SUSTAINABLE ENTREPRENEURSHIP

Models and best practices from Norway and Romania

Sustainable entrepreneurship.
Models and Best practices from. Norway and Romania
Version: 1.0.

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This course has been possible thanks to the support of SUSTENT project: "Development of an integrated program for sustainable entrepreneurship in the fields of health and wellness tourism".

The SUSTENT project is supported by EEA Grants project number-21-COP-0031

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INTRODUCTION

We are living exciting times that are characterized by major power shifts: there is noneed for large and complex infrastructures and organisations to transform an idea into a tangible solution. Today, an individual that is empowered with a good idea, determination, and some easily accessible tools can challenge entire industries.

This has led to a new breed of individuals that use entrepreneurial values and approaches to solve major sustainability problems. We call such people sustaina- bility entrepreneurs. Sustainability entrepreneurs apply imagination to challengingproblems to conceive, prototype, and create solutions that deliver environmental, social and economic value. Typically, sustainability entrepreneurs are on a personalmission to make the world a better place for people around them.

There are plenty of examples of entrepreneurs that have demonstrated that a look through the lens of sustainability reveals opportunities to improve ournatural environment, people's quality of life, while at the same time creatingeconomic value. Examples include Elon Musk of Tesla Motors, Igor Kluin of Qurrent, Matt Flannery of Kiva, or Stef van Dongen of Enviu.

In this guide we collect some of the lessons that have been learned in the fieldof sustainable entrepreneurship with the aim of providing direction to those who aspire to turn ideas into solutions that succeed in the market. We start byreviewing the concept of sustainability and the relevance of sustainable ent- repreneurship today, and describing both what sustainable business ideas are, and what they are not.

With the aim of illustrating the variety of areas in which sustainability is a source of business opportunity, chapter two presents a number of case studiesof sustainability start-ups. From this point, the guide outlines different elementsof sustainable entrepreneurship and provides guidance on process. Chapter three starts by defining the importance of understanding the stakeholders andvalue-chains, followed by addressing the question of how to identify and eva- luate sustainability-related opportunities and how to analyse assumptions, and understanding user needs.

Chapter four reviews the roles and responsibilities of both supporting partners a core team with complementary skill sets and clearly delineated responsibilitiesand the importance of these factors to the success of your venture.

Financial support is required to launch even the smallest business venture. Chapter five reviews the different ways to access to financial support from informal sources like friends and family, as well as formal sources like banks,venture capital investors, and public institutions.

Chapter six addresses the basic content and sections of business planning so you can elaborate a plan that helps you organize and clearly communicate youridea to others.

If you are reading this guide, chances are that you have an entrepreneurial ideaand intend to make the world a better place. Reality is that there is nothing stopping you from achieving your vision. We hope this guide is a supportive companion on this journey.

SUSTAINABLE ENTREPRENEURSHIP MANIFESTO

1. Sustainability entrepreneurs formulate new ways to create and capture environmental, social, & financial value;

2. Sustainable Innovation develops unforeseen opportunities by delivering solutions to sustainability issues. Technological & social innovation is a frequent element in this process;

3. It is a journey, not a goal.
Your aim is to constantly improve over the past, your competition, or the the status-quo;

4. People are the greatest source of opportunity. Science sets the limits of what is possible;

5. Get to know the facts:
Opportunities come from an understanding of context;

6. Connectivity is productivity.
The world is flat, capitalize on this fact;

7. Create value for people around you;

8. Be a hub in your personal network, leverage others by giving a voice, connecting, empowering;

9. Information is power!... You can get it all, for free; use it, share it, filter it, mix it, reflect upon it

10. You can do anything you want, anything.
The tools are out there, the power of like-minded people too, and you've got the brains to do it.


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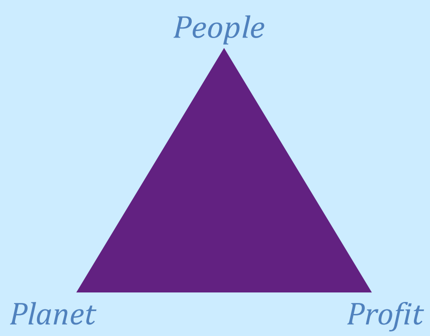
1. SUSTAINABILITY AND ENTREPRENEURSHIP

Environmental and social issues have been on the agenda of companies,governments and NGOs for some years now. As a consequence, much has been done to reduce environmental impact and improve the qua- lity of life of people. It has been only recently that entrepreneurship isemerging as a new forum within which sustainability issues are being addressed. Entrepreneurship has the potential to create value within each of the three dimensions of sustainability while boosting innovationthough new products, services, and business models.

Here we start by reviewing the concept of sustainability, sustainable business ideas, and the relevance of entrepreneurship to these concepts.

1.1 WHAT IS SUSTAINABILITY?

Sustainability is a broad and complex concept. For some it speaks to eco- logy and protection of natural resources. For others it refers to sustainedeconomic progress or, conversely, for social issues and with a focus on development and support of the most disadvantaged. For still others, it is a combination of these. Few see the potential of value creation to con-tribute toward sustainability. However, sustainability is all this, and more.



Sustainable Development is the balance betweenenvironmental, social, and economic development

It all started in 1983 when the United Nations created the World Com- mission on Environment and Development (WCED). The WCED aimed toaddress the growing concern „about the accelerating deterioration of the human environment and natural resources and the consequences ofthat deterioration for economic and social development". The outputs of this commission where published by Oxford University Press in 1987 under the title Our Common Future, also known as the Brundtland Re- port, in reference to the chairperson of this group.

In Our Common Future speaks to the interrelationships between en- vironmental, social, and economic progress and for first time used the term "sustainable development" to describe the concept. Sustainable development was defined as "development that meets the needs of the present generations without compromising the ability of future gene- rations to meet their own needs." With this, the commission highligh- ted the ongoing requirement to fulfil social and economic needs while dealing with natural resource limitations.

Concerns about environmental and social issuesexisted before Our Common Future. Still, the general belief was that environmental, social, and economic development where distinct concepts unconnected from each other. The first signs of significant environmental con- cern appeared in the 1960s with the advent ofsome major environmental disasters, includingthe mercury poisoning in Minamata (Japan).

Later in the 1980s other environmental crisesfollowed, like the Seveso accident that caused major dioxin pollution or the disastrous con- tamination of air and water in Bophal (India).By the 1990s it was generally accepted that mismanagement of industrial facilities could lead to major environmental catastrophes, and organisations like Greenpeace used this argument to organize high profile campaigns such as the international movement in opposi-tion to the deep sea disposal of the Brent Sparoil platform. The response from business and academia to three decades of environmental crises was mainly in the form of the design oftechnical and engineering solutions, which ledto concepts like industrial ecology.

Since that time the environmental dimensionhas broadened in scope aiming to influence the impact created by consumers, as well as to reduce the adverse effects of production processes. In this regard, product designers see themselves as key actors with the capacity to determine manufacturing processes, material composition, and influence quality of life of the most disadvantaged. By the mid 1990s the concept of sustainable product design and baseof the pyramid emerged.

By the late 1990s and early 2000s, environmental and social considerations came to be embedded at the strategic level of large companies and country governments. However,after picking the so called "low-hanging fruit" challenges became apparent to efforts to crea- te business value while also creating environ- mental and social value.

The nature of sustainable development is a moving field that keeps broadening its scope of action over time. Most probably, new focusareas will be embraced in the coming decades.

Commonly, companies and governments refer to the three pillars of sustainability as a “triple-bottom line”, in reference to being accountable for environmental, social, and economic success. This is often represented by the figure of a triangle (see Figure 1).
Note: in this guide, the terms “sustainability”and “sustainable development” are used interchangeably. However, strictly speaking, theformer refers to the science and social movement while the second refers to the process.

Today, it is clear that economic, social, and environmental development are inter-connected concepts. However, why is so important to develop models of consumption and production that are sustainable?

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1.2 WHY SUSTAINABILITY?

Sustainability aims to do much more than address risky situations like the environmental crises mentioned above. Three are the three main reasons why the development of sustainable modelsof consumption and production are so important:

1. There is limited availability of natural resources;

2. Exponential human population growth, and;

3.Current and future generations have the right to fulfil their needs.

Below each of these reasons are

described in greater detail

1. Limited availability of natural

resources

The earth is a closed system providing that provides the necessary elements for life to develop in the form of plants, insects and animals (humans are animals too!). Life requires certain conditions to flourish, including access to energy, clean air, water, nutrients, and materials. In the case of humans, evolution is not only limited to biological subsistence but also to cultural and societaldevelopment.

The amount and quality of natural resources available on earth for life to flourish and develop is either strictly limited or requires very long time frames to be naturally renewed. As result, resour-ces and conditions of particular importance include:

- Energy: generation, storage, distribution, usage
- Air & Water: emission, pollution, scarcity
- Toxicity: human & environmental disruptions
- Materials: over-exploitation, scarcity

2. Exponential human population growth

Human populations have been growing exponentially, particularly since the industrial revolution(see Figure 2). Reasons for this include an overall improvement in health services and an increa-se in food production and distribution. An exponentially growing population translates into an exponential consumption and extraction of resources. Such exponential consumption of resources is directly related to consumption power (i.e. GDP), which is constantly growing in (almost) all corners of the world.

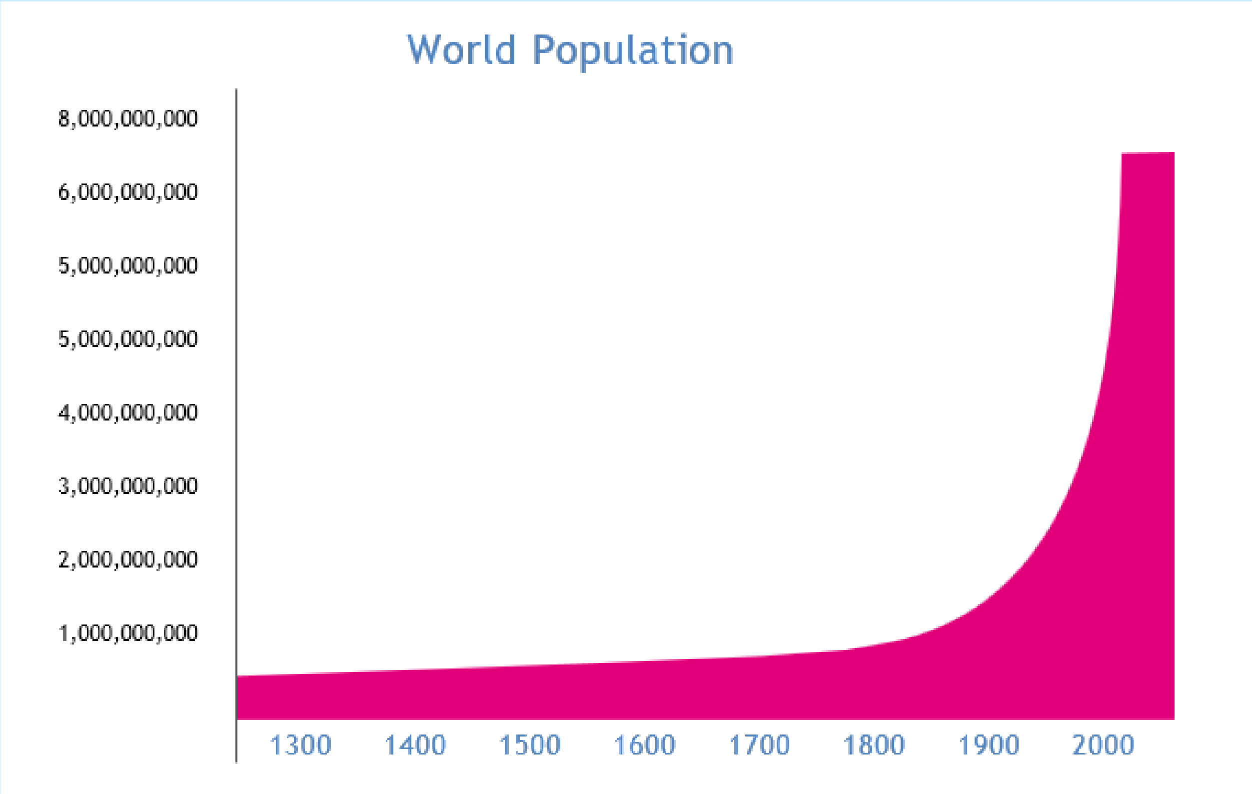


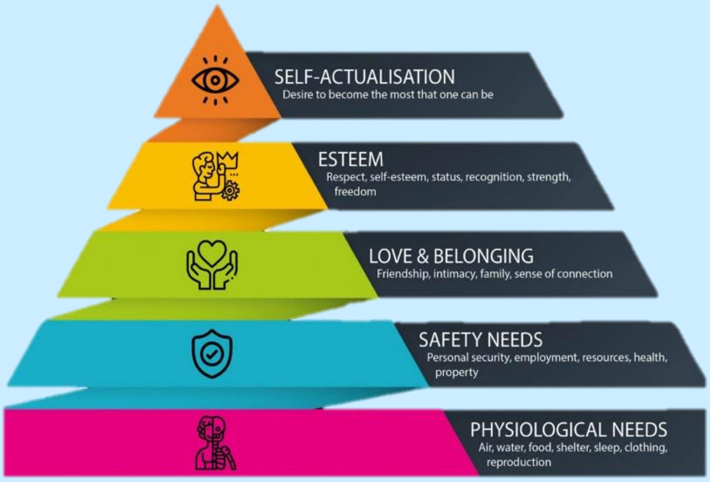
Figure 2: World population growth

3. The right of current and future generations to fulfil their needs Sustainable development aims to provide the right (and resources) for cur-rent and future generations to fulfil their needs. The basic intention of theBrundtland definition is to ensure that future generations will have the capability to enjoy a quality of life, at least as we know currently know it.

The concept of intergenerational equity highlights a controversial con- cept within the sustainability movement: human needs. What are they (and what is the line between need and greed)? Needs are not uniform across individuals, consumer groups, regions, countries, or economies. Several classification schemes for human needs have been developed. The most recognized of these are basic needs and intermediary needs. Inhis 1943 work entitled A Theory of Human Motivation, Abraham Maslowdeveloped a well-recognized and comprehensive set of human needs (see Figure 3).

Basic needs for people to develop prosper and with dignified life include access to clean water, shelter, food, energy (i.e. fire, electricity), and healthcare.

Figure 3: Maslow's Hierarchy of needs



In many circumstances fulfilment of needs is linked to functionality that is embedded into products and services, and these products and services in turn have an effect on natural resources.

The combination of the three elements (limited resources + growing population + right to fulfil needs of current and future generations) represents the challenge that sustainable development aims to address.Moreover, there is no "silver bullet" that can solve this challenge, andmany complex issues need to be taken into consideration when aimingto provide solutions.

1.3 CONSIDERATIONS ABOUT SUSTAINABILITY

The process of designing, developing and implementing solutions to sustainability problems is challenging, but not an impossible task. However, you should take into account some considerations when approaching this challenge. The following are some of key points to keep in mind when developing solutions to sustainability challenges.

- Sustainable development is a process, not an end. Sustainable deve- lopment is measured relative to a defined starting point. For examp-le, if we measure „sustainability" or how „green" a product or ser-vice might be, we look first to a point of reference. From here, youcan compare other products and services in relation to this referencepoint. Strictly speaking, there is no such thing as a product or servicethat is without impact, since any activity or product, just by existing, represents an impact of some type. Calling a product "sustainable"is to understand sustainability as an absolute concept. Instead, whatwe can say is that a certain product, service or business is more or less sustainable than another. In the latter case, we understand sus- tainability as a relative concept;

- Sustainability requires incremental and continuous improvement: there is always room for improvement. The objective that we must take into consideration is to keep working and always improve overexisting solutions. When each product continues to improve over previous versions or a company continually aims to do a better jobwe can be confident of being on the right track.

- We cannot always achieve everything; usually one has to sacrifice so-mething. It is very difficult to fix all problems at once. In fact, in the environmental dimension of sustainability it is necessary to establish priorities and understand that it is often necessary to choose one issue in place of another. For example, a few years ago it was deci- ded to reduce energy consumption and CO2 emissions. One of the strategies to achieve this goal has been to promote energy saving light bulbs that dramatically reduce the energy needed to produce light. However, to achieve this functionality in the bulbs, there was a need to used substances such as mercury that cause new pollutionexternalities. Because of the necessity of such trade-offs it is impor- tant that priorities be defined with clarity and to understand that there will sometimes be sacrifices in other dimensions;

- The "Holy Grail" of sustainability does not exist. One can approachsustainability in two ways: trying to find the „Holy Grail" that solvesall problems, or seek to develop smaller scale solutions that can be effective in the long run. The first strategy is to seek to develop a „radical innovation". These normally require a large investment of resources (e.g. time and capital) and the outcome and applicability can be uncertain. Experience tells us that it is often more efficient toapply common sense and develop „incremental innovations" that, when added together, create significant positive impact;

- Link individual consumer benefits to social and environmental benefits. Most consumers have four goals in mind whenshopping: functionality, price, comfort, and “intangible value”. In simpler termsconsumer ask: what is the feature that a certain product or service offers me; what price do I have to pay; how will the product make my life easier, and what doesthe product say about me. Sustainability is only important for the consumer whenit is linked to one of these four aspects. Only a minority of the market (less than 25%) has environmental aspects in mind when buying products or services. It is a mistake to believe that consumers can beeducated easily to meaningfully change their priorities respecting environmental aspects of products. As in the developmentof radical innovations, this process requires the investment of substantial resources andthe outcome is uncertain;

- a.) Not all consumers are equal. Of the four aspects mentioned above, some con- sumers are more sensitive to price (lookingfor basic functionality at the lowest price), others are more attracted the intangible value (willing to pay a disproportionate amount for this aspect), and others might look for extra functionality. When deve- loping sustainability solutions remember that each group of consumers requires a strategy and product design adapted to their unique characteristics;

- Functionality equals impact. At all times itis critical to remain aware that the offer of functionality – for example, lighting ormobility – involves the creation of certainsocial and environmental impacts. This is inevitable. What we actually seek is that thisimpact is positive or to minimise negative impacts as much as possible. This is the goal of sustainable entrepreneurship: creating environmental, social, and economic value.

The above list should serve as a guide on how to develop solutions to sustainability issues while creating business value at the same time.

1.4WHAT ARE SUSTAINABLE BUSINESS SOLUTIONS?

As an entrepreneur you are someone with the capacity to identify and exploit opportunities. That is what entrepreneur do; they have ideas andmake them happen. It takes commitment and perseverance to achieve this. However, it can be very rewarding to contribute by delivering solu- tions that create environmental and social value and at the same time do this in a manner that is self-sustaining from an economic perspective. Sustainable entrepreneurship aims to solve social and environmental problems by applying business principles.

This is accomplished through providing sustainable business solutions thatare characterized as:

1. ***Solutions for one specific social and/or environmental problem;***
2. ***Clearly defined business models;***
3. ***Scalable;***
4. ***Inspire others to contribute or trigger action among others to deve-lop their own solutions.***

1. Solutions for one specific social and/or environmental problem;

Such solutions address a problem that is clearlyidentified and acknowledged by society (see p.1.2 to obtain a list of the most common envi-ronmental and social issues).

The impact of the solution can be quantified inrelation to the environmental or social impactthat the solution addresses. There are many metrics to measure the impact of a problem, however it is recommended to use simple unitsof measurement such as the number of peopleaffected by the problem or the costs that are avoided through the solution. One should be able to provide an estimate of the contributionof the solution toward the alleviation of the identified problem.

One specific example of an aspect to impro- ve could be the level of energy consumption for public lighting in a city. In this case, it is important to know the actual impact of the electricity system in the form of kW/hr, mo- netary units, or CO_2 emissions. More complex impact measurement systems and indicators doexist, however it is recommended to use simpleunits that can be easily understood by a large majority of people.

2. Clearly defined business models;

The business model is intended as a means tocreate and capture value. In the case of susta- inable solutions, we talk about creating socialand environmental value as well as economic value. In other words, sustainability refers to the question of how to introduce a solution to the market, how to offer value and trans- form the solution into financial returns while maintaining core sustainability objectives. Thebusiness model is not only important for com- mercial organisations, but also for non-com- mercial organisations such as NGOs. Yet whenthe essence of an organisation is other than
profit alone, it is necessary to clearly define thenecessary economic strategy to preserve the long-term existence of the organisation.

3. Scalable

Scalability is crucial in a start-up that aims to create impact. The scalability of a solution refers to the ability to manage and implement growth in the workload and/or expansion into other territories. In the field of sustainability we are not only interested in solutions that are scalable, capable of growth and able to self support this growth, but also that they are re- levant to a variety of contexts and markets. Thescalability of a solution is the most important aspect of creating impact and value.

4 Inspire others to contribute or trigger actionamong others to develop their own solutions A good sustainable business solution inspires others to contribute to developing the idea and/or inspire others to develop their own version of the solution that adapts to other contexts. If a business solution is outstanding, one can expect that many people will be interested in joining the idea, or in developingsimilar solutions.

There is a difference between a traditional business solution and one that aims to solve social and environmental problems. While traditional business solutions strive to protect your business idea, and prevent counterfeitingand competition, sustainable entrepreneurship solutions welcome competition. In this sense, intellectual property models that promote the free use of intellectual property by competitorscan play an important role in the contribution vs. traditional protectionist models. We call this
„open innovation“.

1.5 WHY SUSTAINABLE ENTREPRENEURSHIP?

It is only recently that we are aware of the relationship between certain human activities and the implications for the planet. The subjecthas reached such a level of maturity than it is only now that all the pieces of the puzzle are beginning to come together.

A new generation of individuals is on the rise that are driven to create an impact in society and leave a heritage of improved environmen-tal and social conditions.

Traditionally, environmentalists have focused their attention on established corporations: “They have created all the problems, and theyhave to solve them”. The truth is that the ultimate drivers of the current environmental stress are consumers. It is also true that, until recently, little was known about the effects ofindustrialisation.

Today large companies are doing much to redu-ce their sustainability footprint. At the same time it is true that large organisations lack flexibility and often the necessary culture to develop innovative sustainable solutions.

That is why the future of sustainability is in the hands of passionate individuals driven to create environmental, social, and economic value. These are the individuals who will crea-te the innovative technologies and business models of tomorrow.

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2. THE PREMISE & PROMISE OF ENTREPRENEURSHIP – FROM IDEA TO ACTION

In principle, it is nice to be rich and famous. We know many people that want it but are not sure how to achieve it. At the same time, being rich and famous is the end of an exciting road. In this manual, we speak about the neat road of sustainable entrepreneurship and the main argument is that **the road is even more interesting and fulfilling than the end of it**. The entrepreneurial spirit can be incapsulated in an example from the popular culture. Costin is telling his story: "One of my favourite cartoon series, that impressed my childhood, was *The Simson's*. The head of the family, Homer Simson, was not always having all necessary resources to lead his family as he would have liked, but he was always finding a way out. Actually, this is what being an entrepreneur is about. It is not always about having all resources, but to obtain the maximum with the resources as hand" (Sorici, 2008: 16).

IF you bear with us, we will discover together how to produce value in the process of sustainable entrepreneurship. When one embarks on an entrepreneurial endeavour, **resources are needed**. These are **financial, social, and natural**. No less important is **knowledge**, a type of capital that is especially relevant in the information society. Nevertheless, the financial capital is a basic starting point for each enterprise. How does one make and invest, rather than spend the money? The idea of having money and not spending is a bit counterintuitive and requires a valid explanation, especially for the Romanian readership. The wonderful theory of Max Weber (1904-5) connects early entrepreneurship with the accumulation of capital by the hard-working, no money spending, God fearing early protestants. The main explanation that the German sociologist gives is that the protestant ethic of hard-work, individual autonomy and initiative, accumulation, and no waste led to the first formation of capital. Weber argues that never before had it been a historical time and circumstance whereby wealth would exist without the lavish display of it.

On the relation between wealth display and status, the classical book of the American-Norwegian researcher Torstein Veblen (1899) is telling. The author introduces to the world the concept of `conspicuous consumption`, that refers to the lavish spending and display of wealth especially be the *nouveaux riches*. Basically, it is far more common for people throughout history to show that they are rich, than to abstain from making a point of status out of it. It took the unique circumstance of the protestant ethic of wealth accumulation without the display and spending of it that ultimately led to extra financial resources to be invested in lucrative enterprises. This stage came to be known in economics as early capital accumulation. Entrepreneurship was born, and it is still the main engine of growth around the capitalist world. If we are to consider the main qualities of the entrepreneurial spirit, we observe **hard-work, concentration, diligence, intelligence, energy and initiative**. Like the early protestant, the entrepreneur relies on himself/herself, is autonomous, determined, and does not expect that others do his/her work, but is aware of the road ahead. **The entrepreneurial spirit observes opportunities and uses them**, **is observant of resources and the needs of the potential consumers and clients**. One example of early understanding of opportunity was provided by a professor at Rochester University, USA. He told us that he was reading about the telecommunication technology and mobile phones in the early nineties. He understood the market potential of the mobile technology and thought that eventually everybody would like a mobile phone and that this represents a huge potential market. Did he start investing in mobiles? No. He started buying barns on high hills in the countryside. He bought them cheap, and sold them expensive a decade later to telecommunication giants that needed antennas to make their signal circulate.

