of new jobs but also a special potential for ecological aspects such as the reduction of greenhouse gas emissions, consequently ; they should be careful while choosing projects, to accomplish with this new tendency, and be « GREEN ».

They also play an important role in realizing sustainable development goals through their environmentally friendly projects, where a new sort of startups appear under the green economy. The next section will discuss how can startups contribute in realizing SDGs, through addressing the sustainable investing firstly, then discussing the adoption of green investing' strategy in green startups.

II- Green Startups :

“Green” startups are characterized by the fact that their products, technologies and/or services contribute to the ecological goals of a Green Economy. In this context, the notion of sustainable innovation has been used to distinguish innovations adopted in traditional startups than innovations of green startups.

Green startups may be classified in using green technologies as follows :

1. **Forestry/Agriculture:** include innovative, efficient and eco-friendly forestry/farming technologies that reduce resources to produce food, improve supply chain and ensure sustainable food security ;
2. **Energy efficiency:** Energy efficiency technologies enable to save energy in storage, distribution and usage ;
3. **Water and waste management:** include technologies which are eco-friendly and efficient in the collecting, purification, conservation, recycling/reusing water and waste ;
4. **Renewable energy:** technologies that enable the usage of renewable energy and alternative sources of energy biomass, waste heat etc ;

5. **Transportation:** technologies which include energy-efficient and less-polluting vehicles of all types and related components ;

6. **Green Building:** technologies enable to reduce the environmental damage from construction by using innovative, energy- and material efficient building materials as well as innovative design ;

7. **Eco-tourism:** technologies that enable “responsible travel to natural areas that conserves the environment and improves the well-being of local people” ;

8. **Environmental quality/safety:** technologies which enable monitoring, analysis and control the environmental risks and damage.

III- The importance of green startups can be appeared in many aspects as the following :

- Green – cleantech- startups produce more novel technologies than non-Cleantech startups. Due to their higher innovation content which is driven by technological capabilities and specific characteristics of the founder (industry experience and educational background of the founder are positively correlated with creating novel technology);
- Transferring green innovation from the narrow scope of environmental sustainability principles to broader and more comprehensive concepts related to the economy and general employment levels through the new job opportunities it creates ;
- Expanding the consumer base and transform it into sustainable green products and services, as the opportunities presented by innovation in the field of clean technology are often concentrated in areas that are not dealt with as related to clean technology, namely, food, housing and transportation, which are the most important source of household energy consumption and carbon dioxide emissions,
- Providing solutions to existed environment problems through offering green products, and searching for new sources of energy generation, and encouraging investing in renewable energies, under the storage of energies due to the population increase. Furthermore; they can contribute to sustainable development by providing solutions to reduce GHG emissions, improve energy efficiency, implement a circular economy, and operate in a variety of industries and sectors;
- Another essence of green entrepreneurs generally, and green startups precisely, is the introduction and implementation of environmentally friendly business initiatives that fostering greater efficiency, low staff turnover, improve employees’ engagement and retentions and ultimately gaining of competitiveness.

Table 01 : Exemples of Green startups

Name of the Startup	Definition
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<p>Fuergy</p>	<p>Based in Slovakia, this startup was founded in 2018 and made a name for itself by fashioning themselves as the “Airbnb of clean and renewable energy”. Fuergy aims to transform household renewable energy-sharing into reality, developing a mechanism that lets home owners who generate surplus solar or wind power sell their extra energy to their neighbours instead of feeding it back to the grid as is the norm.</p> <p>The same people behind Fuergy also developed brAIn, a supplementary and proprietary hardware that utilises AI tools in order to “optimise energy and consumption and maximise the efficiency of renewable energy sources”.</p>
<p>Iron Ox</p>	<p>Developed by Brandon Alexander and Jon Binney in 2015, Iron Ox is a unique start-up in that it specialises in agricultural robotics technology, aiming to perfect a fully functional vertical farming system. This venture has managed to secure various fundings from well-known investors such as Y Combinator, Tuesday Ventures, At One Ventures, and Pathbreaker Ventures. To date, it has managed to raise a total of \$45 million. Given their recent funding, the company has expressed its plans to go global and bring their expertise all the way to the national scale. By delivering grown vegetables beyond California, it will allow various businesses to purchase locally grown vegetables, which then will help the reduction of carbon footprint tenfold.</p>
<p>Goterra</p>	<p>Goterra was founded in Canberra, Australia by Olympia Yarger. This unique startup offers convenient waste management infrastructure by collecting clients’ food waste on behalf of waste collectors, as well as support independent business looking for ways to recycle their food waste. It is a modular waste management system that makes use of robots and insects to process the waste by turning it into high-protein stock feed and natural soil fertilizer, the company describing their system as “robots filled with maggots”.</p> <p>The Australian startup is in it for something bigger: they want to address the rising issue concerned with mishandling of food waste. In turn, they built a convenient solution for this by offering their clean organics from processing, kitchen waste, and pre-consumer waste streams down to post-customer restaurant and household waste.</p>