The more individual agency in a society, the more people are empowered and feel confident about what they are and what they can do; thus the more space is created for meaningful action and the creation of value. Entrepreneurship requires that people are free to act and responsible for their own actions. They know that if they are wrong, they will be accountable. Here the socio-political context provides very different environments for the thriving, or lack of entrepreneurship in a society. In this sense, if we identify the loci of agency within a given society, we can evaluate the resources, availability, wealth and progress of initiatives as well as the creation of value. It is important to observe that there is a great deal of variability when it comes to agency and its affordances in different societies. One of the fundamental questions when it comes to sustainable entrepreneurship is: Whose responsibility is it? In our project the main areas of reference have been Western Norway, and Southeast Romania. While Norway has a long tradition of self-reliance, increased autonomy, and a culture of initiative and cooperation, Romania is a polity that has traditionally been led by an overarching state. In this context, individual initiative has not really been enhanced, and has not yet grown into a full-fledged value shared at the level of the Romanian society. In general, we expect that entrepreneurial practices are more widespread in Norway than in Romania, but we expect as well a solid implication of public authorities in the Nordic country, given the welfare model that this policy is known for. Nevertheless, entrepreneurship is about accomplished action.

2.1. ENTREPRENEURSHIP IS ABOUT SOLVING REAL PROBLEMS

The capacity to transform an idea into action is the defining characteristic of entrepreneurship (Ploum et al., 2018: 125). It is about an action that is completed, all the way to implementation. This action is undertaken in order to materialise an idea, to transform it into reality. In this course **we try to understand the road from idea to accomplished action taking into account the three pillars of sustainability: people-planet-profit**. We start from the very simple question: **Can we manage to transform an idea into reality, and make some honest money out of it?** What kind of ideas can we have and how do we proceed with finding them, then make them reality? In order to accomplish something, we need to start the work. The Romanian education system is set around solving already given problems. It is about finding solutions to pre-defined issues. It is what we do when we are in school and solve exercises on various subjects. We, as pupils, are not really trained to identify problems and provide solutions to them, we are a little assisted on the whole knowledge track. The entrepreneurship road means taking in our hands the definition of the problems to solve, without the backing of predefined tasks. It is not like a treasure hunt whereby the organisers know where the treasure pieces are, but like a wild west where we need to find our way and map for the first time the whole territory. We are the ones that need to find the water sources in the new territory, to locate the food sources, the heating opportunities, and the whole development frame, but without destroying the resources in our quest.

In order to map new territories, **the first task is to identify the needs, the real pain points**. We can start looking in a fresh way to the most familiar: our family, friends, community, or even society. People are very much routine based, and normative in their social life. Social rules are not written, but they are strong nevertheless. Doing things in a different way can mean breaking the familiar rules, but it is as well of thinking outside the box, and maybe dragging the social situation out of a toxic spiral. For example, if one group functions around the idea of consuming together substances, the entrepreneurial spirit that looks for solutions and thinks outside the box would consider substituting chemical substances with smoothies. In this way, the main glue of the group, consuming substances together would be conserved, but the nature of the substance would be improved. On the long run, the whole group might glue around the entrepreneurial idea of producing and distributing smoothies for an emerging market that aims at improving its lifestyle. It is of course not very easy in real life if the substances consumed are producing addiction, but if the group spirit is strong and positive, there is a possibility to solve a real problem and train the entrepreneurial spirit with such an idea transformed into reality.

Another way to start is by subject. If one is a student in Geography, he/she can identify solvable geographical problems that affect a lot of people and attempt to find the action road to find solutions. If one is a student in Communication, she/he can start by identifying communication problems and propose ways to solve them. Each action to solve a problem can be an entrepreneurial endeavour. **The best ideas are the ones that solve real problems**. It can be one that people do not even realise that they have a problem, but a visionary entrepreneur sees it and offers the solution to the ones that need it. For example, if senior citizens are lonely, and their families care for them but do not have too much time to devote to them, all parts involved perceive stress and unhappiness about it. There are many people that that such a situation as a given, and be fatalist about it. But there are entrepreneurial spirited that can see in this sour context a fair way of solving a real problem. The little entrepreneur can consider a club for senior citizens, financially supported by their families. In this case the problem is loneliness, the solution is a club, and the road to it is to create the club with all the aspects that make it a sustainable reality. Besides profit, we address the other two sustainability aspects: people and planet. Thus, we try to create a friendly work environment for the people involved in running our club, and consider all the waste and energy challenges involved in our enterprise.

2.2. THE ENTREPRENEURIAL ECOSYSTEM AS A SUCCESS FACTOR

In order for an individual entrepreneur to succeed though, some systemic conditions need to be met. No matter how talented or driven one is, the structure that enables his/her success, is vital. "**The systemic conditions are the heart of the ecosystem: networks of entrepreneurs, leadership, finance, talent, knowledge, and support services**. The presence of these elements and the interaction between them predominantly determine the success of the ecosystem" (Stam in Pankov et al., 2021: 1075). At the moment, the modern universities set themselves the task to become such hubs of opportunities for their students. Ovidius University is just one example of a structured effort to create the best entrepreneurial premises for its students[1]. HVL University from West Norway is the inspiration that shows that it is indeed possible that universities function as hubs of innovation and entrepreneurship in a society[2]. In Romania, "exploratory analysis of the national entrepreneurial ecosystem undertaken in 2015 from the perspective of the relationships established between various determinants of economic development, such as leadership, human capital or culture, and which also influence entrepreneurship to the extent that finance and markets do, highlighted that this ecosystem is very poorly developed in Romania, as the links established between the entrepreneurs are not strong enough to lead to a self-sustaining environment" (Gheorghiu et ali, 2021: 269).

2.3. FROM IDEA TO ACTION

We need to admit that we need more than an idea in our head for a lucrative materialisation. According to the legislation on intellectual property**, the ideas in our head are not protected by law, only the ones that are materialised, available on a perceivable medium** (print, digital, visual, audio etc.). It is only when they become material, that they are legally recognised as intellectual property[3]. For example, if we have an idea for a novel in our head, this is still nothing from the legal point of view, the novel does not really exist. It is only when we have the novel written or spoken, or presented on stage, or made into a movie, that the legal protection starts. When the idea becomes shaped in reality we can start to enjoy the moral and patrimonial fruits of our work and creativity. The nice thing about intellectual property is that one does not need to officially register the *oeuvre* in order to be legally recognised, but its mere existence gives all the intellectual rights. The material existence of an intellectual work does not necessarily have to be fixated on paper, the digital forms are equally admissible as means of materialisation. The writing of a novel is an action and finishing it is the activity taken up to the end. Perhaps you are familiar with the writing exercises from the Wattpad platform[4], where a lot of teenagers try their luck with various forms of fan-fiction. From these initiatives, there are not that many that are fully materialised, and even less bring money to the amateur writers. One happy example are the novels of the writer known as Pufoșenia on the platform and outside of it. She launched her activity on the platform, and eventually materialised it as full-fledged books. This i s ahappy example, but it is not by any means the rule in the creative industries. The British researcher David Hesmondhalgh (2013) observed the fact that the actual success rate in the creative sphere is around 2%. This means that merely two out of one hundred people that try to have a career in the creative industries, created something and wished to have a profit from it, really managed to achieve this. This

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[1] https://focuspress.ro/sustent-scoala-de-vara-de-antreprenoriat-sustenabil-de-la-universitatea-ovidius-din-constanta-participa-studenti-norvegieni-alaturi-de-studenti-ai-uoc/ accesat]n 26.09.2023

[2] https://www.hvl.no/en/about/mohn-centre/ accesat în 26.09.2023

[33] Cf Legea 8/1996 a *Dreptului de autor și drepturilor conexe* coroborată cu principiile Convenției de la Berna, actualizată.

[4] https://www.wattpad.com/?locale=ro_RO accesat în 18.07.2023

minuscule rate of success is valid in all areas of the creative industries: music, design, content making, photography, audiovisual production, and all the rest of the creative spheres. It is interesting to observe in our pedagogical and mentorship practice quite a lot of students that are not expressing their ideas for fear of them being stolen. Low trust is not a fertile ground for exchanging ideas and information, and for learning in general (Ploum et al.2018). **Good ideas and high trust are a good starting point for making innovative things come true.**

2.4. TRUST AS PREMISE OF ACCOMPLISHED ACTIONS

In order to grow in the field of entrepreneurship in general, and especially in the field of sustainable entrepreneurship, we need to observe to what extent we are able to feed trust; in ourselves, in others, in the society we live in. An important part of trust is represented by reciprocity. **High trust leads to cooperation, because there is a legitimate expectation about symmetry, if I do something fair for you, you will do the same for me**. It is interesting to observe how the Northern European countries like Norway have particularly high ranks when it comes to trust. From direct observation we can say that the basis of entrepreneurial development in Norway is cooperation, not competition. The most modern business model, the platform, functions as a hub of cooperation between providers and users (Hagiu & Wright, 2015). Moreover, cooperation builds on trust. Competition requires an individualistic approach, **cooperation rests on more people working together in full trust**.

It is quite obvious that more minds can accomplish more than a single one, moreover, teams are complementary social structures. Not everybody is talented in the same way. When cooperation occurs, each is able to contribute with his/her specific skills. Some people are creative, others are well organised, there are people who are are good analysts, others that are sociable, and there are the ones that see opportunities and strive to make them come true. People that are trustful enough to combine theirs skills can accomplish a lot, and innovate a lot. This is a virtuous circle where all resources are put together in the trust pot of cooperation. It is the philosophy that drives the cross-campus entrepreneurial activities driven by Ovidius University since 2017[5].

There are other social configurations that are less successful in terms of outcome. Here we see people that try to profit from others, to use their fellows for their own ends, that wish to impose their own will by any means, that are not interested in the end result but in their personal gain. In this case, the vicious circle is being built, and no positive outcomes come out of it. Actually, it is more likely that vicious, rather than virtuous circles come true. It is in this vain that this manual points to the benefits of trust and reciprocity, even when it might take more time, less personal gain, and more effort to make it functional.

There is a very interesting parable about doing something together for long-term gain. Let's take the example of a communal pasture When we take an individualistic approach to it, it is only rational and reasonable to feed your own cattle to the maximum, irrespective of others. It is your right. On the other hand, if everybody overuses the pasture, it will get barren in no time. It is in this context that long-term, counterintuitive thinking can help. If each cattle owner observes the needs of the others, and together they design a plan for feeding their cattle in a reasonable way, then the pasture will be a good place to feed for all on the long run. The main risk is represented by the cheaters, that will take advantage of the trust of others to overuse the resource in his/her own interest This kind of opportunistic behaviour will destroy both trust, as well as the pasture (Olsen in Douglas, 2002). Yet, cheating seems more reasonable than not cheating in most of the human encounters led by mutual suspicion.

Low trust and responsibility as barriers to sustainable development and entrepreneurship

In this course the main focus and comparison is between Norway and Romania, because they represent two very different societies when it comes to principles of action, agency, and responsibility.

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[5] https://focuspress.ro/studenti-din-12-facultati-ale-universitatii-ovidius-din-constanta-genereaza-impreuna-solutii-practice-la-scoala-de-vara-de-inovare-si-antreprenoriat-oiess/ accesat în 26.09.2023

Norway is a vast country where people have managed to live and develop despite harsh natural conditions and political ambitions from neighbouring countries. What did the Norwegians rely on in times of need? Basically on themselves and on each other, having learnt to cooperate and trust each other for the common good (the discovery of gas in the North Sea provided with the economic resources to built on the already existing human capital and protestant ethic) .

On the other had, Romania is a country where people in power have tended to be quite authoritarian and controlling over the whole polity. In this context, one of the main virtues of a good citizen had traditionally been that of being passive and observant of the rules imposed. Individual compliance would eventually pay off in the shape of privileges. Moreover, in Romania, until very recently, all major issues have been considered to be the state's responsibility. Thus, a regular Romanian would expect that the state (and the secret services) know best, find solutions, and are the main engine of action. This mindset has led to a curious situation whereby it is not really considered the focus or responsibility of regular people to understand, learn, and manage important issues. Our own research on the inter-sector cooperation in the region of Dobrogea revealed that not taking responsibility is a serious break: "These people that run away from responsibilities represent barriers to progress, they do not take responsibility for decisions according to the positions they occupy"(Ștefan Ilie, mayor elected of the municipality of Tulcea). We could call it a limited perceived citizenship as active participation within one's policy. In order to make sense of this widely shared expectations, one needs to understand the institutional legacy of an *etatist* polity, within the conceptual framework offered by the theory of path-dependence (North, 1990). If we are to understand this limitation we can research the institutional legacy of countries like Romania, heavily dominated by their states until three decades ago. We believe the time has come in our part of the world to move beyond a narrow understanding because it both places responsibility outside the focus of the citizens, as well as moving away the perspectives and creativity of action. In order for this course to be useful, we need to trust: ourselves, the professors, the colleagues, the community we are part of. It is only in this context that the exchange of ideas and knowledge in general can thrive. If we remain fearful in a little corner, there is no chance to use all entrepreneurial opportunities and growth that are really available around.

2.5. THE WAY AHEAD: PUTTING ON THE ENTREPRENEURIAL SPIRIT

It is indeed the case that in our society trust is low. According to recent statistical significant European opinion polls, most Romanians consider that they cannot count on the government, the ones that theoretically are delegated to represent the legitimate interests of the citizens that endorsed them by means of a democratic vote[6]. Practically speaking, we do not expect positive things form the other people, but expect to be used, cheated, mistreated. At our turn, if we get the opportunity, we will use the weaker people to our own advantage. Recent social anthropology research show the effects of low trust and instrumentality in contemporary Romania (Umbreș, 2022). On the same token, the recent revelations about the inhuman conditions in some Romanian elderly houses speak of the practice of taking advantage of the weaker, the most vulnerable of us all[7]. It is an institutional legacy that seems to reproduce, rather than disappear. At the same time, if we are conscious about the moral opportunities ahead, we can do better than just use weaker people for individual ends. We can start solving real problems to the benefit of our communities with an entrepreneurial mindset.

The thing that differentiates entrepreneurship from other aspects of our lives is that the entrepreneurial action is undertaken by the person that has generated the idea, not by a state institution, a public authority, a famous firm, or by the extended family network. Another aspect that is closely related to that of accomplished action has to do with the idea of responsibility. In entrepreneurship there is no delegation of responsibility to a third party. The one that undertakes the entrepreneurial activity is the sole responsible for its, and the one to enjoy the fruits of this very activity. The most intense part of the responsible action is that both success, as well as failure are of the one that materialised the idea, not the appurtenance of anybody else. We explain these aspects because in our

[6] https://webgate.ec.europa.eu/ebsm/api/public/deliverable/download?doc=true&deliverableId=83463 accessed on 17.07.2023

[7] https://www.libertatea.ro/subiect/azilele-groazei accessed on 26.09.2023

institutional tradition the main initiator of the materialization of ideas has been the state until a few decades ago. Private initiative has started to be encouraged after 1989, but it did not really make sense to most of the people. If we consider as valid the explanatory framework of path dependence (North 1990), then we can understand that the Romanian society no longer wanted the tight control of the state in December 1989, but was not yet ready to take initiatives on its own. The result that we witness nowadays is a kind of laissez-faire, whereby individual initiatives spark but are rather fragmented and inconsequential. Nevertheless, this is an especially fertile ground for development by means by sustainable entrepreneurship.

Quiz:

Test your entrepreneurial level[8]

1. Do others consider you a leader?
    a. Yes
    b. No
2. Do you see problems as obstacles?
    a. Yes
    b. No
3. Do you prefer doing things your own way?
    a. Yes
    b. No
4. Do you consider yourself a risk taker?
    a. Yes
    b. No
5. Do others ask you for help and guidance?
    a. Yes
    b. No
6. Are you competitive?
    a. Yes
    b. No
7. Do you enjoy working with others?
    a. Yes
    b. No
8. Do you get stuck when things get tough?
    a. Yes
    b. No
9. Are you driven to succeed?
    a. Yes
    b. No
10. Do you considers problems as opportunities?
    a. Yes
    b. No
11. Are you coach-able and willing to listen to others?
    a. Yes
    b. No
12. Do you plan ahead?
    a. Yes
    b. No

[8] https://www.proprofs.com/quiz-school/story.php?title=are-you-entrepreneur accessed on the 26th of September 2023

Exercises:

1. **What is your favourite movie/cartoon/song, that illustrates the entrepreneurial spirit?**

2. **What kind of actions have you accomplished so far?**

3. **Identify an idea that you turned into an action. What were the steps, and what was the result?**

4. **What do you propose to do in order to materialise an idea? What are the main challenges?**

5. **What are the main problems in your family/group/community/society?**

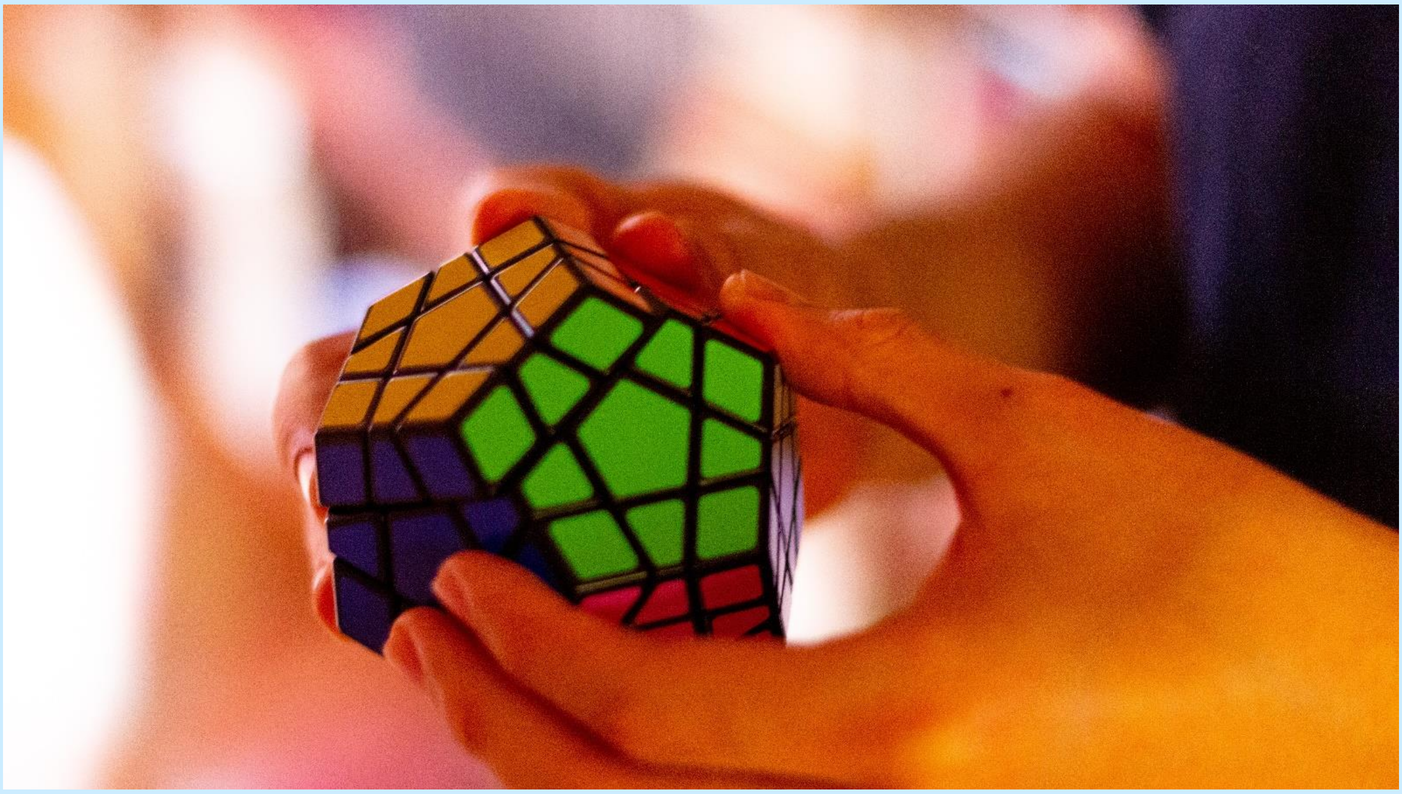
6. **What are the best ideas that can solve the main problems identified?**

7. **Whom do you trust and whom you don't? Why?**

8. **Identify a public action. Whose responsibility is it?**

Quiz keys:

Majority *Yes* on questions 1, 4, 5, 6, 7, 8, 9, 10, 11, 12 + *No* on questions 2, 3, 8 = entrepreneurial spirit



3. UNDERSTANDING CLIENTS AND PROBLEMS FROM SUSTAINABLE PERSPECTIVE

3.1. STAKEHOLDERS & VALUE-CHAIN

A stakeholder is any party who affects, or is affected by a company's actions. We call the sys-tem created between the start-up company andthe stakeholders around it the "value-chain".

There are two types of value chains: internal and external. The external value chain refers to the interactions between business and interest groups that surround the business. Normally this includes consumers, government, lobby- ing organisations, and financial institutions. The internal value chain refers to the actors and activities necessary to provide value in the market. It includes, among others, suppliers, management, engineering, marketing, legal, production, and marketing activities.

From all interactions and existing value chains,the environmental value chain is the one responsible for channelling and connecting activities and actors in the process of creating environmental value in the form of products and services.

It is essential that anyone intending to deve- lop a new product or service understand the interests of each of the actors in the value- chain. The biggest challenge one faces in the field of innovation is not the development of atechnology, but managing the value chain and the sometimes differing interests of each actor.Understand and handle the interests of those around you properly, and the likelihood that your idea will survive multiplies.

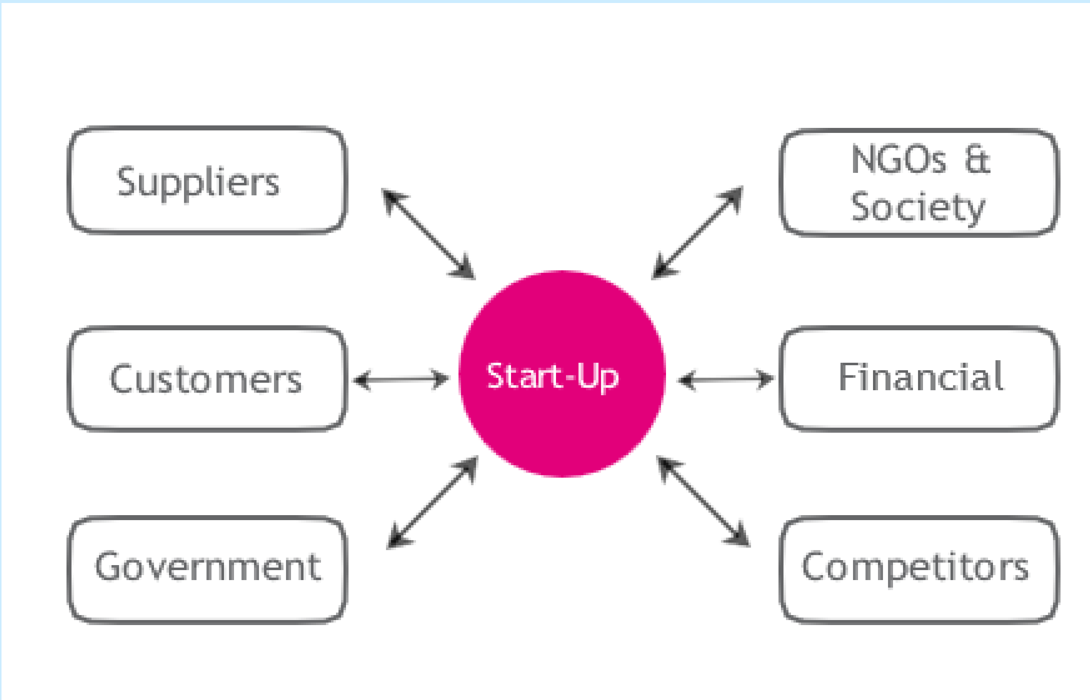


Figure 4: External value-chain

Some of the most common actors in the external value-chain and theirinterest are:

- Suppliers: suppliers provide components or services that support thedevelopment of the product or service you intend to offer. A good relationship with suppliers is essential to successfully bring your ideato the market. Suppliers are typically interested on creating long- lasting relationships with their clients, improving the products they can offer, and expanding their business;

- Customers: customers and users are not necessarily always the same actor. A customer pays for your solution, and the users benefit from its functionality. The customer is interested in paying a fair price for the solution while the user is interested in ease of use, convenience, and other factors.

- Government: government is typically interested in improving the competitiveness of its local economy and also improving and secu- ring the quality of life of citizens. Because of its legislative powers government is responsible for defining what is and what is not allo-wed within its jurisdiction. This might set boundaries around aspectsof your solution, but it might also open a window of opportunity;

- Financial organisations (i.e. banks): financial organisations can pro- vide loans and financial support to launch or expand your business. Today, the range of financial organisations includes established institutions like banks as well as newly created forms (i.e. micro- financing, crowd-financing). Financial organisations are interested in your business model (how you create value), and also in establishinglong-term client relationships;

- Competition: under traditional entrepreneurship rules, competitors are perceived as those that you aim to defeat (take out of the mar- ket). However, competitors have the potential to add value to your product or service, especially in the field of sustainable entrepre- neurship where you aim to solve environmental and/or social issues.The more start-ups/people working on solving certain problem, the better for the rest of society.

- Environment: here we consider the environment as a stakeholder be-cause your aim is to create a positive impact. One might say that the interest of the environment is to continue to provide life-sustaining resources;

  Society: as with the environment, society is also a stakeholder to take into consideration. Although different social groups might havedifferent interests the overall goal of society is to develop prosperity(in all its forms).

Although this is a rather basic description of the actors in the external value-chain, it provi-des an idea of the different interests that mightneed to be managed and taken into considera- tion when developing a solution and bringing it to market. Spend some time identifying the stakeholders involved in your solution and talk to them to identify their specific interests. It is always useful to speak the language of your stakeholders: engineers speak technical langua-ge, bankers speak financial language.

You might want to know really well the finaluser of the solution you are developing. Getting to know the user helps you discoverinnovation opportunities that will facilitate acceptance of your solution.

Empathising with the user

Of all the actors in the value chain, the most important of all is the end user of your product or service. Understanding her/his interests, desires and frustrations is essential to developa solution that creates value for she/he, and forthe development of a business model.

One of the reasons why sustainable entrepre-neurship fails is that there are usually very good intentions but also very little knowledgeabout the problem. This is why so many of these initiatives fail.

Markets are not homogenous; each segment has its own interests and solutions tailored to those interests are required. The entrepreneurcan organize to better understand the user. There are various techniques that can help thisprocess. You can start by doing desk research and studding existing information about the problem, who has worked in the field in the past, what kind of solutions are currently available, and why past attempts have been or have not been successful.

Moreover, you want to understand how the problem is perceived from the perspective of the user. This can be achieved through observa-tion, following the user in their daily activities, particularly those with a connection to the identified problem, as well as involving the end users in the development of the solution.

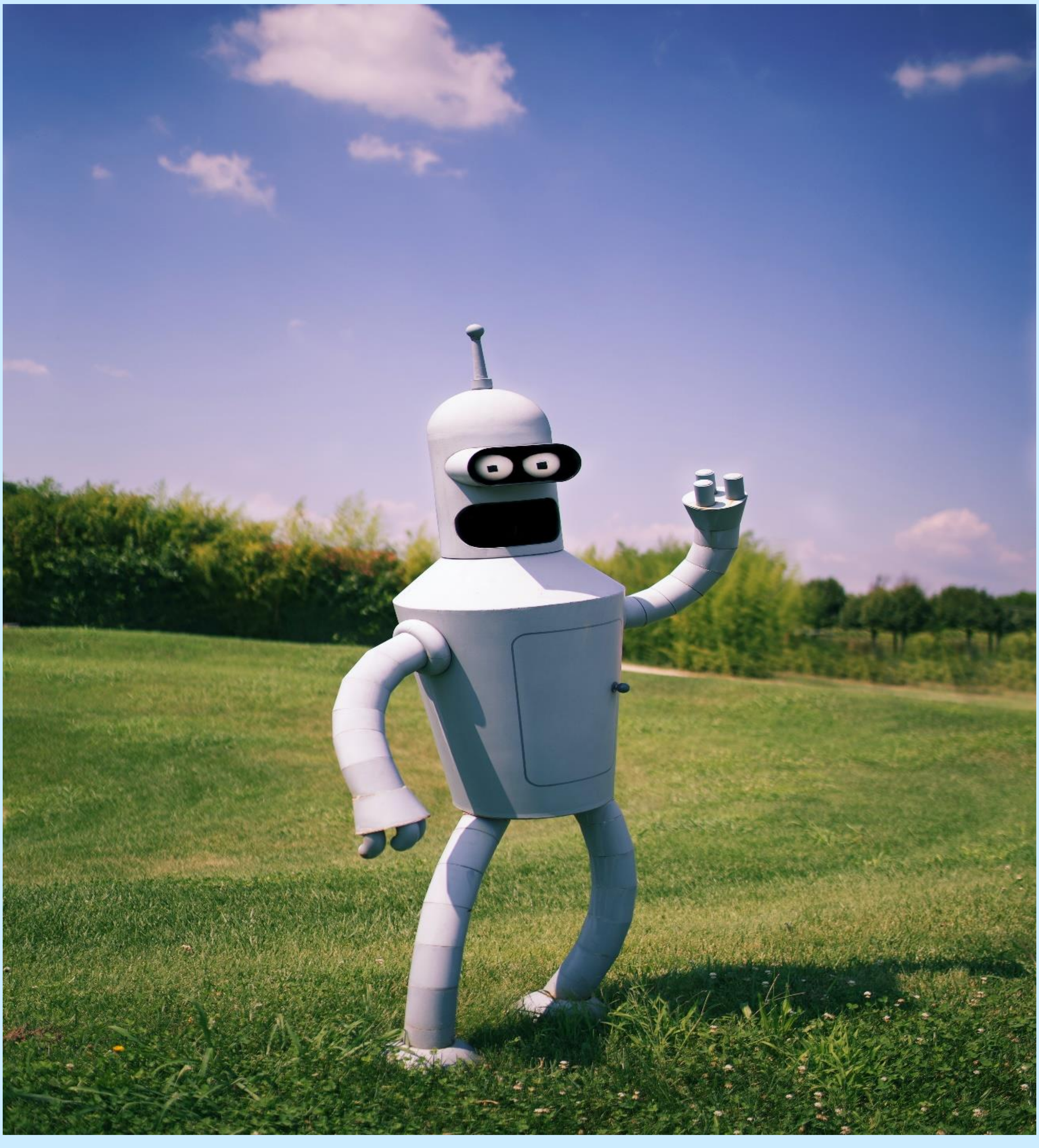
Identified observations can be summarized on the so-called “User Empathy Map”. This tool helps to organize a debate on the needs of a particular user. The discussion will focus on what has been observed, and what can be inferred about the beliefs and emotions of the user. The User Empathy Map consists of four quadrants onpaper or a chalkboard that are populated with the observations from fieldwork. The questions within the map are as follows:

- What does the user do and say? What are some of the quotes and words used to define the problem? Which action and
  behaviours are observed? His/her attitude in public, appearance, relationship towards others;

- What does the user think and feel? What does this say about his/her beliefs? What emotions might the user feel? Main wor-ries and aspirations;

- What does the user see? The context and environment around him/her, friends, colle-agues, other solutions from the market;

- What does the user hear? What are his/herfriends saying? What is the boss saying? What do other influential individuals say?



3.2. IDENTIFYING OPPORTUNITIES

There is no straightforward way to identify opportunities for the deve- lopment of sustainable entrepreneurial solutions. In most cases, entre- preneurs find an opportunity without actively looking. However, here weillustrate some practices and exercises that will help you develop a mind- set and attitude that will help you identify opportunities and become opportunity-focused in your work.

It is recognized that business opportunities are timely, attractive, dura- ble, and are attached to a product or service that creates value for the user. In the case of sustainable entrepreneurship, opportunities are alsoimpact-driven, that is they aim to create impact through creating envi- ronmental and/or social value.

Products that represent an opportunity are efficient, empowering,and non-toxic:

- Efficient: products that require fewer resources to deliver a basic or enhanced functionality than existing alternatives. This category ofproducts includes consumer electronics that are more energy effici- ent, or mobility solutions that are more fuel-efficient. Those oppor-tunities create value both for the environment (reduced consumpti-on of resources) as well as for the user (reduced cost of ownership);

- Empowering: functional products that allow the user to be producti-ve and “make things”. Think of power tools for instance; they allow people to build things. However, the term “empowering” is broaderthan that. A clean and durable light bulb is an empowering tool for someone that has a business in a village where there is no energy grid since the business can operate after the sun has set. Empow- ering products might be focussed on providing social, rather than environmental value;

- Non-toxic: environmental and social impact might be also created by finding alternatives to existing products that require the use of toxic components to deliver functionality. The opportunity here is to aim for non-polluting or non-toxic products. Examples of this includecleaning products, batteries, or electronic components. The Cradle to Cradle concept proposes to address this issue by closing materialcycles (technological & biological) and using product waste as food for newer products.

Opportunities attached to services may involvethe provision of goods or services that meet basic needs, empowerment, convenience, and the efficient use of idle functionality:

- Provision of basic needs: this includes accessto clean water, food, clean and renewable energy, health services, and education. Theimpact that those services might create is clear. The challenge is to find a business model that supports a sustained provision of these goods or services. A good oppor- tunity is to turn users of those services into merchants or micro-entrepreneurs;

- Empowerment: empowering services allow people to further develop at a per- sonal and professional level are usually a good basis for entrepreneurial opportuni- ties because of their high value to the enduser. Empowering services might involve easier or more efficient connectivity with others. Think of communication services, or mobility;

- Convenience: a good range of services arebased on the idea of offering convenience that make life easier by saving time and money, or by making certain experiences more enjoyable. Services linked to conve- nience include repair services, cleaning, or entertainment. The advantage of this sort of solution can include shared use of re- sources, which results in more efficient use;

- Efficient use of idle functionality: a new range of service-based opportunities is rising within what has been coined as “col-laborative consumption”. The idea is that, for a variety of products, most of their potential functionality is idle, un-used, which leads to wasted resources. Think of a car that is only used during weekends, ora power-tool that remains unused. Thanks to the connectivity that the Internet offers,new services are being born that connect users with idle functionality. Examples of this include peer to peer car rental systems,or product swapping.

3.2.1. ECO-INNOVATION & LIFECYCLE

In the previous section the concept of sustainable development was introduced. Eco-innovation concerns the development of products and services that solve or address environmental problems. A variety of terms are commonly used to refer to concepts of eco-innovation. These include eco-design, eco-efficiency or clean tech. All these concepts and disciplines have a similar objective or are part of the practice of eco-innovation. Here, we use this term 'eco-innovation' in a general andinclusive sense that refers to products, services or technologies.

In the case of product eco-innovation, opportunities arise by analysing the product's lifecycle and exploring ways to create value in the different lifecycle stages. Typically, a product lifecycle inclu- des extraction of materials, processing, manufacturing, distribution, use and end of life:

- **Extraction of materials:** the life of a product starts with the extraction of materials. These ma- terials are generally minerals, metals, oil, timber and other resources. Some of these materials require large amounts of energy for extraction.

- **Processing of materials:** normally materials in their natural state cannot be directly used in the manufacture of products, first they need to be transformed. For example, the conversion of oilinto plastic and then into a specific shape/form.

- **Manufacturing:** the different parts and components get assembled into a finished product, which is now able to provide a certain function. Depending on the efficiency of the factory,there will be more or less material or energy losses during this process.

- **Distribution:** from the factory to the retail store and then to the end consumer. Currently the majority of products are manufactured far away from the location where they are consumed and used. The most commonly used means of international transport is by sea, then train andthen by truck to the point of sale.

- **Use:** the longest phase of life for the majority of products is the use phase when the functionof the product is used by the consumer. For this functionality, the consumer has paid a price.

- **End of life:** once the product no longer offers the desired functionality, or does not meet user needs, it becomes waste. There are several ways in which product can be treated at the end ofits life depending on the available systems in the geographical area where it will be disposed; incineration, recycling, landfill, etc.

Although the lifecycle stages are the same for all product categories, the impact at each stage fordifferent products differs. If we aim to find solutions to improve the environmental impact of a product, it is necessary to understand the lifecycle and identify the phases where there are oppor-tunities for improvement.

What follows is a list of eight strategies that can help you find innovation opportunities inproduct design:

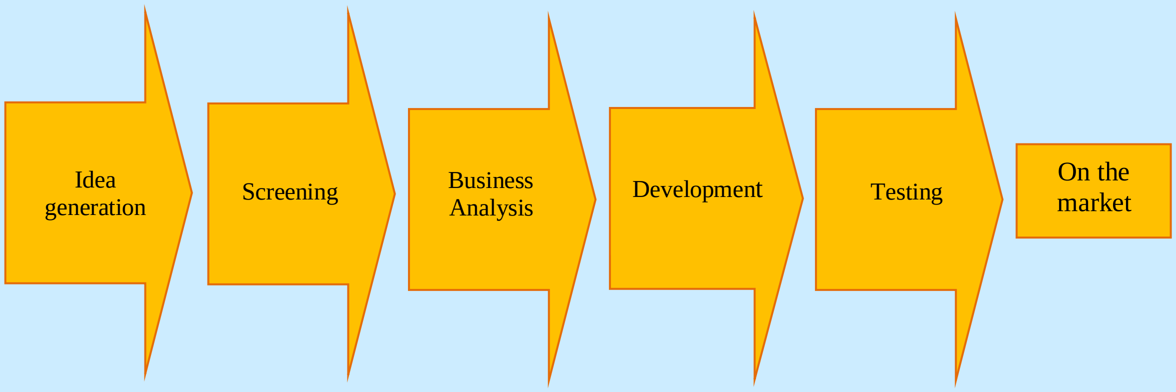
1. New concept development
2. Selection of low-impact materials
3. Reduction of material usage
4. Optimisation of production techniques
5. Optimisation of distribution system
6. Reduction of impact during use
7. Optimisation of product life
8. Optimisation of product end-of-life system

4 .SUSTAINABLE PROTOTYPE AND USP. CREATING A SUSTAINABLE INITIAL SOLUTION

Many companies build products mainly in two ways: either they are buying a patent or a license of an existing product (hence they are building and selling the products as they are), or they are developing new products by innovating or by adding some new features through some R&D efforts. In the economy of a company, building new products represents an important source of growth as it is a solution to a customer problem. Hence new products bring together customers who permanently adapt their buying according with their changing needs with companies which provide the means to solve those needs. Consequently, companies cannot be successful in the long run if they only provide stagnant products or services.

A key factor in developing a successful new product regards a deep understanding of the consumer, the markets, and competitors. Correspondingly, to perform while building new products one must follow a systematic customer-driven product development process which relies on some analysis and planning.

Developing a new product that is to be launched on the market encompasses several stages, starting from a rough potential idea, going to research, plans and design, and finally ending with prototyping and testing activities.



Idea generation deals with the searching for ideas to be implemented into some real products. In this phase the new product concepts originate. Generally, it consists of a systematic search that leads to many ideas out of which, by refining, some good and feasible ones will be chosen later on. It is worth mentioning that many ideas are already implemented and, moreover, the same idea might appear in different forms. Therefore, the next steps regard a filtering process that is needed to find the best candidates. There are many sources of ideas but typically one must find inspiration either in *internal* ones (coming from company experiences) or *external* ones (coming from studying the customers behaviors and needs, competitors, distributors, suppliers, and so on).

Screening considers an initial analysis of all ideas generated in the previous step in order to decide which ones are convenient from the business perspective and should be studied more. Typically, one has to detail an *opportunity analysis* to support the proposed ideas and which is meant to identify good ones, hence to drop the unproductive ideas as soon as possible. As product development represents a costly process, one is interested only by those ideas that have the best potential to become profitable products. Some issues that have to be answered concern if the customer in the target market will actually use the product, how big is the target market (and what is its expected growth) and if there exists a competitive pressure from other companies developing similar products (does the idea give a sustainable advantage over competitors?). Additionally, one has to answer if the product can be technically produced or if the company has all the resources required to effectively implement the idea.

In order to get relevant feedback from consumers in the early stages of development it is common to perform the *concept testing* with groups of individuals from the target market. In this respect, the product concept represents a more elaborated version of the idea that is relevant for the consumer. Typically, this action is done before attempting to develop the new product as the company tries to determine which concept is the most attractive from the consumer's point of view.

The screening outcome is a ranking of ideas based on their feasibility.

1. *Business Analysis.* Each idea is evaluated by taking into account the estimated profit or some performance measures that are used to evaluate the efficiency of the investment. The ideas are further filtered from a realistic perspective; hence the unsound ones are discarded before devoting any resources to them.

2. *Development*: This stage is about transforming an idea into a product that can be verified, tested and reproduced. The activities performed in this stage include prototype development and volume ramp up. In this step the focus is on bringing the product to market on time, on respecting the allocated budget, and on fulfilling the specifications.

3. *Testing*: The testing activity is performed in order to have a validation of the project which materialized an idea to a product. This covers many aspects starting from reviewing the commercial viability and the production according with the assumed specifications and its marketing. In particular, testing product functionality is of maximum importance as this represents one of the main issues when measuring customer acceptance. Likewise, finding the customer's level of interest, preferences and intent to purchase represents yet another attributes defining customer acceptance.

4. *Commercialization*: Launches the products on the market.

As stated above, one important step from an idea to a new product on the market is represented by creating a product prototype – a real-life version of the idea on which the product is patterned. Its role is to prove the idea.

The prototyping process can be divided into three phases which span along the technology readiness level stages (which represent a measurement system that assesses the maturity level of a technology/product development).

The first phase, called the Alpha phase, regards the fundamental goals and features of the product/service to be developed as well as some concrete evidence on the viability of the project. Likewise, apart from establishing the basic functionality of the product, one has to detail how the client will interact with the product, hence, to imagine, make assumptions, mitigate the risks, and decide on the user experience with the product.

Accordingly, one can prove an idea by the means of two types of prototypes which answer the functionality and user experience problems. We will consider the resulting prototypes as corresponding to the research phase of the Technology Readiness Level scale.

Visual prototype – a simple method to visualize the final product, to perceive its dimensions; generally, this prototype does not have any functionality as it is only meant to illustrate product appearance, sizes, proportions, and even colors (it represents a static model without any working parts). It is mainly used to explore different creative solutions and, in some cases, even to investigate human interaction with the product. This is a cheap and fast method for designers to test and evaluate their solutions without using many resources.

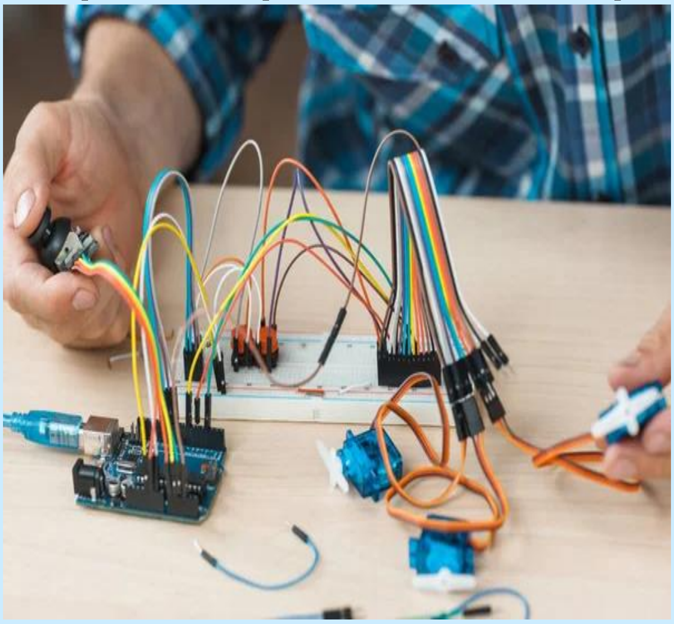
One way of building such a physical prototype is by using some inexpensive materials/tools, like clay, foam, paper, adhesive tape, glue gun, ruler, and pencils for instance. Then one can build low-resolution prototypes by using simple tools to cut, bend and reshape the foamcore (or cut and fold the paper in the desired way, or shape the clay). In this way one can easily experiment and make simple physical sketches of the idea, experimenting along the way different possible variants. In this way a

realistic preview of the design can be produced relatively fast, hence such volumetric model can be used efficiently to have an ergonomic evaluation, to test some color schemes and ultimately to convey the product idea to others.
Yet another method of producing a visual prototype is by rendering a digital artefact in a 3D modeling

software (like Blender, 3ds Max, Autodesk Maya, and so on). Although this method requires some digital knowledge (hence it might appear harder at the beginning), the outcomes have some advantages as the models produced might be easily modified, reshaped, reused, stored, transmitted, and eventually 3D printed. Commonly used tools to effectively build the prototype out of its digital version are 3D printers and CNC machines. However, the technologies are different: while in the case of 3D printer the product is printed layer by layer, in case of CNC machines the product is carved out of a solid piece of material.
Either way, this type of prototype is commonly built to gauge whether the final product will be appealing to the customer. In this respect, a successful prototype will be able to facilitate communication with people and even give a leverage to convince interlocutors as they are able to perceive a 3D form of an idea (and on which they can reflect). Thus, the designers not only develop and refine creative ideas into the final product, but along the way they are understanding better the customer needs.

4.1 PROOF OF CONCEPT

Proof on concept – this represents a basic model that is mainly used to prove the functionality of the idea. As opposed to the previous case, this model is not intended to look like the final product but to prove that the idea can be implemented, hence it evaluates the technical viability. Consequently, the proof of concepts validates a product idea by showing the existence of the required technology for the development of the product. It must be as simple as needed to imitate how the product works;



however, since the proof of concept is not the final product, it might also be the case that some (limited) functionality of the product is accomplished by humans or other devices.
By using this model, one can test key hypotheses about the project. The proof of concept is mainly used for internal evaluation and may reveal various design issues at an early stage of the development. However, once the project advances, the prototype can be presented to the stakeholders in order to proceed to the next steps required for launching the product on the market.

More specifically, in order to build a proof of concept one usually checks the following objectives:

- Investigate which are some specific “pain points” of the user and detail them by creating a list of problems which the product should tackle. This is commonly done by directly interacting with potential users/customers in order to get opinions and feedback related to the specific problems faced by them, hence by conducting market research. Additionally, one may use as secondary information the data from government census items, trade association research reports or even other companies’ public information to get supplementary insights on customer needs.
  This step is required as a common mistake is to build directly a product by thinking that people wanted and not by performing an evaluation of the product idea.
- Analyze the possible solutions for the identified problems and rate them according to a set of criteria which must include different perspectives: feasibility, costs, time for production, and so on. Once the evaluation is done, the best solutions have to be presented to the potential customers (which provide valuable input). In this way, the solutions are refined and the probability of identifying the most promising one is increased.
- Effectively build the proof of concept according to the data gathered in the previous step while maintaining communication with potential customers (which have to be involved in testing activities and to provide critical and effective feedback). To this aim one has to perform test cases involving different scenarios and to document all the outcomes.
- Improve the product idea based on the comments gathered from potential customers while they are testing the proof of concept. In this way, the product idea is revised to fit the needs of the market. It is worth mentioning that this incremental approach has the role of finding the optimal solution while saving a lot of time.
- Complete the proof of concept by including all the features imagined at the beginning and discovered through customer surveys and direct feedback. At this moment one has an estimation on the resources needed for product development, timeline, and even customer acceptance. Once such details are known one can proceed to the next steps which involve the stakeholders who can agree to support the project. At this stage is very important to give them some tangible proof that the proposed product can be effectively built, and all the presented assumptions are sound. Presenting a clear roadmap is a convincing argument in creating stakeholder confidence in the product idea.

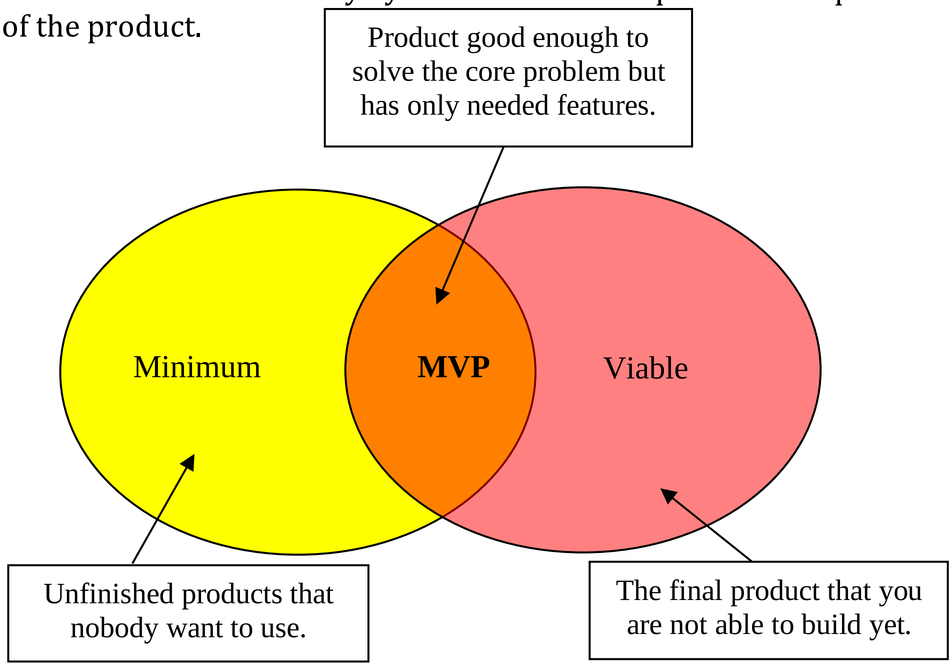
The second phase, called the *beta phase*, is aimed to include all the knowledge acquired and the changes operated on the product idea as the proof of concept is developed through the mentioned iterated process and the potential client feedback on the visual prototype is gathered.

The beta phase in the product roadmap is a dedicated effort to elevate and polish the product design. It capitalizes on testing feedback and insights gleaned from previous iterations, seamlessly integrating them into the evolving process that inches closer to the ultimate product.

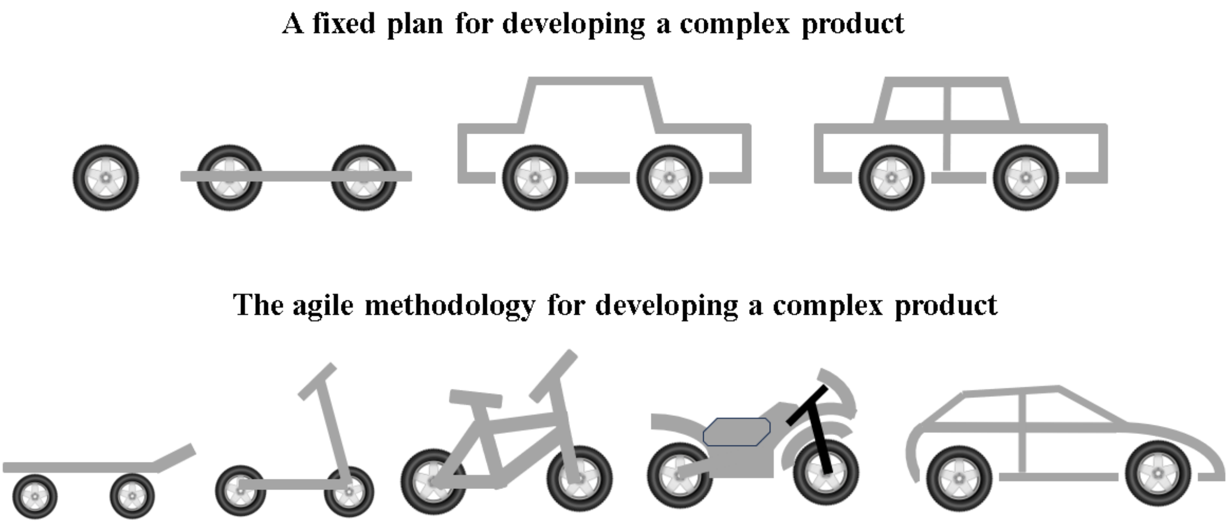
This phase is meant to build a prototype that resembles the final product in both aesthetics and functionality, opening avenues for more thorough and rigorous testing.