Facedrive	<p>This 2016 startup developed by Imran Ali Khan was founded in Richmond Hill, Toronto. The Canadian startup operates as a ride-sharing and food delivery service, much like Uber and Lyft, except with a focus on sustainability. They describe themselves and their brand as a “people-and-plant-first” venture that provides commuters with an environmentally-friendly alternative for their transportation.</p> <p>Facedrive drivers are reported to earn as much as 90% of their fares and all of the tips, with those who drive hybrid or electric cars earning more. This ride-sharing service is currently available in 10 cities: Toronto, Hamilton, Burlington, Ottawa, and London. Worth mentioning too is how the food delivery leg of their platform is the first of it’s kind to have a green service in all of Canada.</p>
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Source : <https://www.europeanbusinessreview.com/the-most-exciting-eco-friendly-startups-in-2021/>.
 Visited on : 05/31/2021.

Table 2

Ideas of sustainable business ideas may enterpreneurs invest in (<https://www.nerdwallet.com/article/small-business/sustainable-business-ideas>. Visited on : May, 31st, 2021):

Idea	Meaning
Eco-friendly food supplier	Deliver food from local sources to people or businesses who need them. Farm-to-table restaurants are some of the businesses that you could help supply.
Eco restaurants	Open a restaurant that uses only locally sourced food and sustainable products and processes.
Green cleaning	Use eco-friendly products to clean homes and businesses.
Air duct cleaning	Dust and dirt can easily accumulate in air ducts, preventing the air conditioning system from working properly and thereby increasing energy consumption. Start an eco-friendly small business that serves to regularly clean air ducts to reduce energy consumption.

Fundraiser or grant writer	Many environmental organizations could use help getting funding . Start a career as a freelance grant writer to help them out.
Composting business	Provide a service to pick up compost or a place to drop it off.
Environmental law	Provide legal services to protect the environment or hold entities accountable for violating environmental laws.
Garden planning	Landscape eco-friendly, sustainable gardens for families and businesses to feed themselves.
Energy auditing and green consulting	Work with businesses or individuals to help them implement strategies to reduce their carbon footprint.
Organic nutritionist	This is a powerful sustainable business idea. Help people eat clean—it's better for their health and our earth.
Plant delivery service	Start an eco-friendly small business that sources and delivers plants to people or businesses that will help clean the air around them.
Solar panel manufacturer	Produce the energy-saving panels for homes and businesses.
Geothermal developer	Build power plants that use steam produced from reservoirs of hot water found a couple of miles or more below the Earth's surface.
Wind power development	Build wind farms that produce sustainable energy.
Sell bicycles One way to reduce carbon emissions is to reduce the number of people driving cars. One way to do that is by encouraging more people to ride bicycles.	
18. Sell scooters	While scooters do emit carbon dioxide, they are much more energy-efficient than cars.
19. Energy-efficient car sales	Of course, people still want to drive cars. Why not sell more environmentally friendly car options?

20. Open a consignment or thrift store	How many clothes do you get rid of each year? Recycling old clothes is a great way to reduce the carbon footprint of each clothing item so they don't go to waste.
21. Manufacture or sell eco-friendly fashion design	Many designers are making clothing from sustainable materials. You could be one of them, or you could sell them.