This stage is based on two novel versions: the engineering prototype and the production prototype. Achieving this level of intricacy usually demands a team with substantial expertise in both product design and manufacturing.

Once the proof of concept is done (and consequently the technical feasibility of the idea is proved), one can build the *minimum viable product (MVP)* which represent a „minimal” product that can be released to customers; this product comprises the simplest core features required to validate the concept or idea and gain user feedback. Therefore, while the proof of concept is internally used by the developers, the MVP is used externally by customers and helps the developers to measure the need and desirability of the product.



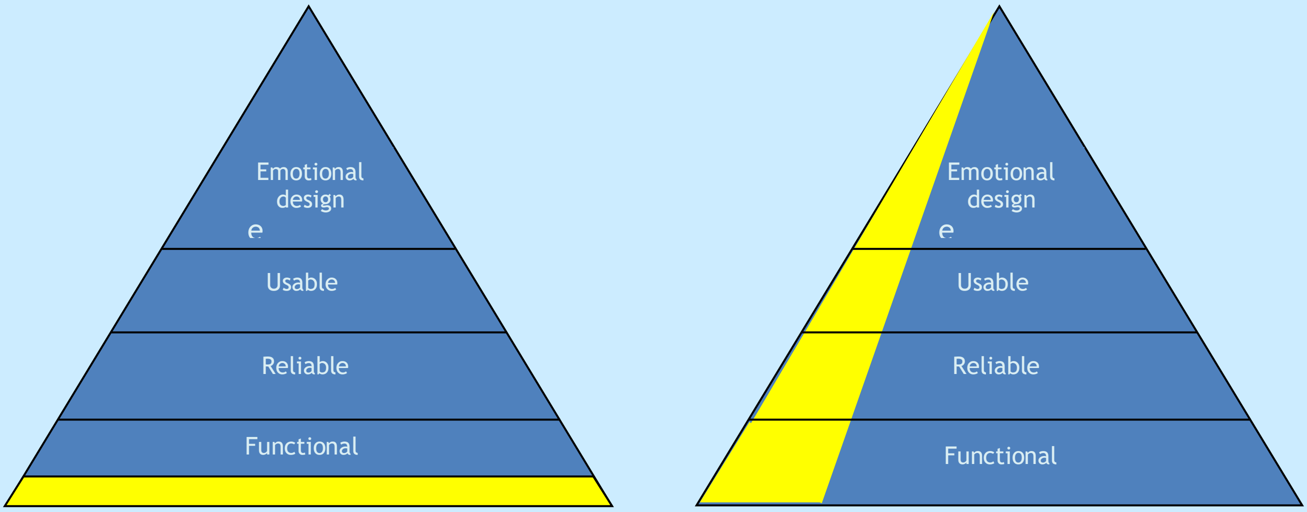
The smaller versions, often termed increments, follow the "minimum viable product" approach, as illustrated in Figure 1. This method provides customers with transparency on the current status, enabling early feedback incorporation in the subsequent development stage. Continuously comparing the actual status with expectations swiftly identifies unnecessary developments, allowing saved time to be directed towards fulfilling customer needs with genuine added value. Consequently, subsequent change requests for implemented features become obsolete, eliminating associated costs.



The MVP strategy is based on the value concept – in this regard a wheel has no value to a user but a skateboard does (as the ideea regards the transport of the user)

In practical terms, it's relevant for the team to clearly define the target customer group. This group is often a carefully chosen set of people which most likely will become early adopters, showing greater tolerance for a product's shortcomings compared to those who align with more established technologies. The aim is to gather feedback from this selective group on the Minimum Viable Product (MVP) and use it to (re)shape the strategic direction of further product development.

The MVP serves as a shorthand expression for a dedicated process of creating new products for customer consumption. It presupposes that the product will undergo rapid iteration after entering the market, aiming to achieve a more desirable state. Alternatively, if the market deems the product unusable or undesirable, the product development may be abandoned. In this respect, while developing a MVP it is very common to obey a simple rule (E. Ries): „remove any feature, process, or effort that does not contribute directly to the learning you seek”. Hence, it is important to build a slice across all stages of product development instead of one layer at a time .



Incorporating emotional design into a prototype serves to seize its functionality while scrutinizing or testing customer needs. These prototypes enable us to observe people's reactions to specific concepts, delving into their nuanced responses. Emotional nuances can be encapsulated in a simple prototype because, although emotions are intricate, simplicity can effectively convey them.
The primary goal of an MVP is not on generating revenue, acquiring customers, or building an array of features. Instead, it centers around a singular product designed to maximize learning. This product features a single element that undergoes testing and analysis. Subsequently, the obtained feedback fuels innovation, iteration, and continuous improvement, playing a pivotal role in the agile development process. In essence, MVP is built upon:

- Testing economic viability.
- Spending fewer money on product development.
- Solving one problem of the user by faster product delivery
- Testing the demand of a product by bringing focus on the one value proposition.
- Defining critical drawbacks and reducing remarks.

According to a survey conducted by CB Insights, the reasons for startup failure break down to 12 main reasons, among which we mention running out of cash and failing to raise new capital, no market need, getting outcompeted, flawed business model, regulatory and legal challenges, poor product and so on, It is important to mention here that a large percent of the respondents indicated that there was no market need of the developed product. Hence one needs to truly know what a problem is before solving it.

Therefore, it is imperative that, prior to implementing an idea, we initiate the MVP development process to ensure it aligns with the needs of the target users. This can be achieved by conducting various surveys to gather essential information and pave the way for success.

A. Expressing the Idea

Addressing key questions is crucial:

What problems can the product resolve?
How valuable can it be for the end consumer?
What motivates consumers to opt for this solution?

It's vital to identify the essential qualities of the product before introducing it to the public. It is a good practice to outline them first, and then construct an MVP based on these foundations.

B. Considering the Design Process and User Flow

The Design Process is a pivotal step in ensuring the app's convenience and user-friendliness, with a focus on the basics from the user's perspective. Additionally, the user flow is essential to prevent overlooking any elements while keeping the future product and user satisfaction in mind.

C. Listing the MVP's Features

During this MVP stage, it's crucial to integrate all necessary features into the product before its development. After listing them, organizing them in order of priority (high, medium, low) is essential. A prototype of the MVP can also be created.

D. Building the MVP

Once the essential features and market needs are identified, the MVP can be created. It must maintain quality, be user-friendly, engaging, and suitable for consumers.

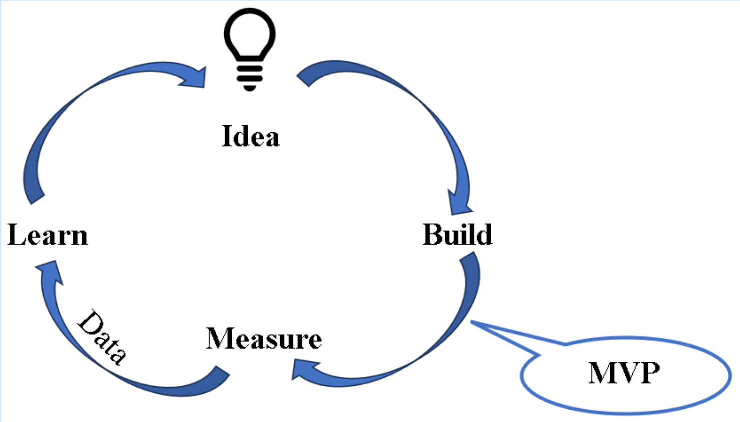
E. Building, Measuring, and Learning

Recognizing that end users are the ultimate authorities on the product's drawbacks, collecting feedback initiates the improvement process. The product is tested repeatedly until finalized, with honest user feedback determining its acceptability, competitiveness, and success in the market.

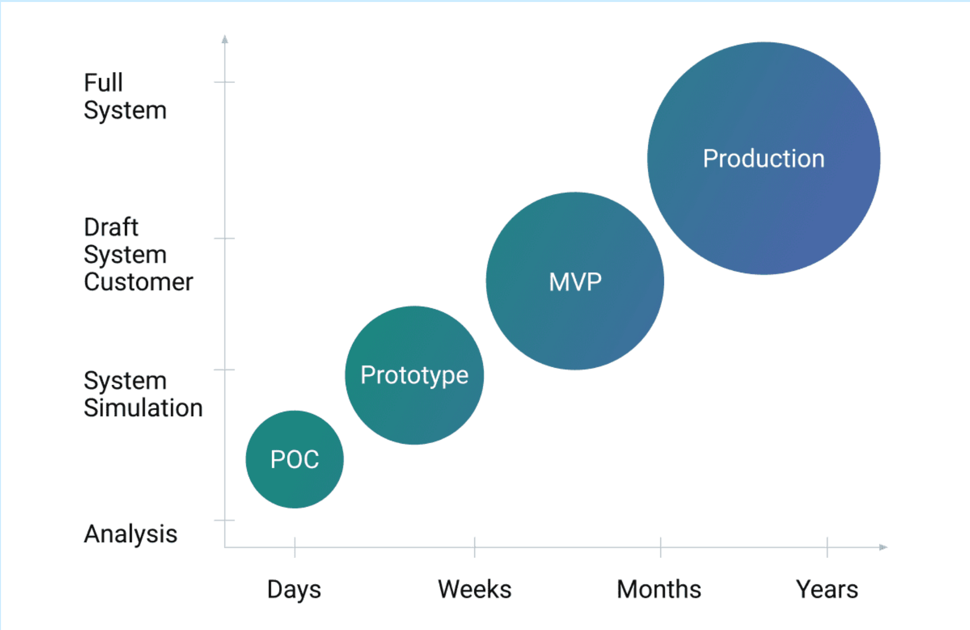
The MVP process offers several key benefits, extending not only to the design team but also encompassing the entire company. The main benefits regard:

- Testing the necessity of the product becomes feasible without committing substantial resources to develop the entire product.
- Accelerating the team's understanding of customer wants and needs through rapid iteration becomes achievable.
- Minimizing wasted development hours by focusing on a minimal set of features for launch is possible.
- Speeding up the time to market allows for the potential to generate sales revenues faster compared to developing the fully featured final product.
- Gaining a competitive edge is plausible, especially when other companies are contemplating entering the same market.

The fundamental principle to reap the benefits of an MVP is to build the simplest testable product, assessing whether the product should have been developed in the first place. The objective of testing is to determine the viability of advancing development or considering abandonment.



Minimum Viable Product design can still be iterative. MVP offers a clearer and faster journey to a fully featured product. However, minimum viable products do not have to be unexceptional. . The aim is to swiftly bring a straightforward, foundational product to the market, followed by a thorough evaluation of its feasibility and the identification of features for incorporation in the subsequent iteration. This approach centers around user-focused design, consistently gathering valuable feedback to enhance the product with each iteration.



Example:

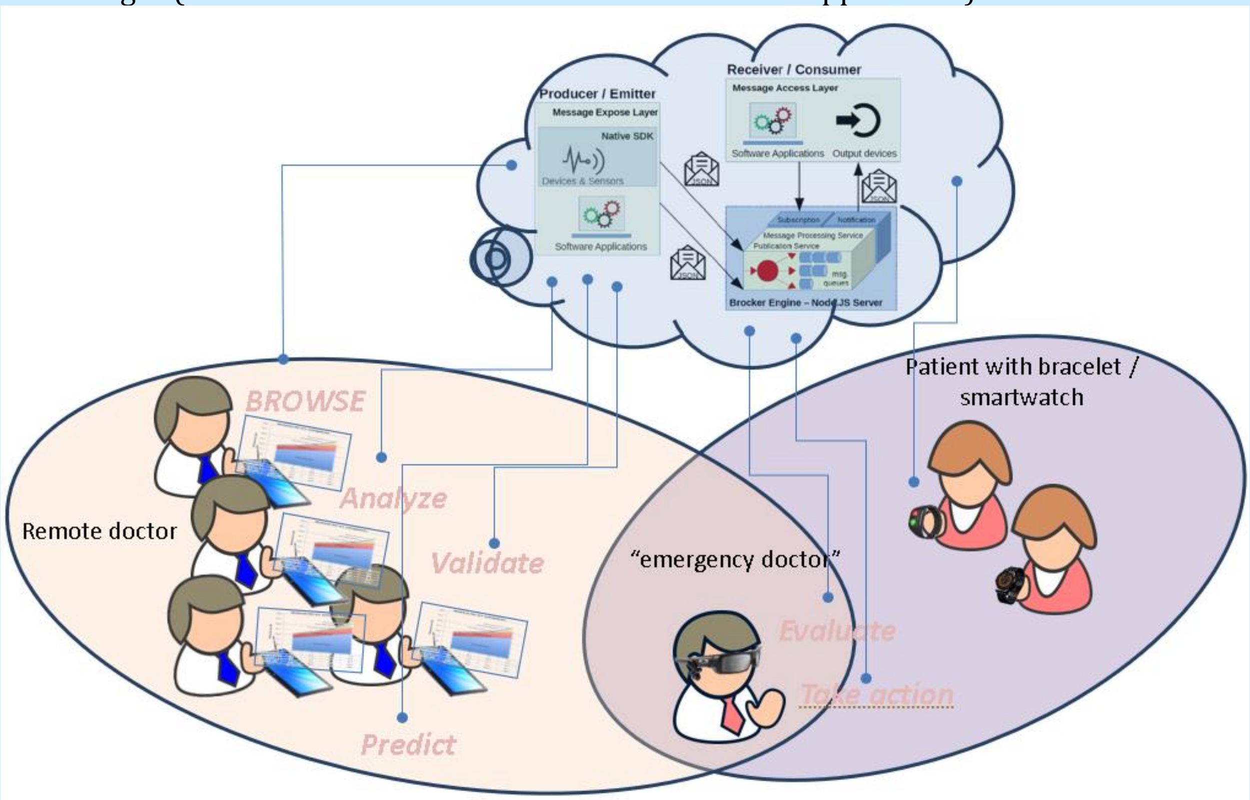
Care for older people is of major interest for policy in society and this is reflected by important investments not only in the public health system, but also by the private one. Lately, as the institutional facilities involve high costs, for the elderlies who do not need continuous assistance, the focus has been on providing health and social care services at home. However, in remote regions (but not only) the sustainability of such care systems and care provision at home represents a challenging task as it involves many people, time, and costs. Consequently, a sustainable development in the health and social care system (especially regarding elderly people) will have to address economic, social, and environmental perspectives. The problem becomes more acute because it is assumed that elderly people will have an increasing sociodemographic relevance in the future, hence soon will become a problem of economic insufficiency as long-term care for many people is needed. From this point of view, a sustainable technological proposal aimed to prolong health, facilitate independent living, and provide remote medical surveillance is more that required.

In the following example we propose a system which addresses the mentioned social issues. The purpose of the proposed system is to inform in real time the people supporting elderly (doctor, volunteers, responsible or even neighbors) about the condition of the monitored senior citizens by issuing notifications when certain parameters of interest (temperature, blood pressure, heart rate, breathing, and so on) are out of the normal range. Likewise, the system must be able to submit notifications if the subject is falling or some anomaly in the movement is detected (e.g., loss of balance), as well as if the person consciously requests some help.

The system will be implemented on a modular, scalable, extensible architecture that facilitates privacy and personal data compliance. Notifications about the events happening when certain thresholds are exceeded can be issued either on mobile devices (smartphone/wearable), either through a desktop application or dynamic web page. Accessibility to the relevant information is ensured by the data visualizing module and the alerting sub-system. In this way, medical assistance is dispatched when needed. Moreover, through the system, the intervention team is co-located both in the hospital/care facility and at the patient's home, having possibility to consult patient’s records in real-time (its evolution history), hence holding the maximum medical decision-making capacity.

The proposed solution ensures the remote monitoring and assistance of elderly persons in indoor environments, by providing a quality (medical) real time warning and assistance guaranteed by a team of specialist doctors/or qualified personnel. In this way, the dependence of elderly people on long-term medical services is reduced and consequently, their ability to perform different individual activities is kept for longer time.

From this perspective it is the necessary the development of an IT system that is able to facilitate the remote transmission of relevant data among the interested parties (doctors, hospital staff, ambulance staff, elderly people, etc.). To fulfill this requirement the messaging system to be developed is based on the publish/subscribe paradigm. Thus, one has message producers who publish messages in the cloud (sensors, smartwatches, smart bracelets) and message consumers which subscribe to a certain category of messages (which have to be received at the time of their appearance).



Proof of concept

Equipment and applications:

• an Android smartwatch having several sensors (temperature, pulse, accelerometer). In the current scenario the prototype is represented by an Android Wearable application that uses the pulse sensor temperature sensor, gyroscope, and accelerometer to monitor person's pulse, temperature, and physical activity (data related to the movement: stepping frequency, step length, and speed; data related to stability: ….). The application is a message producer designed to send structured messages to subscribed consumers.

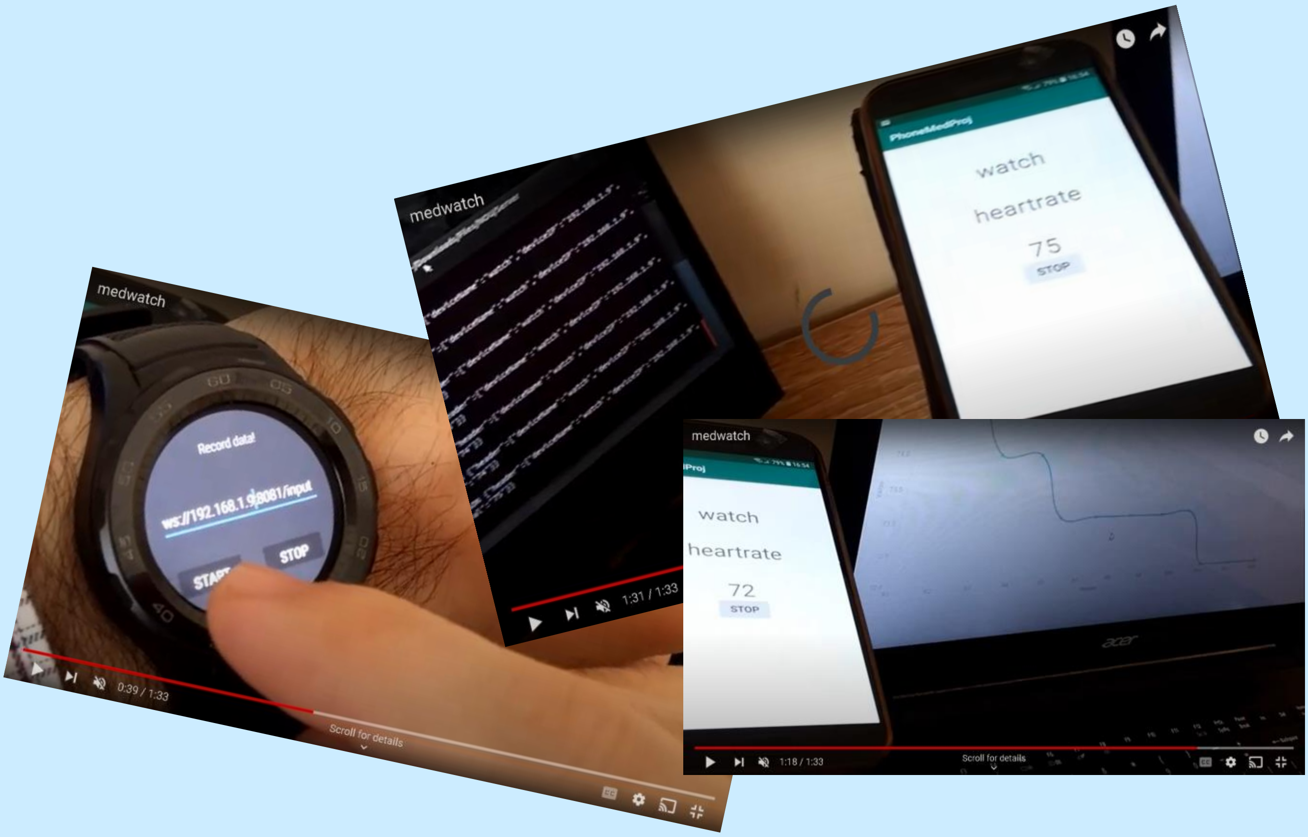
• a cloud-type application that runs on a server and which manages, classifies, and distributes the received messages to the subscribing parties.

• a web application that displays the content of a message; the application works as a consumer, receiving and displaying received messages

• a smart phone and an application which works as a consumer (receiving, processing, notifying the user, and displaying messages).

Scenario:

The web application (e.g. found in the hospital, social headquarters, etc.) and the application on the smart phone (which can be found, for example, at the family doctor) register as message consumers in the cloud application. The application on the smartwatch (which is found, for example, on the monitored person) is registered as producer of messages in the cloud application. Thus, the messages containing the data collected from the monitored person are sent to the subscribed applications (i.e., the web application and the one on the phone).

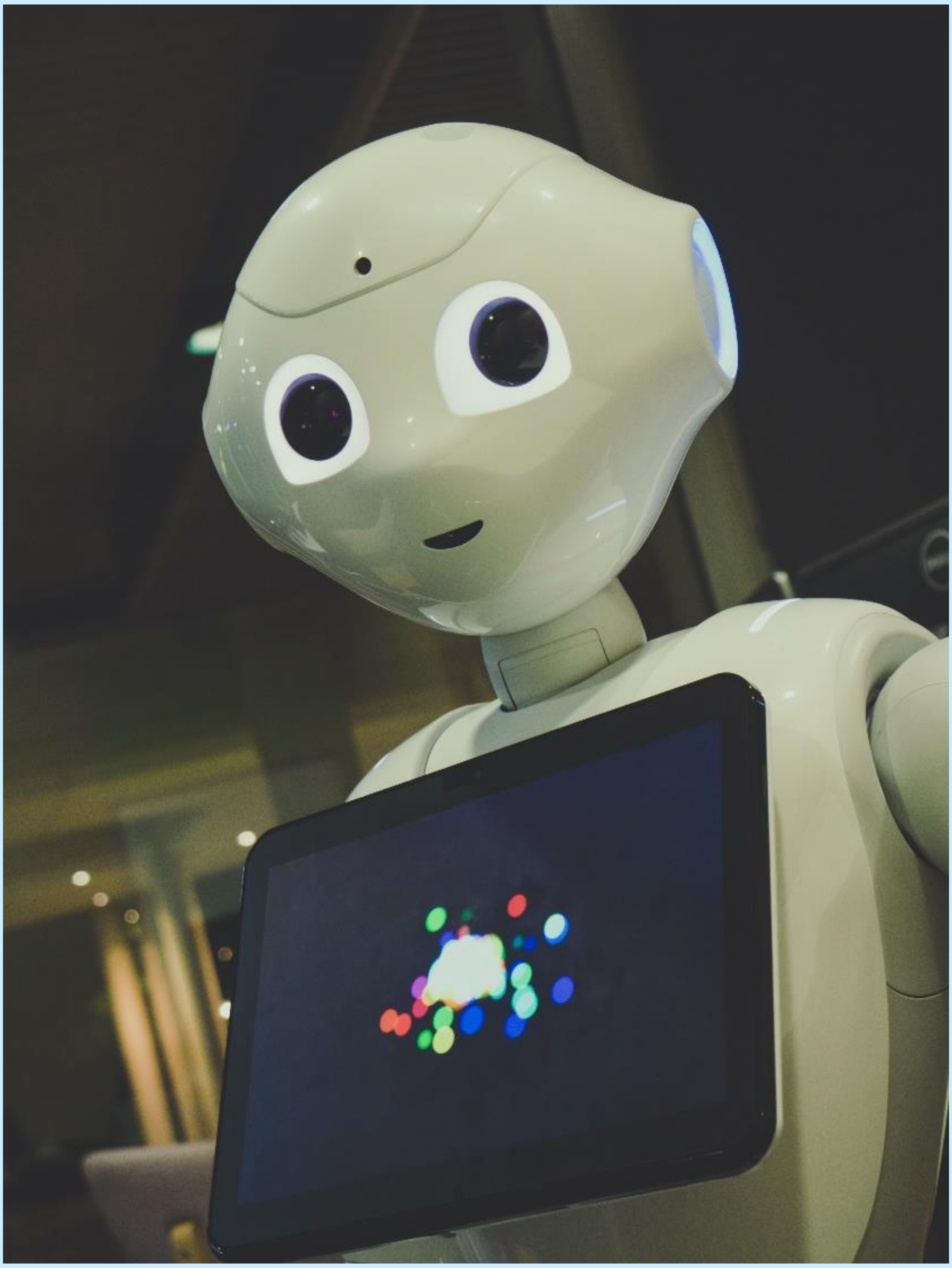


Automation and artificial intelligence are poised to alleviate the challenges posed by an aging agricultural workforce and a diminishing pool of field workers seeking less physically demanding roles. The introduction of self-driving agricultural machinery and autonomous drones allows farmers to redirect their attention from monitoring the path directly in front of them to focusing on a more sustainable future for harvests and profits. The integration of data mining and predictive analytics is becoming commonplace, empowering farmers to enhance decision-making, optimize resource utilization, and maximize yields.

The collaboration of robots and machine learning is facilitating the adoption of innovative and sustainable agricultural practices, ushering in a new era where farming extends indoors and reaches unprecedented heights. This shift aims to conserve resources, minimize the use of chemicals, and accelerate time to market.

Exercise

Design a product that can be used in agriculture and which employs AI to solve in a sustainable manner a need in the field.



4.2 ITERATIONS

One of the advantages of prototyping is experimenting and testing with users to validate the assumptions (hypotheses) that you may have. Iterative process include testing - modifying - tes- ting, and repeating the process several times until the solution is completely validated by the user,hence the importance of developing rapid prototypes.

Here we have seen a way to identify opportunities and develop solutions by applying design prin-ciples. In the next section we will see how solutions can be evaluated.

4.3 EVALUATING SOLUTIONS

One of the biggest challenges an entrepreneur aiming to develop eco-innovative solutions facescan be the multitude of different ways to tackle a given issue.

When this happens, it is always difficult to assess which of the different alternatives is best suited tothe identified goals that you want to achieve. In these situations it is sensible to evaluate the diffe- rent options available in relation to all of its dimensions. First, it is important to evaluate the poten-tial benefits that the idea might provide to the different actors in the value-chain. Here, we focus on the benefits to the environment, business model, the user/client, and society in general. This list could be modified to include other stakeholders, depending on the needs and circumstances. Next evaluate the different solutions or alternatives on the basis of technical and financial feasibility.

This table can be completed in many ways; quantitatively or qualitatively. The main idea is that one can compare different options and solutions easily and efficiently, bringing together availableinformation into a single space.

Benefit					Feasibility	
	Environment	Business	Customer	Society	Technical	Financial
Option #1						
Option #2						
Option #3						
Option #4						

Figure 7: Feasibility matrix

4.4 TESTING SOLUTIONS

Once you have played around with your idea, defined its scope & boundaries, and clearly definedhow value is created, and for whom, it's time to test the idea by getting the opinion of others.

- Use prototypes to let as many people as possible experience the idea. Observe their reaction
- Ask friends and family for their reactions
- Ask professors and mentors
- Ask people experienced in the field or industry

It is a good idea to prepare properly for this exercise. The next part of this module will cover thepreparation of a pitch, so your idea flows clearly to your audience.

12 Ways to add Design Thinking to your Project

1. *Keep challenging questions*
2. *Think hard about who to involve; embrace diversity*
3. *Involve partners in the process; they're smarter than you*
4. *Be user-centered; more than focus groups*
5. *Look at analogous environments*
6. *Look at extreme users, the outliers*
7. *Think about the entire journey*
8. *Prototype*
9. *Think stories, not concepts*
10. *Design everything, even non-consumer facing stuff*
11. *Launch to learn; build it & ship it*
12. *Iterate; act on the feedback*

4.5 COMMUNICATING SOLUTIONS

Now that your idea has matured, it is time to let others know about it.You may have a really good sustainable business idea, but if you are not able to communicate its benefits its contribution toward a certain
problem it will be difficult to get partners on board who are able to helpmake your idea a reality.

Remember, usually you cannot do it all on your own, you need partners!
There are several reasons why it is important to communicate the bene-fits and value that your idea creates. First, because most likely you will not be able to fully develop the idea alone. You will need to get others on board to make this happen. This includes partners, investors, local authorities, and customers.

Today there is an infinite collection of means that can be used to spread your message and engage others in your venture, including radio, newspa-pers, television, websites, blogs, social networks, web video, or podcast.

The medium to use is a strategic choice; you should go where your pros-pective audience is, rather than expect them to come to you. What mat-ters is the content. If the message is clear and compelling, it will reach your audience regardless of the medium.

To start communicating your idea you might want to develop a pitch; a short overview of your solution that can be delivered on a minute. Deve-loping a pitch helps make your idea clear and concrete.

Your goal is to make it understandable by anyo- ne, even people outside your business. A pitch will help you test the acceptance of your idea and improve the idea in the process. Moreover, clearly communicating your solution though a pitch will help you find partners and people thatcan help you bring the idea to reality.

Pitching is about selling your idea, and this is something that you should do constantly, to everyone you meet. Do not miss the opportuni-ty to test the validity of your assumptions. You might do this informally as you meet people atsocial events or more formally at event presen- tations or business plan competitions.

The pitch should include, at least, the followingelements:

- For who is your solution?
- Why current alternatives do not workproperly?
- What do you offer that is new / better /different?

5. BUILDING SUSTAINABLE TEAMS

5.1 FROM ORGANIZATIONS TO SUSTAINABLE BEHAVIOUR. THE BIRTH OF SUSTAINABLE TEAMS

✓ **Defining Organizations**

In the context of our chapter, the first question that comes to mind is simple: what is an **organization and how will it influence** the behaviour of its members?

The term has become an every-day term (Drucker, 1992), organizations being designed with a specific purpose and specialization. While community and society are defined by the relationships of their members, organizations are defined by their tasks. Having this in mind, we see that, in fact, organizations are tools, composed by specialists with their own area of expertise, who apply this expertise in resolving the organizational tasks.

Scientific literature states that organizations are a defining feature of modern societies, that have been studied from many disciplinary perspectives, all these approaches taking into consideration different aspects like (Scott & Davis, 2015):

- individuals, dyads and groups, organizational behaviour, motivations, and decision-making processes (for psychological domain),
- organizational design and bureaucracy (for political sciences domain),
- organizational structures, populations and fields (for sociology domain),
- market influences on organizations, and firm's interaction in industry (for economy domain).

Organizations are necessary and important because they enable people to accomplish collectively what cannot be accomplished individually (Aldrich, 2008). The author states that organizations are: (1) goal-directed, (2) boundary-maintaining, (3) activity systems. This means that:

- Organizations have purposes and actions are directed to achieve those goals.
- Organizations have a clear distinction between members and non-members, the membership status being contractually defined. Members must follow certain rules, to exercise or delegate specific roles. Thus, organizations involve the establishment of an authority and a reliable scheme of identifying members, which ultimately ensures the organizational autonomy.
- Organizations have a certain technology for accomplishing their tasks. Technology affects social relation in organizations by creating a framework for transactions between roles that are the foundations of an organization.

Some authors, like Edelman and Suchman (1997), speak about two major approaches on organizations: (1) the materialist perspective and (2) the cultural perspective. According to these authors, the first perspective portrays organizations as rational **wealth-maximisers**, while the second one establishes organizations as cultural **rule-followers**. We will try to elaborate a bit.

For economists, the word *wealth* refers to weighting preferences for the things that people want and for which they are willing to pay (Posner, 1985), while if we talk about the wealth of a nation, this is the present value of the flow of benefits, measured from consumption of goods and services, by its people. On the other hand, *maximisers* are decision-makers who try to find the best possible solution/option (Luan, Liu & Li, 2022), while the ones that are happy with good enough products and services are called *satisfices* (Weaver, Daniloski, Schwartz & Cottone, 2014). So, organizations try to provide the best choices (or, at least, good ones), by spending efforts to offer more alternatives, thus ensuring the economic process of consumption.

As for the second approach, it is important to emphasize that *rules and organizational routines* are important facts of organizational life, because they enable the coordination among individuals and organizational units, by aligning activities and goals (Weichbrodt & Grote, 2010), on one hand, but also rules provide guidance and orientation for members, on the other hand. But, besides that, organizations also must follow rules, for example laws and the Constitution of a country, to function properly. So, Weichbrodt and Grote (2010) describe that organizations have someone (person or institution) who creates rules (a *rule-maker*), someone (usually a group) for whom the rule is meant (*rule-follower*), and someone to supervise the adherence to the rule (a *rule-supervisor*).

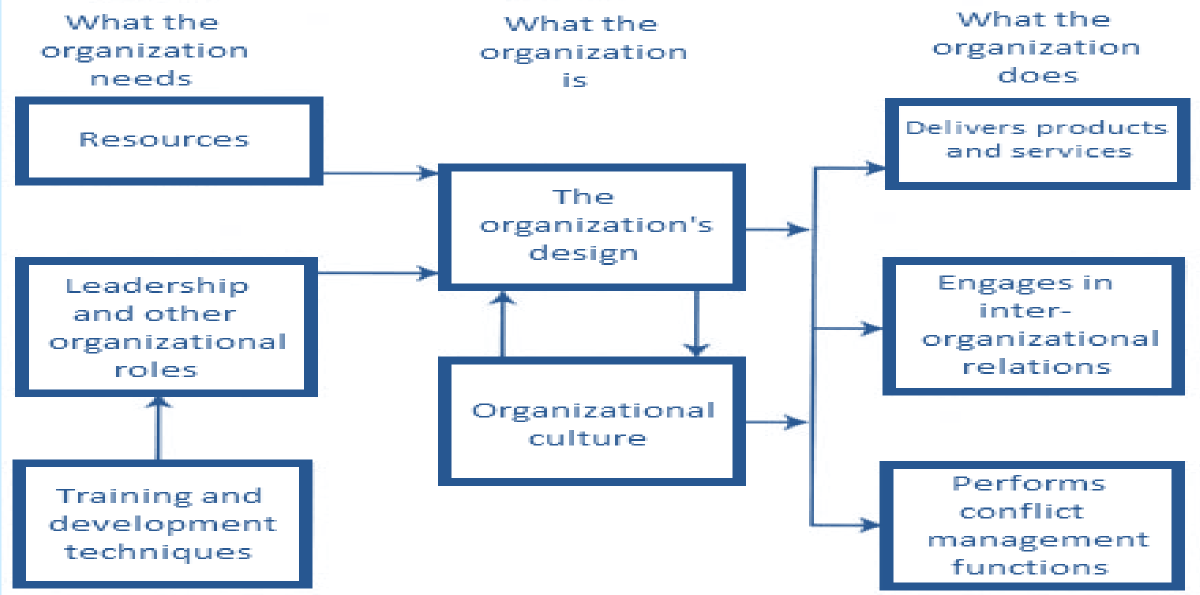


Figure 5.1. *Organizational functions, processes, and performance*
Source: Druckman, Singer & Van Cott, 1997.

Figure 5.1 is a schematic presentation of some useful themes to take into consideration when analysing an organization (Druckman, Singer & Van Cott, 1997). It is obvious by now that organizational activities have great consequences in people's lives, like (Tolbert & Hall, 2015):

- Impact on individuals – they can provide growth and development possibilities, challenges, potential for advancement, opportunities for using their competences, engagement and even satisfaction with life.
- Impact on communities – organizations affect collectivises by enriching local life, by encouraging manager's participation in community affairs, so they may influence the economic aspects, and even the natural environment. The social impact is important, because organization build networks and interorganizational relationships can have positive or negative impact in a community.
- Impact on societies – organizations have important outcomes for the wider society, by shaping social contexts. For example, social stratification, national policies, political decision-making, are some directions in which organizations manifest their impact.
- Impact at international level – multinational organizations exist in every sphere of life, being supported by current technologies and mass-production systems. They operate across national boundaries, having great political influence.

✓ **Organizational structures and sustainability**

When we search the notion of sustainable teams, and we came across the concept of **organizational structure**, meaning mechanisms that connect individuals within the framework of their roles, authority, and power (Kanten, Kanten & Gurlek, 2015). They are tools that direct individuals' behaviours through shared values, norms, and goals (Liao, Chuang & To, 2011). These structures differ according to specific tasks, uncertainties they confront, sources of information they depend on, decisions they must make based on the information they have (Stinchcombe, 1990).

Organization theorists highlight on the existence of two types of structures existing in any organization: the physical and the social structure (De Giosa, 2010). While the physical structure describes the layout, the design (Burns & Stalker, 1971), the relations between physical elements of organizations as buildings and geographical places in which the works are done, social structures describe the relationships between people, positions, and organizational units.

Figure 8.2 shows a diagram of the main pillars upon which organizational structures are based.

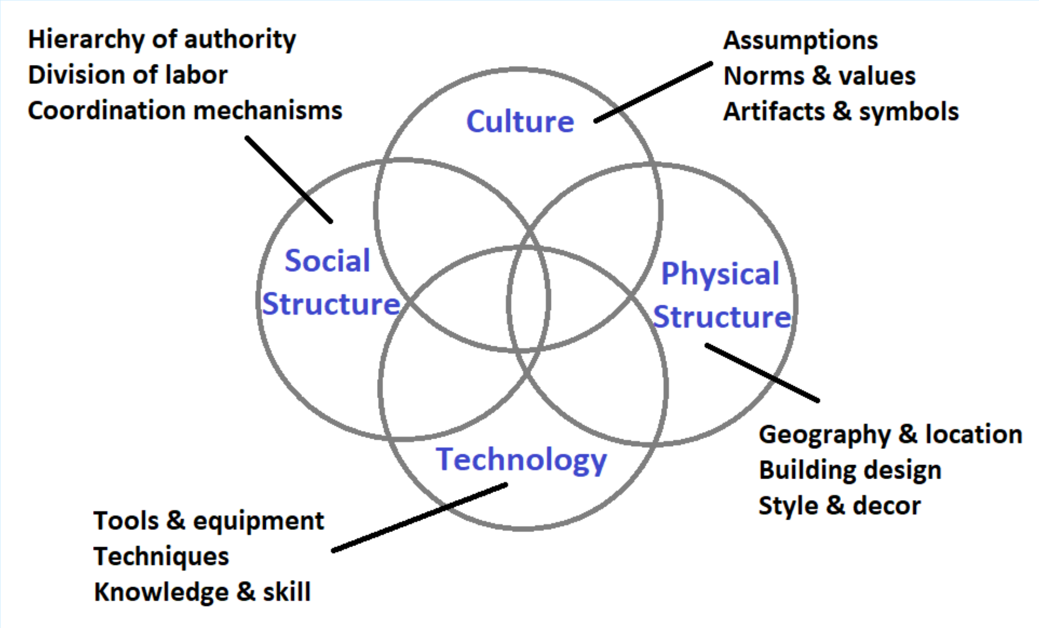


Figure 5.2. *Organizational structures*

Physical structures

Studies have been conducted to outline the relationship between physical environment of work, which has a particular impact on employees' needs, behaviour, and performance (Ayoko & Ashkanasy, 2019). High level of performances in an organization can be obtained through the fusion of environmental conditions and different types of organizational structural accommodation significant variance in employees (Child, in Faulkner, 2002). An organization's physical environment and its design and layout can affect employee behaviour in the workplace. Brill (1990) argues that increasing the organization's physical layout is designed around the employees' needs, can maximize productivity and satisfaction by 5 to 10%. The geographical location of a working place, as well as the surroundings (construction site or office buildings), factors like the quality of air, temperature, lighting, noise level and additional perks of a working place (like parking, coffee shops, childcare facilities, etc.), are important components of the physical structures of an organization.

Child (in Faulkner, 2002) emphasizes three environmental conditions with particular importance:

- Environmental variability – meaning the degree of change which characterizes environmental activities relevant to an organization's operations. It seems that, because of a higher environmental variability, the experience of uncertainty emerges. Thus, the prevailing structure of organization should be adaptive, with roles open to continual redefinition.
- Environmental complexity – refers to the heterogeneity and range of environmental activities relevant for an organization's operations. If the degree of complexity is high, decision-makers experience a profusion of relevant environmental information. Thus, a greater role specialization is needed.
- Environmental illiberality – means the degree of threat that decision-makers face in the achievement of their goals from external competition, hostility and even indifference.

Today, the quality of the environment of a workplace is a critical factor for accepting and/or keeping the jobs, namely because it determines the level of employee's motivation, subsequent performance, and productivity. The relationship between the organization and its employees influences the employee's error rate, level of innovation and collaboration with other employees, absenteeism, and ultimately, the period spent within the organization (Massoudi & Hamdi, 2017).

A study conducted by Srivastava (2008) shows that the work environment (working condition, welfare provisions, interpersonal relations, trust and support) is a key factor in the variance of employees' job behaviour and their perception of organizational effectiveness.

Other authors (Ali, Chua & Lim, 2015; Young Lee, 2006) provide evidence that an uncomfortable environment in an office workplace, or a physical environmental status below expectation, may lead to health-related issues, dissatisfaction, as well as an increasing the absenteeism rate. Consequently, high levels of employee absenteeism led to decreased employee productivity, therefore affecting their work performance.

Another component of the work environment was the support for creative work, studied by Hoff and Öberg (2014), who emphasize that this support can be divided in three fundamental aspects: functional, psychosocial, and inspirational. The authors state that the creative processes would find better breeding ground if functional support (like adequate lighting and tools), and psychosocial support (like spatial possibilities for both privacy and communication), were provided. Their findings suggest that without inspirational support (like brainstorming rooms, dynamic planning, and imaginative interior design), the work outcome becomes less creative. As a conclusion of their study, the authors suggest that the physical environmental support model can be used by companies with an interest to provide creativity supportive workplaces.

All these elements are included in what we call the organizational culture, another of the four pillars in an organization.

Organizational culture

Organizational culture refers to a set of beliefs and values, part of an organization's vision or purpose for a long time, to the beliefs of the staff, and the foreseen value of their work which will greatly influence their attitudes and behaviour within the organization (Tsai, 2011). Organizational culture is necessary for the maintenance of a company's position in market, as well as for the continuous improvement it brings. In big organizations, there are a dominant culture and some subcultures. While the dominant culture refers to the main values which are shared among most of the members (Azizollah, Abolghasem & Mohammad Amin, 2015), the subcultures are usually formed in reaction to the problems, situations, or shared experiences of members. Thus, it becomes obvious that organizational culture has a great impact over employee-related variables, like:

Table 5.1. *Effects of organizational culture on employee-related variables*

Variable	Studies	Effect
Job satisfaction	Salman, Saira, Amjad, Sana & Muhammad (2014)	Organizational environment can positively or negatively influence employee's attitude towards the work experiences.
Perception	Smith (2016)	Organizational climate shapes behaviours and thoughts, as well as the individual experience of an employee's work.
Commitment	Dwivedi, Kaushik & Luxmi (2014) Nikpour (2017) Huey Yiing & Zaman Bin Ahmad (2009)	Organizational commitment is based on a close relationship between the goals of the organization and those of the individual. Being committed means that the individual is linked or attracted towards the organization on affective, continuance and normative level. It means employees understand norms, values and regulations and behave accordingly.
Performance	Shahzad, Luqman, Khan & Shabbir (2012) Martinez, Beaulieu, Gibbons, Pronovost &	Organizational culture influences product quality, process quality, product innovation and process innovation. A positive and strong organizational culture can make an average individual perform and achieve excellence, because it can positively impact attention to details, outcome orientation, team orientation, aggressiveness, stability, creativity, innovation, and risk taking.

	Wang (2015) Prajogo & McDermott (2011) Ahmad (2012) Denison (2000)	Some organizational culture models, like Denison's model (2000), emphasize 4 cultural traits: involvement (empowering people), consistency (effectiveness), adaptability (risk taking, overcoming challenges and change, learning from mistakes), and mission (a clear sense and purpose, goals, and objectives).
Leadership	Ogbonna & Harris (2000) Schein (2010)	Organizational culture can constrain or stabilize individuals, can provide structure and meaning to group members, it provides a framework for human interactions, it allows the management of communication problems, of misunderstandings between group members, it can help with conflict management.

Flamholtz and Randle (2011) list a series of specific reasons why culture is of vital importance for an organization:

- Culture does influence organizational success.
- Culture is a strategic asset, a source of competitive advantage.
- Culture functions as "organizational glue".
- Culture affects financial performance.
- Culture is a driver or strategic building block of organizational success.
- Culture influences the success of people in organizations.
- Culture is a more important factor than "strategic fit" in mergers and acquisitions.

Three concepts help identify the traits specific to an organizational culture (Prabhu, 2020):

- *Social culture*, in terms of roles and responsibilities, class distinctions and the distribution of power.
- *Material culture* that involves everything that people make or achieve, as well as their mutual support when exchanging required goods and services.
- *Ideological culture* that includes fundamental group values, beliefs, and ideals, as well as emotional and intellectual guidelines that govern people's lives.

Druckman et al. (1997, p.69) state that most organizational researchers agree on six aspects of the organizational culture:

- Cultures are a property of groups of people and not individuals.
- Cultures engage the emotions as well as the intellect.
- Cultures are based on shared experiences and thus on the histories of groups of people; to develop a culture takes time.
- Cultures are infused with symbols and symbolism.
- Cultures continually change because circumstances force people to change.
- Cultures are inherently fuzzy in that they incorporate contradictions, paradoxes, ambiguities, and confusion.

According to Figure 2, one important aspect of organizational culture are **values**. Although difficult to define, compare and even harder to build a picture of how values function in organizations (Maierhofer, Kabanoff & Griffin, 2002), scientists tend to agree that values hold a prominent place both in business ethics and in organization theory (Argandoña, 2003). Values were described as needs, personality types, motivations, goals, utilities, attitudes, or interests, thus covering an excessively large conceptual frame. But Maierhofer et al. (2002) state that there are a few characteristics of values, that have been constant, like the desirability, which means that to have a value implies the idea of worth, of significance and importance. Values are part of a person's belief system, and by extent, of an organization's culture. The concept can be applied to cultural, societal, organizational, group and individual level (Maierhoffer, Rafferty & Kabanoff, 2003).

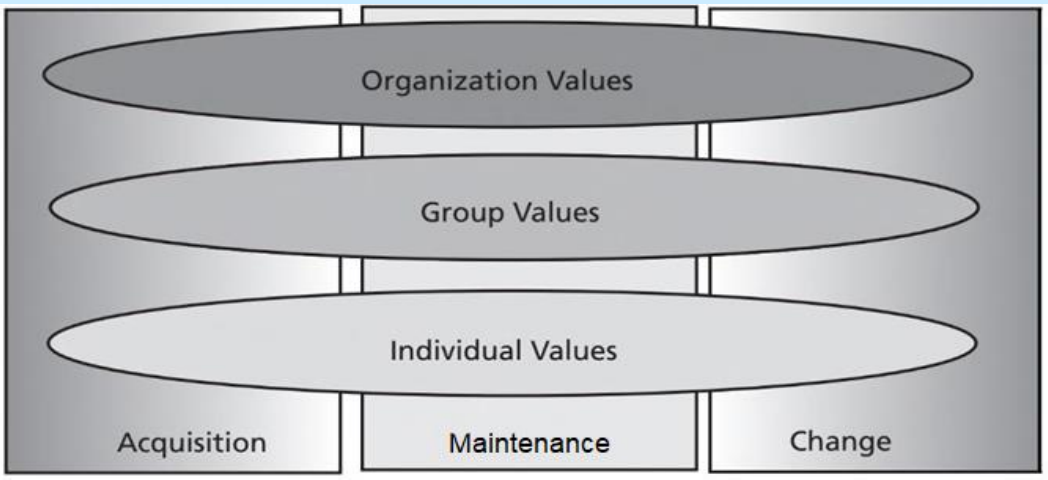


Figure 5.3. *Framework for considering when and why values is important in organizations* (Maierhoffer et al., 2003, p.7)

Individual values. The first important aspect is the fact that when entering an organization, people already have important work values, that they previously acquired from their families, teachers, other working places, etc., through the socialization process (Bauer & Green, 1998). These values are maintained throughout the organizational evolution because they are the core influences exerted on people's behaviour, in a consistent fashion. Values influence the selection of means, modes, and ends of action (Kluckhohn, 1951), or, in other words, people tend to behave in a manner that is consistent to the values they hold (Maierhoffer et al., 2003).

But, after a certain amount of time, due to organizational change, employee's values may change as well, because employees implement and support organizational change (Weldon, 2000). They adapt to their work environment, they detect the environment's response to their behaviours, they often sense the need for change and ultimately, they select the appropriate actions to engage these changes.

Herbst and Houmanfar (2009) state the importance of the value congruence between individual and organization, because organizational values are shared to some extent across the company by the senior members or by the CEO.

Group values. Within organization, individuals often interact with work groups, teams, or work units (Maierhoffer et al., 2003). When people are working together on the same task, groups are usually formed, and everyone contributes to different parts of a larger task. Thus, values are generated through social interaction among the group members.

Although each member has its own system of values and beliefs, as members of a certain group they assume the group's identity, and personal values and beliefs are shaped accordingly. Afterwards, group values are incorporated into the self-concept, giving the individual the sense of belonging, which has, as a result, a high degree of cohesiveness. Thus, the authors summarize the fact that during periods of organizational stability, group value congruence produces positive affective and performance outcomes for employees and for the organization.

But when it comes to the necessity of innovation and implementation of change, studies showed that some groups find it easier to adopt change and have the capacity to reinterpret organizational change as beneficial to their own work group (Worley & Mohrman, 2014). Innovative employees are willing to experiment, are results oriented, they have reliable connections with each other (Forrester & Drexler, 1999), sometimes aggressive (Barker, 1999) and they quick take advantage of opportunities (Maierhoffer et al., 2003). Group change is supported by group solidarity, commitment, and good communication.

Organizational values. For these values three aspects are important (Maierhoffer et al., 2003): the content of an organization's value system, the strengths of that value system, and the extent of individual-organizational fit. Although members may have different values, a central value system is supposed to exist within an organization. Members acquire this system by learning and socialization (for example, a period of apprenticeship). And it is important to do so, because studies show that workers are more satisfied and committed when their values are congruent with the values of their supervisor (Meglino, Ravlin & Adkins, 1989).

Organizational values are malleable during the period of acquisition, but they need to be constantly checked, to ensure that the desired values are acquired. In the period of maintenance, the organizational culture has a substantial impact on individuals' affective and behavioural reactions, with a great impact, as previously said, on job satisfaction, commitment, or performance. Finally, organizational value systems are likely to influence organization's change efforts (Burnes & Jackson, 2011).

Gagliardi (1986) states that if the proposed change is antagonistic to the old organizational values, then change is likely not to occur. Of great importance is also the individual-organizational culture congruence, that Gagliardi says it is likely to affect the success of an organizational change. And that is because change also implies rapid searches for alternative ways of acting to preserve the organizational identity, especially when traditional values are challenged.

We feel important to highlight one more aspect regarding organizational values. One of the theorists of human values was Schwartz, who stated in 1996 (p.2) that values "represent three universal requirements of human existence: biological needs, requisites of coordinated social interaction, and demands of group survival and functioning". Thus, Schwartz defined 10 value types, which we present in the figure below:

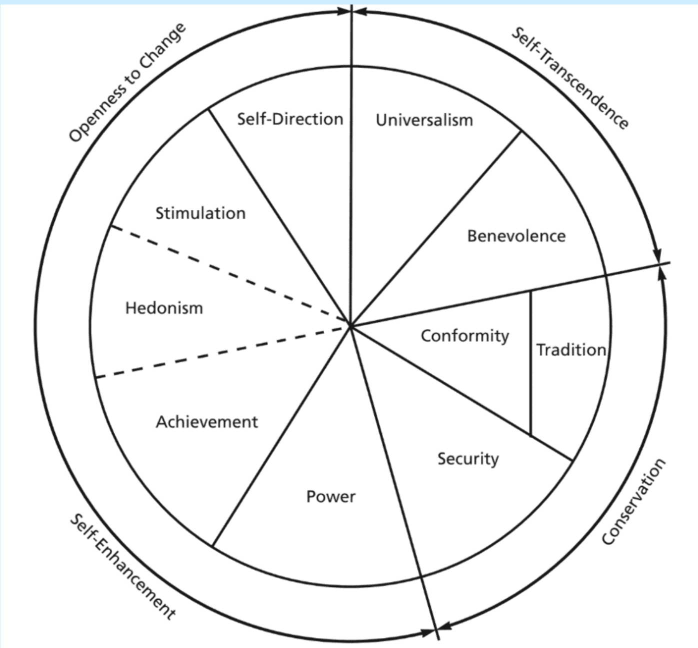


Figure 5.4. *The prototypical structure of value systems* (Schwartz, 1996)

This circular arrangement suggests that there are dynamic relations between value types, and that compatibilities and conflicts are involved (Maierhoffer et al., 2003). While some value types could come in conflict if they are simultaneously pursued (for example: self-direction and stimulation, versus conformity, tradition, and security), other value types are compatible (for example: power and achievement; tradition and conformity; stimulation and self-direction). Value types are compatible when they are assumed to have similar motivational goals.

Among the common values organizations emphasize, we may also find (Draper, 2019): outcome orientation (achievements and results), people orientation (fairness, tolerance, and respect for the individual), team orientation (collaboration), attention to detail (precision and analytical approach), stability (security), innovation (experimentation and risk-taking), aggressiveness (competitive spirit).

But apart from values, as you could see in Figure 2, in an organizational culture, artifacts and symbols are also included, alongside assumptions, and norms and values. Schein (2010) identifies as **artifacts**: formality and authority, daily schedule, meetings, decision making process, communication, social events, jargon, uniforms, identity symbols, rites and rituals, disagreements and conflicts, balance between work and family.

The importance of artefacts is crucial for organizational culture, because they are expressed as core business activities, processes and philosophies that characterize an organization. They need to be identified, analysed and compared. For example, Schein (in Gallos, 2006) emphasizes: if customer focus is the company's value, then the systems of rewards or accountability should be identified, as artifacts that support customer focus.

The management of the organizational culture means an understanding of the common traits found in all businesses (Prabhu, 2020). This process may have the following steps:

- Identify common artifacts or traits.
- Convene groups of representatives from all levels, functions, and locations to rigorously assess the key artifacts and share the assumptions.
- Summarize findings and share them with all participants to solicit additional insights.
- Create a culture management action plan that supports growth, effectiveness and advancement.

As an important part of organizational culture management, Prabhu (2020) lists the following procedures:

- Hiring practices
- Onboarding programs
- Reward and recognition programs
- Performance management programs

To assess the organizational culture, a survey can be used, with a Likert scale from 1 (a very slight extent) to 5 (a very great extent), which could look like this (Flamholtz & Randle, 2011, p.39):

Table 5.2. *Sample culture survey excerpt*

Current Statement	Current Culture					Desired Culture				
	1	2	3	4	5	1	2	3	4	5
1. We keep our commitments to our customers/business partners.										
2. Our people are the company's most valuable asset.										
3. Our company reacts quickly to changes in the marketplace.										
4. Our leaders act and communicate with integrity.										
5. People are rewarded on the basis of their performance.										
6. Good planning is rewarded.										
7. Company policies are applied consistently.										
8. Changes that affect employees are communicated quickly and effectively.										

Source: Flamholtz & Randle, 2011.

The world of entrepreneurship hasn't only the financial goal in mind, but also the social dimensions within the organization (González-Anta, Orengo, Zornoza, Peñarroja & Gamero, 2021). Oswald, Proto and Sgroi (2009) show that high levels of employee happiness is associated with a 12% rise in productivity. Scientific literature shows that employment quality, health and safety, training and development, diversity and human right, as well as labour laws are the key ingredients in ensuring employee's happiness. Aa a great company needs great people, this brings us to another pillar of an organization, **the social structures**.

5.2 SOCIAL STRUCTURES AND HIERARCHY

Child (in Faulkner, 2002) states that organizational structures are formal allocation of work roles and the administrative mechanisms to control and integrate work activities. Cuofano (2022) states that an organizational structure allows companies to shape their business model, based on criteria like products, segments, geography, etc., enabling information to flow through the organizational layers, for better decision-making, cultural development, and goals alignment across employees, managers, and executives.

Basically, understanding the organizational structure, allows the understanding of the entire decision-making process. Cuofano (2022) emphasizes that organizational structures are critical for a series of reasons, like:

- Definition of roles within the organization, so that each employee knows its place and where she belongs.
- Goals alignment that makes groups of people work in coordination to achieve common business objectives.
- Culture development based on the shape of the organization.
- Productivity via a system meant to use the people part of the organization in the best possible way.
- Efficiency in the use and allocation of resources within the organization.
- Better decision-making process by allowing the flow of information within and across several departments.

The author also provides a series of parameters upon which organizational structures can be categorized:

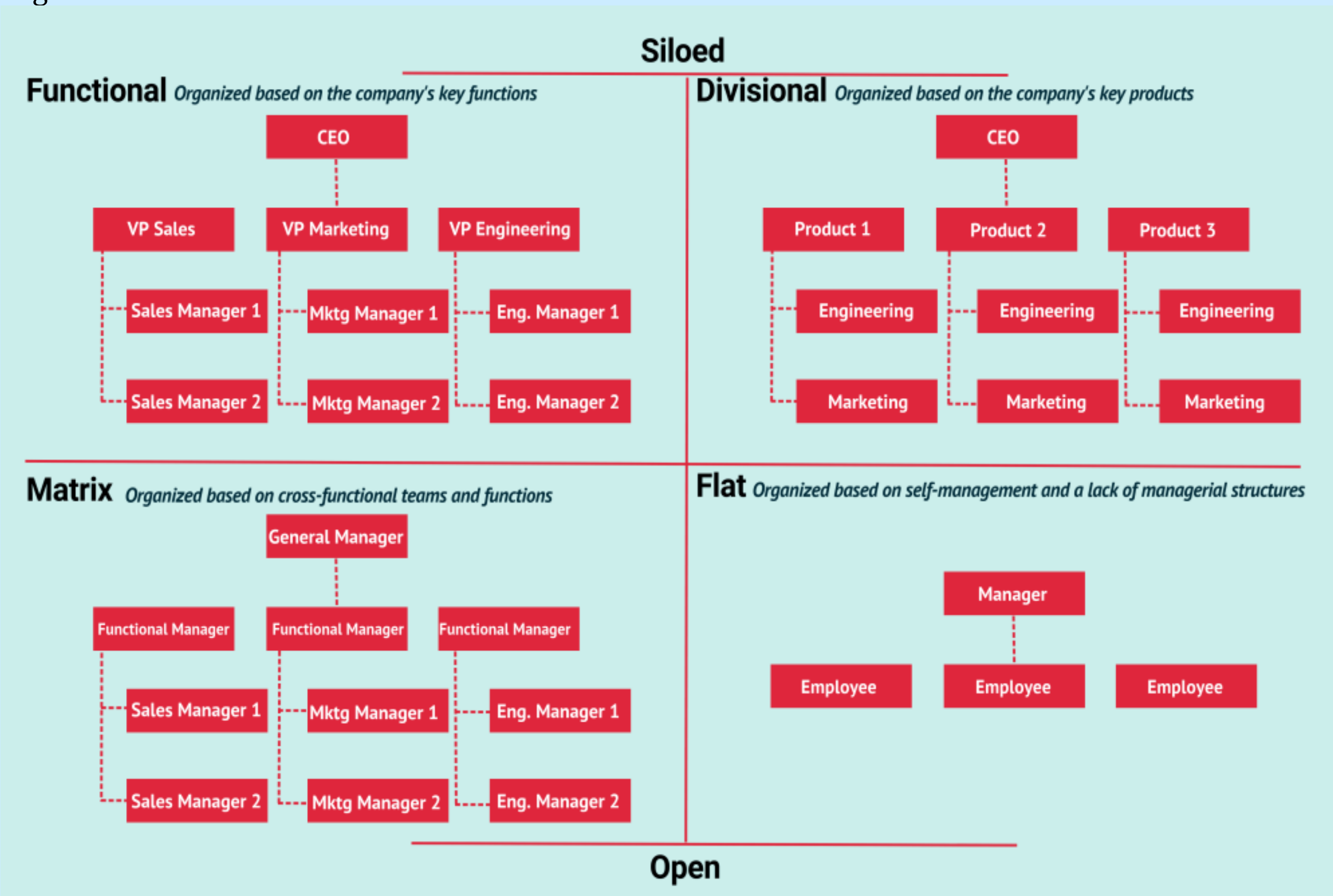


Figure 5.5. *Key types of organizational structures* (Cuofano, 2022)

We will briefly describe them, according to the cited author:

- **Functional organizational structure**. People are grouped according to their area of expertise, competence, and specialization. This kind of organization is very bureaucratic and has a top-down approach. Each department has a manager or director, and employees are specialized in specific functions (which may limit their flexibility).
- **Divisional organizational structure**. Groups are organized according to projects or products of interest for the company. This structure is more flexible to the hierarchical organization, as each division will run almost as an independent business. Each division can be grouped by product line or geography.
- **Matrix organizational structure**. It blends elements of a functional and divisional structure, but it may be hard to implement. People must report to several managers within the organization, so the communication flow can become challenging and can generate confusion.
- **Flatarchy organizational structure**. It acknowledges more independence and autonomy for employees, who are closer to the chain of command, and to the decision-making process. Hierarchies are adaptable. Although it's a model that works for small and medium-size organizations, it's difficult to implement for large organizations.

As you probably know by now, organizational authority is an important concept in organizational management, providing a useful tool to understand organizational behaviour and how organizations achieve their objectives (Presthus, 1960). The author states that authority is the capacity to evoke compliance in others, through formal systems where interpersonal relationships are structured in terms of the prescribed authority of the actors.

Authority is the main criteria of organizational hierarchy, which consists in the order of organizational members. This order consists of multiple levels and members with more authority occupy higher positions. Draper (2019) provides this general structure of hierarchy:

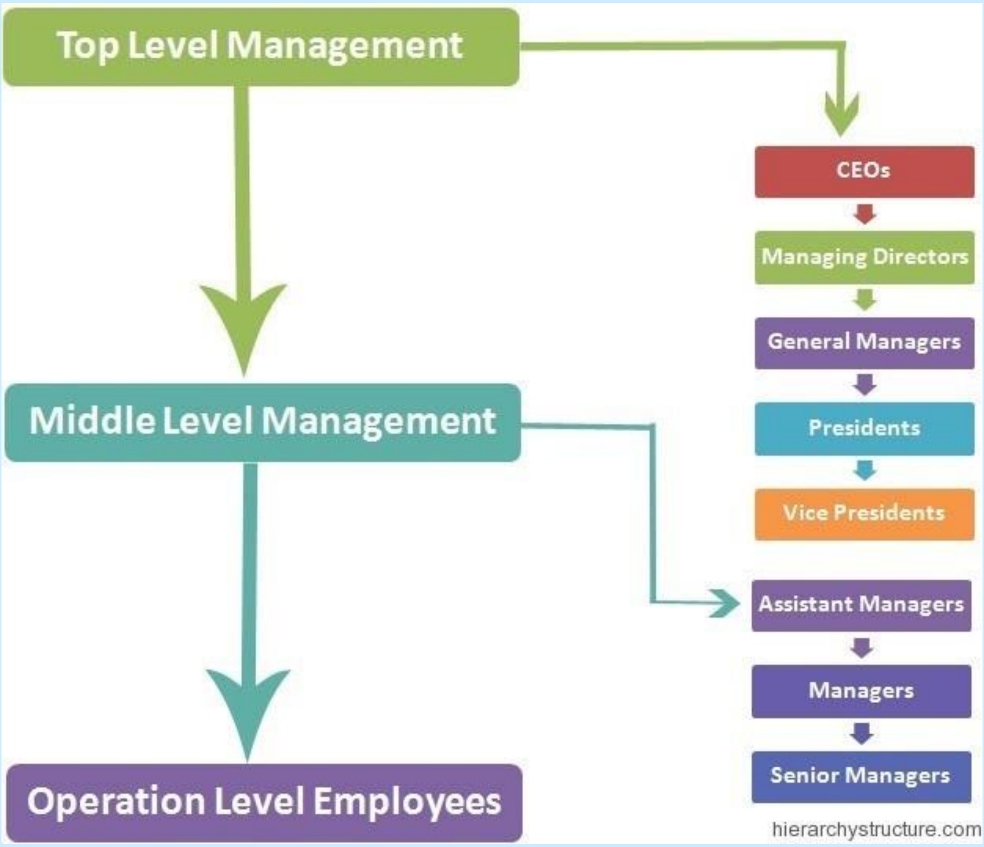


Figure 5.6. *Hierarchy degrees* (Draper, 2019)

Top level management has a defined structure in an organization and works through official channels. Middle level management has a defined structure, but accepts people work outside their formal business channels. And operation level employees have job descriptions and often challenge authority.

Other important members of organizational hierarchies are:

- Chief executive officer (CEO): is the top executive in an organization who guides and directs the organization to ensure growth, profitability, and development
- Chief operating officer (COO): is typically the second-highest executive who coordinates activities to ensure the organization operates effectively and stays productive
- Chief financial officer (CFO): coordinates all financial activities within an organization and may recommend financial opportunities, such as investments
- Directors: oversee departments and ensure department managers, such as finance, sales, and marketing managers, implement the best policies to ensure productivity
- Department managers: oversee the daily activities of an organization and train employees who work in the department
- Department supervisors: assist department managers in coordinating daily activities by overseeing a group of employees within the department.

Technology

Child (in Faulkner, 2002) states that organizational structures are associated with contextual factors, like environment, technology, or scale of operation. For manufacturing organizations, technology refers to equipping and sequencing of activities in a workflow, while using physical and informational materials (Woodward, 1965). Other authors, like Aiken and Hage (1968) speak about technology in terms of routineness of work. Basically, technology is seen as a product of decisions on workplans, resources, equipment, knowledge of techniques, etc.

Carson (2019) states that technology helps businesses maintain data flow, manage contacts, track processes, and maintain employee records, thus ensuring effectiveness and efficiency in an organization.

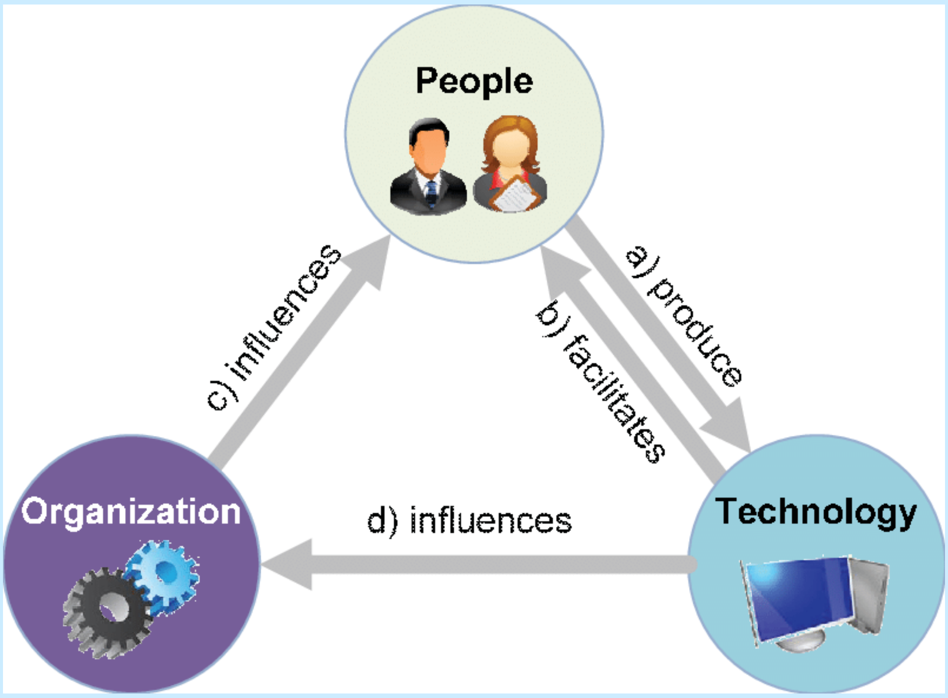


***Figure 5.7**. People, organizational and technology dimensions, and their main relations* (Belfo, 2012)

Neuby (2016) emphasizes that organizational technology is the total of man-made contrivances or developed processes that alter, refine, or create new goods and services delivered by organizations. It includes electronics, software, documents, new techniques, or any combination thereof used in the delivery of services. Belfo (2012) describes a model developed by Orlikowski (1992), which analyses three components: people, organization and technology, among which reciprocal interactions take place. This model acknowledges technology as a creation of human action, as well as an instrument of human action. All three components and their interactions enable knowledge sharing (Van den Brink, 2003, p.29), while technology provides a competitive advantage:

- **Technology as a product of human action**. People create and develop technology, which is deployed in organizations, maintained, and adapted through human action, thus influencing task execution.
- **Technology as a medium of human action**. Technology facilitates (by supporting the accomplishment of tasks) and constrains (by prescribing the way a task should be executed) the organizational context and the social practices.
- **Institutional conditions of interaction with technology**. Values, norms, and practices influence people in their interaction with technology. We should also take into consideration the social and historical circumstances in which the technology functions.
- **Institutional consequences of interaction with technology**. The way people use technology influences the institutional properties of an organization, by reinforcing or by transforming these properties. Users may conform to the rules and resources that are embedded in the technology, but they also may not conform, thus transforming the institutional context.

Pathak (2020) acknowledges the many developments made in recent years in terms of technology, like Artificial Intelligence, Internet, Big Data, Cloud Computing, Mobile Applications, Augmented Reality and Virtual Reality, 3D printing, Digital Assistants, or Blockchain, everything being available on digital platforms. From E-commerce, E-learning, Remote Working or Online Banking, everything today requires technology. So, the technological dimension includes material artifacts, like software and hardware, utilized by people in organizations in order to perform their job (Van den Brink, 2003).

According to Pathak (2020), the roles of technology are:

- Improved communication.
- Streamlined decision making.
- Propels marketing and business growth.
- Enhances customer relationships.
- Boosts competitive edge.

Thus, technology interacts with organizations (McLoughlin, 2002), gaining more and more value for the organization (McLaughlin, Rosen, Skinner & Webster, 2002), driving organizations towards innovation (Tajudeen, Nadarajah, Jaafar & Sulaiman, 2022), allowing the enhancement of risk management within the organization (Moura, Beer, Patelli, Lewis & Knoll, 2017), sustaining economic growth especially in contemporary organizations (Wiggins, Auton, Bayl-Smith & Carrigan, 2020). But since technology and humans are closely linked, the use of technology depends on decisions made by people, and on negotiations between people in particular social contexts (Scott, in Mullins, 2010).

Van den Brink (2003, p. 85-87) talks about technologies for explicit knowledge, technologies for explicit and tacit knowledge, and technologies for tacit knowledge, offering an illustrative scheme, which we feel it is important in the context of our chapter’s theme:

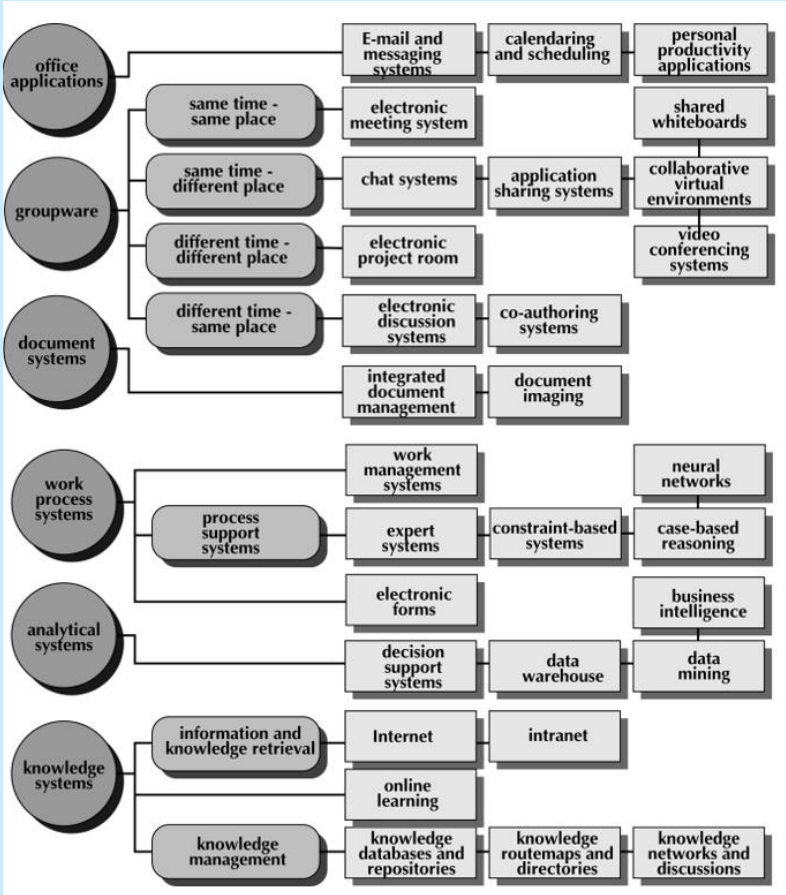


Figure 5.8. *Information and communication technology tools* (Van den Brink, 2003)

We will discuss these technologies, based on the cited author's conceptualization.

Table 5.3. *Technologies for information and communication*

Technology	Description and functionality	Tools
Technology for sharing explicit knowledge: **knowledge repository**	- Ensures information, documents, explicit knowledge components online, indexed, mapped, with easy access and accurate retrieval - Captures and stores information in electronic/digital libraries - Contains collections of best practices, business applications, lessons learned, manuals, report, articles, sales presentations, reports, engagement information, customer related data bases, competitor analysis	Integrated document management Document imaging Decision support systems Data warehouse Data mining Business intelligence Internet and Intranet
Technology for sharing explicit and tacit knowledge: **knowledge routemap**	- Routemaps are guides, directories, or pointers to an organization's internal and external information sources - They aid in the codification or discovery of potentially relevant contents - They provide sources regarding people with special expertise, skills, projects they are currently working on, interests and affiliation - They may offer links to documents that describe research results, diagnostic tools (for example, bench-marking methodology), or lists of frequently asked questions. - They may offer online learning	Intranet Online learning Knowledge routemap and directories

	opportunities, educational materials (trainings, courses, lectures, video journals, etc.)	
Technology for sharing tacit knowledge: **collaborative platform**	- It enables communication between people irrespective on time and place constraints - Seeks to improve coordination, communication, collaboration between people, teams, or groups - Facilitates teamwork, although it represents a poorer medium in terms of information interpretation, than face-to-face communication - Encourages debate, dialogue, interaction, creativity, innovation and sharing	E-mail and messaging systems Calendar and schedule Electronic meetings, chat systems, applications, shared whiteboards, video conferencing, electronic project rooms, work management systems, electronic forms, etc.

✓ **Other characteristics of an organization**

The degree of urgency

Also, as a part of the organizational culture, is **the degree of urgency**, defined by Draper (2019) in terms of speed with which an organization needs to make decisions and innovate. If the levels of urgency are high, then the organization needs to quickly respond to the changing market, and consequently push projects. If we talk about a moderate level of urgency, then the organization moves projects at a reasonable rhythm, while a low level of urgency allows people to work slowly.

Prioritization

The degree of urgency is also important for **prioritization**. Mathenge (2020) states that prioritization is vital to a business, providing information about the relative importance of a situation, so that the organization will be able to quickly respond or address the situation. Thus, prioritization involves understanding impact and urgency.

		Impact		
	Priority	Low	Medium	High
Urgency	High	Medium	High	High
	Medium	Low	Medium	High
	Low	Low	Low	Medium

Figure 5.9. *Basic Impact, Urgency and Priority matrix* (Mathenge, 2020)

Impact can be understood in terms of the effect of an incident, problem, change on business process. Although it is not expressed in absolute terms, impact can be measured in range or degree and can be expressed in words like high, medium, low, or critical, significant, minor, etc.

Urgency is about time and the speed at which the business or the customer would expect or want something, and it depends on business context, needs, and risks. Like impact, urgency can be defined as critical, major, medium, and minor.

Having this in mind, we see that priority is the intersection between impact and urgency and based on the matrix in the figure above we can correlate impact and urgency and find solutions for an easy way to determine service levels and track performance measures when treating incidents, problems, requests, or changes.

5.3 MANAGEMENT STYLES

The degree of urgency is in a close relationship with the **management style**, thus an organization with high urgency tends to be fast-paced and supports a decisive management style, while an organization with low urgency tends to be more methodical and supports a more reasonable management style.

Lex Sisney (2011) speaks about four management styles, visible in the way people operate in the world. These management styles are driven by 4 forces: Producing, Stabilizing, Innovating and Unifying. They are all present in each human in some form, but one or two of them are relatively stronger.

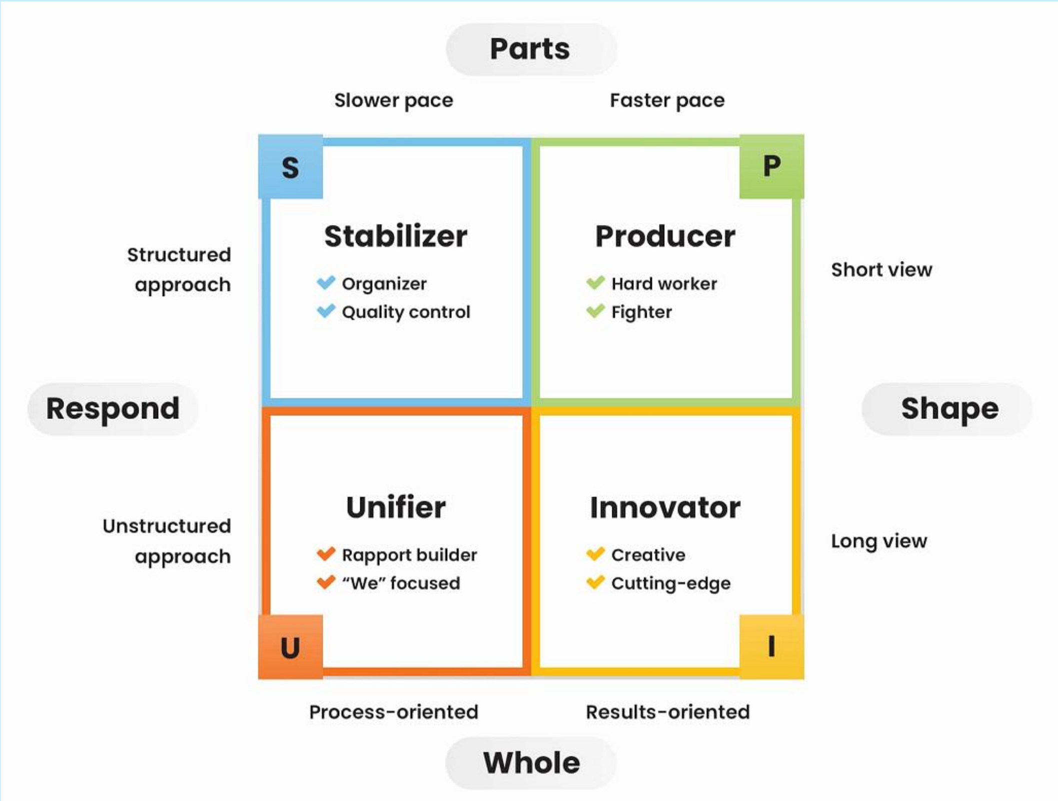


Figure 5.10. *The four management styles* (Sisney, 2011)

Chart from figure 5.10, structure that Sisney proposes, shows how each work style compares to the others. As far as the description of these styles is concerned, Sisney (2011) conceptualizes them like this:

- **The Producer.** Has a high drive to shape the environment and focuses on the parts that make up the system. This type has a fast pace, takes short-term view, is result-oriented, and follows a structured approach. It is focused on *what to do now* and prefers working hard to get things done. This style characterizes people that are focused, determined, and energetic.
- **The Stabilizer.** Has a high drive to respond to the environment and focuses on the parts that make up the system. It has a slower pace, takes short-term view, is process-oriented, and follows a structured approach. It focuses on *how to do things* and prefers working methodically to get them done the right way. This style characterizes organized people, that pay attention to details, and take time in their words and actions.
- **The Innovator.** Has a high drive to shape the environment and focuses on the whole system. This type has a fast pace, takes long view, and operates in an unstructured way. It is focused on driving

change, while finding new and better ways of doing it. It has a *why not?* kind of approach. This style characterizes people that are dynamic, creative, and intuitive.

- **The Unifier.** Has a drive to respond to the environment and focuses on the whole system. It moves at a more measured pace and it's process-oriented like the Stabilizer, but takes an unstructured, freewheeling approach and a long view like the Innovator. It is focused on *who is involved* and on the interpersonal dynamics of the group. This style characterizes people who are likeable, gregarious, and warm.

One more important thing that Sisney (2011) emphasizes are the basic characteristics of each work style and how it tends to view as friends (those they admire, respect, value, etc.) versus foes (those they devalue, discount, disrespect, etc.), as well as what tends to cost in energy (emotional drains like anxiety, stress, frustration, etc.) versus give it more energy (emotional gains like satisfaction, happiness, confidence, etc.). We will reproduce this figure as well:

	Lens	Energy Drains	Energy Gains	Foes	Friends
Producer	What	Not enough time	Momentum/ results	Not working hard/fast	Working hard/ fast
Stabilizer	How	Not enough control	Order/ accuracy	Not doing it right	Follow the process
Innovator	Why not?	Too many ideas	Enthusiasm/ buy-in	Not getting it	Support their ideas
Unifier	Who	Too many conflicts	Harmony/ intimacy	Not working as a team	Add to the group

Figure 5.11. *Friends vs. Foes | Gains vs. Drains in Management Styles* (Sisney, 2011)

However, this is not the only classification of management styles. Pinegar (2019) offers another interesting classification, starting with the idea that a management style is a particular mindset and set of strategies a manager uses to carry out an endeavour, from idea to closure. Thus, the author presents the following types with specific traits for each one:

Style	Coercive	Authoritative	Affiliative	Democratic	Pacesetting	Coaching
•The leader's modus operandi	•Demands immediate compliance	•Mobilizes people toward a vision	•Creates harmony and builds emotional bonds	•Forges consensus through participation	•Sets high standards for performance	•Develops people for the future
•The style in a phrase	•"Do what I tell you."	•"Come with me."	•"People come first."	•"What do you think"	•"Do as I do, now."	•"Try this."
•Underlying emotional intelligence competencies	•Drive to achieve, initiative, self-control	•Self confidence, empathy, change catalyst	•Empathy, building relationships, communication	•Collaboration, team-leadership, communication	•Conscientiousness, drive to achieve, initiative	•Developing others, empathy, self-awareness
•When the style works best	•In a crisis, to kick start a turnaround, or with problem employees	•When changes require a new vision, or when a clear direction is needed	•To heal rifts in a team or to motivate people during stressful circumstances	•To build buy-in or consensus or get input from valuable employees	•To get quick results from a highly motivated and competent team	•To help an employee improve performance or develop long-term strengths
•Overall impact on climate	•Negative	•Most strongly positive	•Positive	•Positives	•Negative	•Positive

Figure 5.12. *Management styles* (Pinegar, 2019)

Although the scientific literature has multiple ways of discussing the management styles, we offer one more approach, based on the information available on https://nextstepsresearch.com/management-assessment/management-style/, and the description of each specific style:

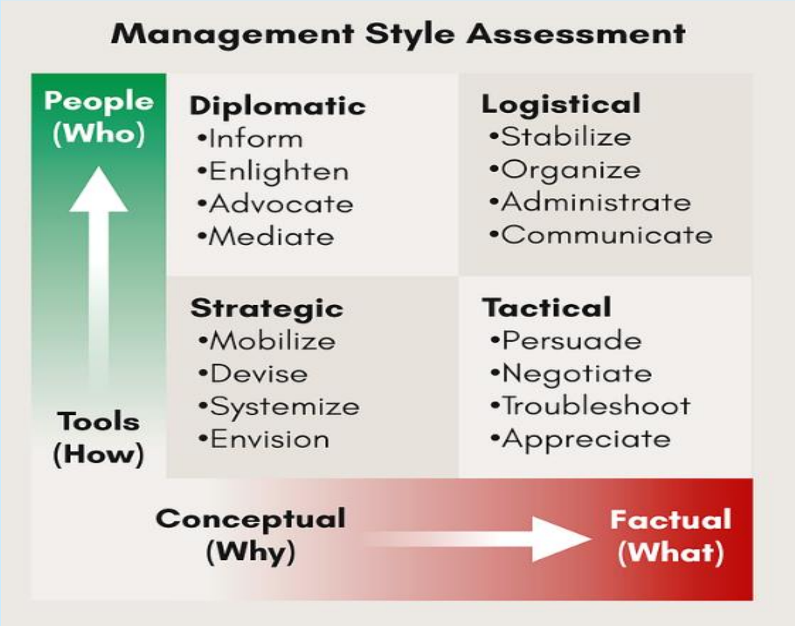


Fig. 5.13. *Management styles* (Next Steps Research, available at https://nextstepsresearch.com/management-assessment/management-style/)

5.4 HIRING PRACTICES

According to Sukalova, Stofkova, & Stofkova (2022) the effective functioning of the company is greatly influenced by the company's employees. Other authors consider human resources to be the most important assets and resource in terms of business performance (Batarliene et al. 2017). The authors of Hewett & Shantz (2021) define the issue of human resource management as a philosophy that creates incalculable value for the company. In this context, human resources practices are considered valuable because they strengthen the performance of companies.

Often the term "personnel policy" is associated with personnel strategy, which defines strategic and corporate goals, which the company wants to pursue in the future (Sukalova, Stofkova, & Stofkova, 2022). An analysis by Alerasoul et al. (2022) highlights key areas for the organization's development: human capital, measurement and auditing, internal and external communication, infrastructure and technology. Companies that achieve efficient use of human resources can benefit in their company from cost reductions and increased profitability, which is why in the selection of potential employees, in light of organizational goals and objectives, companies are increasingly focusing on experience and skills (Sukalova, Stofkova, & Stofkova, 2022).

According to Sukalova, Stofkova, & Stofkova (2022), thanks to the knowledge, experience and skills of employees, the market value of the company increases. As Van Lancker et al. (2022) identified, the most commonly practiced resource management activities include: creating labor systems, recruiting employees, educating employees, replacing and compensating, and implementing new activities.

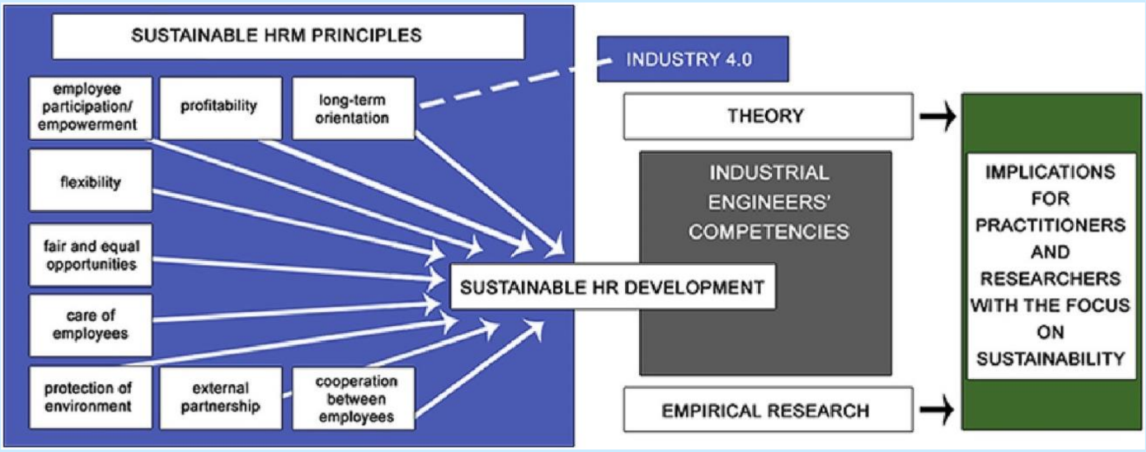


Figure 5.14. *Principles in sustainable development of human resources (Source: Piwowar-Sulej, 2020).*

In an increasingly environmentally conscious world, businesses are gradually being forced to mitigate the harmful effects of their operations on the environment. Integrating sustainable practices with human resource management leads to environmentally conscious employees. Sustainable HR management practices can be used in the recruitment process to attract quality potential employees. A company that applies sustainable human resources management appears in the eyes of stakeholders as a reputable and responsible employer and has a greater attractiveness for candidates. They, in turn, have greater intentions to look for a job. This is reinforced when the candidate himself or herself has high environmental values and attitudes, leading to better fit between person and organization, increased performance, and competitive advantage ("Going green: increasing organizational attractiveness via sustainable practices and environmentally-conscious recruitment," Human Resource Management International Digest, 2021, Vol. 29 No. 5, pp. 45-47. https://doi.org/10.1108/HRMID-06-2021-0131).

According to Piwowar-Sulej (2020), sustainable human resource management refers to the concept that combines the idea of sustainability with the soft approach to human resources. This approach promotes the foundation of an HRM strategy on promoting a culture of trust and cooperation and developing employee engagement, one component of which is loyalty to the employer. Piwowar-Sulej (2020) supported the idea that HRM's soft approach aims to achieve adequate financial results, but through the policy of building a good "employer-employee relationship".

A series of researches conducted in this direction showed that a soft strategy is effective in retaining an employee for a longer period of time in an organization and encouraging him to share knowledge, work more productively, act with passion and commitment, generate creative ideas to achieve business goals (Smaliukienė et al., 2017; Ogbeibu et al., 2018; Kim and Shin, 2019; Meier et al., 2019).

Pellegrini, Rizzi & Frey (2018), supported the idea that sustainable employee behaviour refers to a wide range of behaviours, such as involvement in corporate social responsibility (CSR) projects, positive attitudes towards diversity in the workplace, proactive engagement in environmentally responsible actions, development of green initiatives, and promotion of environmentally friendly products to customers (Gond et al., 2010).

Such behaviour can be encouraged through appropriate management practices such as "sustainable human resource management", defined as human resource (HR) activities that improve positive environmental and social outcomes (Jackson & Seo, 2010; Kramar, 2014; Renwick, Redman &, Maguire, 2008, 2013).

5.5 SUSTAINABLE TEAMS – CASE STUDY

The research question that we established is: „Can a sustainable attitude towards tourism be achieved by being a part of a sustainable team"?

To find out if there is any influence of employee status of Romanian people on „General attitudes towards sustainable tourism" we conducted a study on a sample of roumanian employees. The research aimed to achieve the following objectives:

O1. To investigate the general attitude towards sustainable tourism among a sample of 72 individuals who are part of private and public working sustainable teams in the counties of Constanta and Tulcea.

O2. Quantification of "General attitude to the environment" and measurement of the variable "Conscious character in environmental behavior" to identify the correlation between the two.

The formulation of the research hypothesis was as follows:

There exists an assumption that a positive association may be observed between individuals' favorable attitudes towards sustainable tourism and their level of environmental consciousness, particularly among those who have employment status.

Research tools: The research employed a psychological survey methodology, utilizing a questionnaire as the primary data collection instrument.

The instrumentation employed consisted of:

Section 1: Socio-demographic considerations - This section examines the socio-demographic factors that influence individuals' perspectives on sustainable tourism. It explores how variables such as age, gender, education level, and income may shape attitudes and behaviors related to sustainable tourism practices.

Section 2: „Attitudes Towards Sustainable Tourism" This section delves into the attitudes held by individuals towards sustainable tourism. It investigates the beliefs, opinions, and values that influence their support or opposition to sustainable tourism initiatives. By understanding these attitudes, we can gain

Section 3: Evaluating the Scope of "Conscious Nature and Behavior towards the Environment".

To achieve the objectives of the research, data was gathered from a sample of 72 individuals who hold employee positions and reside in the Southeast region, namely in the counties of Constanta and Tulcea. These individuals are affiliated with both public and private organizations and are members of teams within these entities. The acquired data underwent statistical processing and analysis using Microsoft Excel 2022 and SPSS Statistics version 24.

The sample approach applied in this study is non-probabilistic, namely convenience or accidental sampling. Participants were selected based on their availability and willingness to allocate time for completing the essential research instruments.

The online application of questionnaires was conducted utilizing the Google Forms platform from May 20th to May 22nd, 2023. All 72 participants were provided with the requisite guidance to acquaint themselves with the questionnaires and complete them. They were guaranteed of the confidentiality of their responses by the use of an identifying number.

Research design – presentation of the working procedure

The „General Attitude towards Sustainable Tourism" involved a sample of 72 individuals from both private and public working teams in the counties of Constanta and Tulcea. The researchers used the "Attitude towards Sustainable Tourism" scale, which assesses two dimensions: positive attitude and negative attitude towards engaging in sustainable travel. The scale used in this study was developed by Passafaro et al. (2012) and consists of seven items designed to measure individuals' inclination to endorse sustainability principles in the context of tourism issues.

The scale assesses individuals' perspectives on two fundamental aspects of tourism sustainability: 1) the significance of embracing both social and environmental responsibilities while traveling (or the choice to reject them), and 2) the level of interest in engaging with elements of the host culture (which is essential for the preservation of cultural heritage).

In order to assess the construction components, a Likert scale consisting of seven points was employed. The scale was labeled as follows: „1. Never agree, 2. Very rarely agree, 3. Sometimes disagree, 4. Neither agree nor disagree, 5. Often agree, 6. Very often agree, 7. Always agree".

In the study conducted by Passafaro et al. (2012, 2015), participants were asked to express their level of agreement or disagreement with six assertions.

The quantification of individuals' „Attitude to the Environment" may be achieved by the measurement of the variable known as „Conscious Character in Environmental Behavior". The construct known as "Consciousness and Behavior towards the Environment" is assessed using a six-item scale. This scale aims to gauge an individual's level of awareness of the significance of their actions and behaviors in relation to the environment. In order to assess the dimensions of the structures, a Likert scale consisting of five points was employed. The scale was labeled as follows: „1 – Very unlikely, 2 - Unlikely, 3 - Neutral, 4 - Likely, 5 – Very likely."

To emphasize the connections and associations formed within the group of participants, several structures were employed, aligning the items in accordance with the presentation outlined in Table 8.3.

Table 8.4. presents a comprehensive overview of the instruments used in the study, the constructs they measure, the specific items included, and the sources from which they were adopted.

Table 5.4. A comprehensive overview of the instruments used in the study

Variables/ Dimensions	Questionnaire items	Source
"General attitude towards sustainable tourism"		
Positive attitude towards sustainable tourism A1→A3	1. Instead of visiting a place where tourism damages the environment, I prefer not to go on vacation. 2. When planning a holiday, I must always choose a place where tourism does not harm the environment. 3. Instead of visiting a place where tour operators exploit local workers, I prefer not to go on vacation.	Passafaro et al. (2012)
Negative attitude towards sustainable tourism A1→A3	1. Tourists pay to get free time and fun and should not be involved in the social and environmental problems of the place visited. 2. Tourists should not be forced to take care of the well-being of the local population, this task must be carried out by the local authorities. 3. Tourists should not be required to respect the environment; this task should be carried out by the local authorities.	Passafaro et al. (2015)
"Consciousness in behavior towards the environment" A1→A7	1. Preference for products and services that are harmless to the environment, although they are more expensive. 2. Voluntary work for positive environmental impact for a long period of time if necessary. 3. Resource savings. 4. Participation in environmental projects. 5. Sensitivity to environmental issues. 6. Concern about environmental issues. 7. Recycling and reuse of resources.	Uglu, Sahin & Baslar (2013)

The sample of participants to which this questionnaire was applied included 72 people, 10 men (13.9%), and 62 women (86.1%) aged 18 to 60. In terms of the age range, 20 people are in the 18-25 years (27.8%), 12 in the 26-35 years (16.7%), 30 in the 36-45 years (41.7%)and 10 in the 46-64 years (13.9%).

Participants were predominantly from the urban environment (87.5%) and 43.1% (31) of them worked in the public and 56.9.16% (41) in the private, 55.5% were married (40) and 58.3% had parental status. (42).

In terms of the level of education last graduate, secondary schools have only 9.7% (7 persons), while the difference of 65 respondents have at least university studies.

In terms of average monthly net income per family member, more than 35% of respondents have average incomes that exceed the average net salary at the national level.

Objective 1: Investigation of the "General Attitude towards Sustainable Tourism" at the level of a sample of 72 people belonging to working teams from the private and public sectors in the counties of Constanta and Tulcea.

Regarding the positive attitude towards sustainable tourism expressed by people with the status of working team members, from private and public companies (72 people) included in the survey carried out, the response structure highlighted that 2.8% of participants (2 people) would never agree with the statement "Rather than visit a place where tourism damages the environment, I prefer not to go on vacation", whereas 15.3% said "Very rarely agree" with the same statement (11 people) and another 15.3% "Sometimes agree" (11 persoane). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 19.40% (14 persoane). By the way, 16.7% of respondents chose the option "Always agree" (12 persons), another 9.7% chose "Very often agree" (7 persons) and 20.8% chose the variant "always agreed" (15 persons).

So in terms of the respondents' preference not to go on vacation rather than visit a place where tourism damages the environment, the people who would give up their stay (34 people versus 24), aware of the importance of protecting and preserving environmental resources, are predominant.

On the second statement, aimed at expressing the positive attitude towards sustainable tourism of people with the status of members in working teams, from private and public companies included in the survey carried out, the structure of responses highlighted that a percentage of 5.6% of participants in the study (4 people) would never agree with the statement "When planning a holiday, I must always choose a place where tourism does not harm the environment", whereas 12.5% said "Very rarely agree" with the same statement (9 people) and another 16.7% "often agree" (12 persoane). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 19.40% (14 persoane). A percentage of 18.1% of respondents opted for the "Often Agree" variant (13 people), another 8.3% for the answer variant "Very often Agree" (6 persons) and 19.4% for the variant " Always Agree" (14 people).

So in terms of the respondents' preference to choose in the planning of holidays a place where tourism does not harm the environment, the people who take this aspect into account (33 people versus 25), aware of the importance of protecting and preserving environmental resources, prevail.

On the third statement, which aims to express the positive attitude towards sustainable tourism of people with the status of members in working teams, from private and public companies included in the survey carried out, the structure of responses highlighted that 6.9% of participants in the study (5 people) would never agree with the statement "Instead of visiting a place where tour operators exploit local workers, I prefer not to go on vacation", whereas 16.7% said "Sometimes agree" with the same statement (12 people) and another 15.3% "Sometimes agree" (11 people). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 18.1% (13 people). A percentage of 9.7% of respondents opted for the option "Often agree" (7 people), another 6.9% for the answer option "Never agree" (5 people) and 26.4% for the variant "Always agree" (19 people). Thus, with regard to the preference of respondents not to go on vacation in places where tour operators exploit local workers, it is noted that the preponderance of answers supporting the statement (31 people versus 28), respondents being aware of the impact of the exploitation of local environmental resources on the local population.

With regard to expressing the negative attitude towards sustainable tourism of people with the status of members of working teams, from private and public companies included in the survey carried out, the structure of the replies collected highlighted that a percentage of 16.7% of participants (12 people) would never agree with the statement "Tourists pay to get free time and fun and should not be involved in the social and environmental problems of the place visited", in the context of which 22.2% said "Very rarely agree" with the same statement (16 people) and another 12.5% "Sometimes agree" (9 people). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 16.7% (12 persons). Moreover, 6.9% of respondents opted for the "Often agree" option (5 persons), another 8.3% for "Very Often Agree" (6 persons) and 16.7% for „Always agree" option (12 persons).

Thus, with regard to the conviction of respondents that tourists pay to get free time and fun and should not be involved in the social and environmental problems of the place visited, it is found that the preponderance of answers that counter the claim (38 people versus 23), the respondents are aware of the impact of tourist activity on local environmental resources and implicitly on the local population.

On the second statement, aimed at expressing the negative attitude towards sustainable tourism of people with the status of members in working teams, from private and public companies included in the survey carried out, the structure of responses highlighted that a percentage of 19.4% of participants in the study (14 people) would never agree with the statement "Tourists should not be forced to take care of the well-being of the local population, this task must be performed by the local authorities", whereas 16.7% said "very rarely agree" with the same statement (12 people) and another 13.9% "Sometimes agree" (10 people). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 12.5% (9 persoane). A percentage of 9.7% of respondents opted for the "Often agree" option (7 people), another 6.9% for the answer option "Very often agree" (5 people) and 20.8% for the option "Always agree" (15 people).

Thus, as regards the persuasion of respondents that tourists should not be forced to care for the well-being of the local population, this task must be carried out by the local authorities, it is noted that the preponderance of the answers that oppose the claim (38 people versus 23), the respondents are aware of the impact of tourist activity on local environmental resources and implicitly on local population.

On the third statement, aimed at expressing the negative attitude towards sustainable tourism of people with the status of members in working teams, from private and public companies included in the survey carried out, the structure of responses highlighted that a percentage of 55.6% of participants in the study (40 people) would never agree with the statement "Tourists should not be asked to respect the environment, this task should be performed by the local authorities", whereas 16.7% said "Very rarely agree" with the same statement (12 people) and another 5.6% "Sometimes agree" (4 persons). The percentage of respondents who expressed indecision ("Neither agree nor disagree") is 5.6% (4 persons). A percentage of 4.2% of respondents opted for the option "Often agree" (3 persons), another 4.2% for the answer option "Very often agree" (three persons) and 8.3% for the variant "always agreed" (six persons).

Thus, with regard to the conviction of respondents that tourists should not be asked to respect the environment, and that this task should be carried out by the local authorities, it is noted that the preponderance of the replies that oppose the claim (56 people versus 12), the respondents being aware of the importance of respect for the environment by tourists also in the chosen destination, not only by local public authorities.

Objective 2. Quantification of the "General Attitude to the Environment" and measurement of the variable "Conscious Character in Environmental Behavior" to identify the correlation between the two variables.

By combining the selection of answers to the questions related to the positive and negative attitude, respectively, we find an average value of the positive attitude towards sustainable tourism that is around 4.38 with a minimum of 1, a maximum of 7 and a standard deviation of 3,095, simultaneously with an average negative value of attitude to sustainable Tourism of 3,26, with a minimal of 1, the maximum of 7, and a standards departure of 1,717.

On the other part, the assessments carried out by respondents to the claims related to "Consciousness in environmental behaviour" reveal the following aspects:

Only 32% of respondents say they can volunteer for a long period of time if necessary to ensure a suitable environment for living, while 40.3% do not, and 27.8% would declare themselves indecisive.

A significant proportion of respondents, namely 50.3%, indicate that they do not engage in water wastage during the activity of brushing their teeth. This finding underscores their commitment to addressing the issue of natural resource depletion, particularly in relation to water conservation.

48.6%, of the participants express a preference for purchasing items and services that are environmentally friendly, even if they come at a higher cost. This finding underscores their heightened level of care for the environment.

The data reveals that only 29.2% of the participants expressed their support for engaging in environmental initiatives, whilst a larger proportion of 36.1% indicated their lack of support for such engagement. This disparity underscores a diminished level of care for the environment, as seen by the limited participation in environmental projects..

A percentage of 31.6% of respondents claim that among their friends they are known to be environmentally sensitive people and another 31.6% the opposite situation, which highlights a balanced distribution at the sample level of people who consider themselves sensitive to environmental problems and those who think themselves endowed with such a low sensitivity.

Over 34.7% of the participants expressed their support for engaging in conversations regarding environmental concerns with those in their immediate surroundings. Conversely, roughly 30.6% of the respondents indicated their lack of support for such engagement.

42.7 % of the respondents expressed their intention to reuse the reverse side of old paper wherever feasible. This finding underscores their commitment to addressing the issue of natural resource depletion and waste reduction.

The indicator titled "Consciousness in Environmental Behavior" uses a general methodology that involves calculating the mean response of 3.2, with a standard deviation of 1.06. The range of values assigned by respondents falls between a minimum of 1 and a high of 5.

The research hypothesis is subjected to verification. There is an assumption that a positive association exists between individuals' good attitudes towards sustainable tourism and their consciousness of environmental behavior, particularly among individuals who have work position. The investigation focused on examining the relationship between individuals' "Positive attitude towards sustainable tourism" and their "Consciousness in behavior towards the environment." The first step involved conducting a normality test to determine the distribution type, which was found to be non-normal. Consequently, the analysis proceeded by considering the Spearman's rho coefficient. The analysis of the data presented in table 8.3 reveals a statistically significant correlation between the variables "Positive attitude towards sustainable tourism" and "Consciousness in behaviour towards the environment". This correlation is indicated by a Spearman's rho coefficient of 0.300, which is significant at a level of 0.05 (corresponding to Sig. (2-tailed) values of 0.011). These findings confirm the hypothesis that there is a positive relationship between the level of positive attitudes towards sustainable tourism and conscientious behavior in environmental behavior. Additionally, the correlation coefficient of 0.300 indicates a moderately strong positive correlation in the selected population sample (table 8.3).

Table 5.5 Correlation Table

			Positive attitude towards sustainable tourism	Consciousness in behavior towards the environment
Spearman's rho	Positive attitude towards sustainable tourism	Correlation Coefficient	1.000	.300*
		Sig. (2-tailed)	.	.011
		N	72	72
	Consciousness in behavior towards the environment	Correlation Coefficient	.300*	1.000
		Sig. (2-tailed)	.011	.
		N	72	72

*. Correlation is significant at the 0.05 level (2-tailed).

In support of what has been found, we specify that, sustainable consumption was conceptualized by Ribeiro, Veiga & Higuchi (2016, p. 310) as: "the search for products and services that are ecologically correct, the preference for corporations and organizations actively involved in environmental conservation, the use of materials and equipment until the end of their life, the saving of resources such as water and energy, the reuse, whenever possible, the right destination of materials for recycling and the inclination to a lifestyle with less negative impact on the environment" (Ribeiro, Veiga & Higuchi, 2016, p. 310).

According to Vermeir and Verbeke (2006), sustainable consumption entails a decision-making process that considers not only individual needs and desires, but also the social responsibility of the consumer (Vermeir and Verbeke, 2006, p. 170; Hume, 2010, p. 387). Additionally, Cornwell and Drennan (2004, p. 114) argue that sustainable consumers are concerned with aspects related to the quality of life and well-being of consumers.

Hence, it can be inferred that the aforementioned factors establish a connection between the two measured variables in terms of their overall and specific definitions ("Positive attitude towards sustainable tourism" and "Consciousness in behavior towards the environment"), considering the components examined within each variable at the individual level.

5.6 SUSTAINABLE TEAMS – PRACTICA ACTIVITY FOR STUDENTS

But let's identify as such what best practices in recruiting staff could consist of in case studies conducted on a range of sustainable companies.

Project demands: Work in teams. Each team will have 3 to 5 members. Choose a company from tourism industry that is well known for you or someone close to you. Complete the following data sheet and conclude about the sustainable approach of the organisational structure using the interview method, while interviewing one of the managers.

After the interview, **compare** the finding with your peers and make an analysis.

The content of the interview will be **as it follows.**

Company data sheet

A. Identification data

A 1. Name of organization:

A 2. Address of organization (county):

A 3. Human Resources Department / Dedicated person with human resources:

YES ☐ NO ☐

A 4. Field of economic activity: tourism – restaurants - balneary

A 5. Type of organization (e.g., SME, S.A.)

....

A6. Classification of the organization by the number of employees

Micro Small Medium Large

under 10 10-49 50-249 over 250

☐ ☐ ☐ ☐

A7. Structure of employees depending on the level of qualification at the date of filling in the questionnaire (please note the approximate quota - in percent)

- Graduates of arts and crafts school, apprentice school ☐
- Graduates of completion year school, vocational school, skilled workers through qualification courses ☐
- Technological high school graduates, post-secondary school graduates, master school graduates, personnel qualified through post-secondary qualification courses ☐
- Graduates of university education (equivalent to bachelor and university college level) ☐
- Graduates of university education - master courses ☐

B. Staff recruitment

B 1. The organization recruits' staff by:
1. Placement during university studies;
2. University;
3. Through job sites;
4. Print media advertising;
5. Private placement agencies or AJOFM;
6. Other methods: no

B 2. In the recruitment process, how important are the following aspects for the organisation?

Not important at all →Very important					
					Qualification of the candidate
					Level of education held by the candidate
					Practical experience
					Third Party Referrals / References *
					Studying abroad
					Professional training courses
					Other, please specify: commitment and openness to continuous professional training

* From the educational institution / other employer (as the case may be)

B 3. In the recruitment process, how important are the following transversal skills?

Not important at all →Very important					
					Specialized in ....**
					Knowledge from other fields
					Analytical thinking
					Ability to learn quickly
					Ability to negotiate
					Ability to use time efficiently
					Ability to work in a team
					Ability to coordinate teams
					Ability to use computer and internet
					Creativity and capacity for innovation
					Capacity for critical analysis and self-criticism
					Knowledge of an international language
					Ability to adapt to new situations

** other areas/qualifications

B 4. In the recruitment process, how important are the following specific competencies?

Not important at all → Very important					
					Production / technologies
					Professional efficiency
					Personal initiative
					Resourcefulness
					Professional motivation
					Organization
					Promoting
					Yield
					Direct communication
					Intellectual openness

					Professional involvement
					Professional achievements
					Receptivity to the new

B 5. What are the most effective ways in which you think the employee can acquire these additional skills?

Not at all effective → Highly efficient					
					Informal, workplace
					Informal, by accessing online courses and certifications
					formal, through specific courses
					Others ....

B 6. In the recruitment process, how important would it be to have access to information on candidates' social competences?

Not important at all → Very important					
					Written and verbal communication skills
					Matching the job, they are applying for
					Ability to solve problems
					Motivation
					Leadership
					Ability to act independently
					Others

C. Professional skills and performance

C 1. To what extent are you satisfied with the training of the staff you have employed over the last three years?

Not at all → very much

1 2 3 4 5

C 2. To what extent do you consider it necessary to develop the skills of your employees through continuous training?

Not at all → very much

1 2 3 4 5

C 3. Over the past three years, has your organisation funded in-service training activities for employees to improve qualifications and skills according to job requirements?

☐ Yes → Answer question C 4

☐ No → Answer question C 5

C 4. Please specify the number of courses in each category:

1. Specialization courses (duration less than 120 hours):
2. 120-hour qualification courses:
3. 360 hours qualification courses: ....
4. 720-hour qualification courses: ....

C 5. Do you think that your company will be able to do this? Will it finance such activities in the future?

YES ☐ NO ☐

C6. If you are going to fund such activities in the future, what type of training activities would you like them to be:

YES	**NOT**	
		ANC accredited courses
		International courses / with foreign trainers

		Courses with online credentials
		Training courses organized inside the organization with external trainers
		Training courses organized inside the organization with internal trainers (dedicated person)
		Non-formal workshops

C7. Do you currently have an organization's strategy for the continuous training of your own staff?

YES ☐ NO ☐

C8. Do you currently have an organisation strategy for initial training of newly hired staff?

YES ☐ NO ☐

C9. List the training courses/activities you consider necessary for your employees:

1. ....
2. ....
3. ....

D. Non-formal and informal aspects of work-based learning

D1. In your organization. Organize the following types of activities:

YES	NOT	Types of activities
		Internal trainings on specific issues[9]
		Internal trainings for acquiring job-specific skills
		Internal trainings for acquiring transversal skills
		Internal trainings for personal development and teamwork
		Workshops and workshops involving teamwork of employees
		Teambuilding's
		Informal exits

D2. If yes, please write to each of them as frequently as possible:

Frequency level (annual, monthly, weekly, never, every 2-3 years, etc.)	Types of activities
	Internal trainings on specific issues[10]
	Internal trainings for acquiring job-specific skills
	Internal trainings for acquiring transversal skills
	Internal trainings for personal development and teamwork
	Workshops and workshops involving teamwork of employees
	Teambuildings
	Informal exits

D3. If not, please tell us from the list above, which ones you find most useful for developing the potential and performance of your employees.

……………………………………………….

E. Available human and material resources

E1. Available human resources – Summary of the organizational chart:

E2. Available material resources:

F. Particularities of the company

[9] Specific problems relate to the presentation of working systems, familiarization with various procedures, legislative aspects

[10] Specific problems relate to the presentation of working systems, familiarization with various procedures, legislative aspects

No.	Benchmark	Details
1.	Company name:	
2.	Tax registration code (CIF):	
3.	Contact details of the lead decision-maker: (Name / Phone / e-mail)	
4.	NACE CODE	
5.	City: Registered office/working point	
6.	Number of employees	
7.	Key employee positions: What are they and why?	
8.	Products/Services: What are they and what general characteristics do they have?	
9.	Marketplace: What is the market in which the company competes?	
10.	Technology: What is the main technology/tools?	
11.	Customers: What are the general characteristics of customers?	
12.	Suppliers: What are the important products/services/firms as "inputs"?	
13.	Overall environment - What are the main external elements (laws, social context, etc.) that condition the operation of the company?	
14.	Competition: What are the general characteristics of competition?	
15.	Company aspirations: How is the evolution of the company projected?	
16.	Material Elements: What is special about the company (location, equipment, staff, clients, etc.)?	
17.	Skills – what do the main people of the company know how to do?	
18.	Marketing: How is the company made known?	
19.	Finance: What is the scheme for financing and moving money?	
20.	Objectives: What are the milestones targeted in the future (1-3years)?	
21.	Strategies: What is the targeted evolution of turnover and product range?	
22.	Development: What are the interesting elements targeted for the near future?	
23.	Deficiencies in working technique/technology	
24.	Competitive advantages of the company over the competition	
25.	Deficiencies/deficiencies in human resource training	
26.	Threats to economic activity	
27.	Business development opportunities	
28.	Strengths regarding the employed human resource	
29.	Weaknesses regarding the employed human resource	
30.	Conditions to be met for business development from a technical/ technological perspective	
31.	Conditions to be met for business development from the employees' perspective (quality/number/diversification of skills, etc.)	
32.	Personnel strategy applied within the organization	
33.	Key employee positions: Is there a correlation between tasks and responsibilities vs. Result and/or Performance Indicators?	
34.	Products/Services: What characterizes the marketing of products and / or services? High production cost or low selling price?	
35.	Competition: What is the competition better performing?	
36.	Marketplace: What impact do employees have on the sales market?	
37.	Technique/technology used: How can work technique and technology be improved from the employees' perspective?	
38.	Customers - How can customer relationships be improved from an employee perspective?	
39.	Suppliers - The impact of employees on the relationship with suppliers	

40.	Overall environment - Dependence on the general environment within the business	
41.	Material elements of the business	
42.	Degree of professional training of employees - (insufficient/sufficient/ medium/good/very good)	
43.	Promotion techniques - The impact of employees on promotion	
44.	Finance: The need for financing to increase the quality of employees	

6. SUSTAINABLE FINANCING

You have a fantastic idea for a sustainable business proposition. In mostcases that costs money, sometimes a lot of money. If the business propo- sition is truly sustainable – which means that it is financially and econo-mically sustainable as well – then it will generate revenues too. But manycosts normally have to be paid before you see revenues and you will need financing to move your idea to reality and to develop your busi- ness. This is the subject of this chapter.

6.1BANKS AND INNOVATION

Banks are a key source of financing for sustainable and innovative ideas. They are not the only ones, as we will see below. But because banks play an important part we shall devote attention to the general approach they take to innovation and sustainability. Banks look at these points in two ways at the same time. On the one hand they respond enthusiasti- cally to new ideas. Banks are also on the lookout for new customers andinvestment projects. They are happy to be associated with eye-catching and socially responsible projects, which are of interest to customers, stakeholders and employees. On the other hand they respond cautiouslyto new ideas. New means risky and banks don't like risk. The point is thatthey lend out money belonging to other people, their savers and bond- holders, which they must manage carefully. Banks are not investors whomay take risks using their own funds or funds that have been entrusted to them. Banks may assume far less risk. Their approach to innovation is therefore marked by a degree of restraint unless, of course, feasibility is guaranteed and the revenue stream from the business is certain.

6.1.1 WHAT A BANK IS LOOKING FOR?

Every project or business idea is different. Thatmeans that only after discussion with the bankyou know if the bank would like to help you. Nevertheless it is possible to point to a numberof aspects that will make a project or an idea more or less bankable:

- **Earning capacity.** This is the most impor- tant precondition any bank will place on any project. Will the business, new or not,generate enough money to repay the loan and the interest? Earning capacity
is determined as the difference between costs and revenues. Knowing when the business gets to break-even is important. This is the point at which revenues exceed all the costs incurred up to that time. Grossmargin is another significant aspect. This
is the difference between sales and direct costs. A gross margin of at least 40% is re- commended: this will leave enough space to cover indirect costs (development costs, administrative overheads, marketing, etc.)
  - **Entrepreneurship.** Running a business is about people and, fortunately, that applies to the banking business as well. The busi- ness plan counts, but so does the question of whether the entrepreneur really has what it takes, someone with ambition whocan seize a chance, honour tough commit- ments and deadlines and run a company. Aconsideration here is the size of the relevantnetwork at the entrepreneur‘s disposal. Can he/she get sufficient assistance and can he/ she access the right suppliers and organi- sations? Sometimes the conclusion is that the entrepreneur is more of an inventor. If so, the recommendation will be to sell the business idea or to look for a partner for the necessary entrepreneurial aspects.

  - **Timetable & Scenarios.** How does the entrepreneur see his business developing? Starting is hard enough so people startinga business often have a short time hori- zon. It‘s better to have an approach to the medium term as well. Clarity about allthe steps to be taken in the short term is also important. This will involve a detailed budget and forecast. The bank will want tosee the kinds of scenarios that have been drawn up for the project: what will happenif crucial circumstances change? A good entrepreneur knows the risks in business and can therefore indicate alternative approaches going forward if the optimum scenario fails to be realised.

  - **Collateral.** At some point the money the bank has lent will have to be repaid. The bank will therefore require collateral to serve as its assurance in the event that pro- blems are encountered in repayment. Thismay include pledging of stock and deb- tors, a personal guarantee issued by the owner or supplier, or a mortgage (which could be a second mortgage) on your home. Patents are usually not accepted as collateral as a bank will find it difficultto extract direct value from a patent. Licences, however, that generate revenuesdirectly are often accepted as collateral. Start-ups often have a problem with a lack of collateral. This can be lessened by reliance on a government guarantee or byraising additional share capital.

6.2 MONEY COMES IN DIFFERENT SHAPES

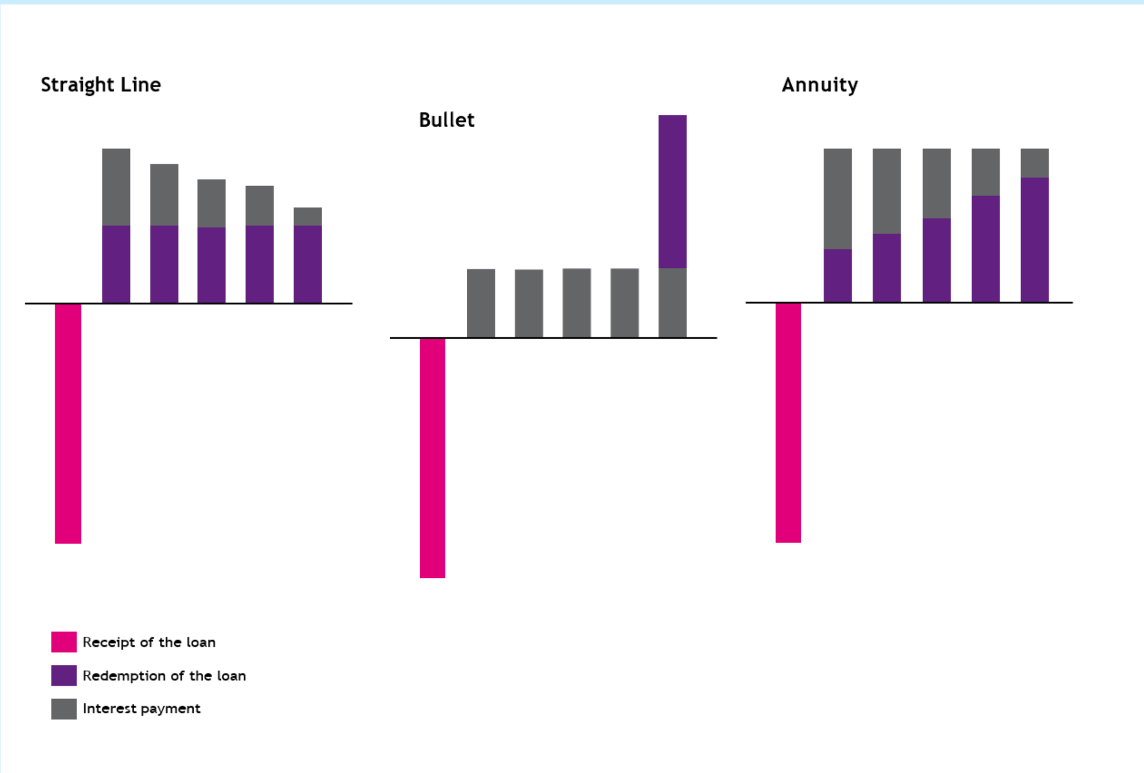
If you need funding for your business idea as astarting entrepreneur, you may quickly decide that „money is money". But that is not so. Onehundred Euros from the bank is not the same as one hundred Euros from the government nor is it the same as ten Euros from an inves- tor. The origin of the funds determines the conditions under which the money was made available, its price (in the form of interest or dividend) and its terms of repayment.

6.3 BANK FINANCING

Put simply, there are two types of bank financing: credits and loans. The bank will offer whatever form best suits the financing requirement – toomuch money or money at the wrong moment is inconvenient for an ent-repreneur and expensive, and that translates as risky for the bank. Threetypes of loans may be distinguished: straight line, bullet and annuity loans [see chart]. Starters usually only use straight line loans. The disad- vantage is that you need to start repayments fast while the advantage is that the interest charges decline as the years pass. The term for finan- cing can vary from one to more than ten years. Starters often find a five year term possible.

We distinguish three types of funding: sharecapital, loan capital and subsidies.

Share capital is also called risk capital. It is the share capital contributed by the owner of the business and other Investors. These other play- ers place share capital in the company in returnfor the part ownership they obtain by having acquired shares. Share capital is the company's capital reserve. It is deployed against the grea- test risk. In the worst case – if the business failsand the company ceases trading or goes into liquidation – it is shareholders who will lose their stake.



Loan capital includes credits and loans. This money is not made available on a permanent basis but usually for a specified term that can vary from a few months to many years. A fee must be paid to access this money in the form of interest. Capital supplied by those extendingloan capital, which can take the form of varioustypes of loans from banks or others, takes pre-cedence over capital that shareholders invest.
If the company runs into difficulties, those whoare owed loan capital will be the first to get their money back with the shareholders only being entitled to the remainder.

Subsidies

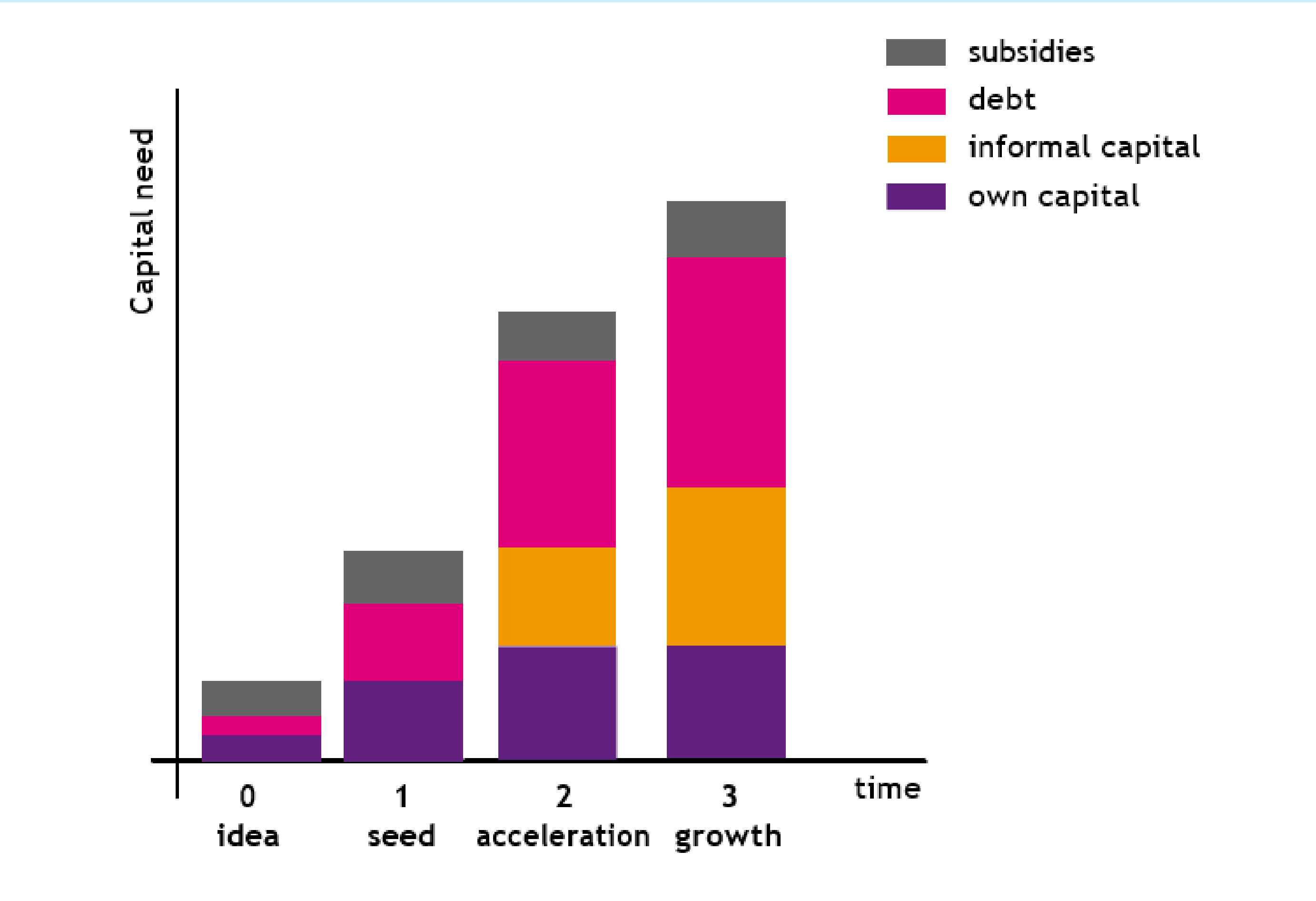
Government subsidies may sometimesbe available for sustainable ventures. The ad- vantage of government subsidies is that they donot usually need to be repaid nor is any interest payable. There is no charge for the funding. Thedisadvantage of government subsidies is that very strict conditions often govern the applica- tion process for funding and reporting is often required on how the money is spent. Compli- ance may prove highly time-consuming.

How the interest is made up varies from bank to bank. The key point here is that the banks tap the capital markets for their own funds. The rates applicable in those markets are a combination of the Euribor (EuroInterbank Offered Rate) interest rate to which a liquidity surcharge is added. The latter is a function of the bank‘s creditworthiness. Further surcharges covering debtor risk and the bank‘s internal costs come on top of the purchase price. This total determines the interest rate payableby the client on the loan or credit. The rate for a credit is usually a little higher than for a loan. The longer the duration of a loan, the higher
the rate, the point being that the further one goes into the future, the greater the risk exposure. So as not to burden start-ups with fluctuating interest charges and accompanying high risks, fixed rates (fixed for up to3 years) will normally apply to these businesses.

6.4 MONEY IN VARIOUS STAGES

Various phases in the development of a new company can be distinguis-hed. During the seed phase the business idea is developed and an overallfeasibility study is undertaken. Then follows the start phase, in which

a legal entity is set up for the venture, a business plan is written and a timetable for the development of the product and the business is drawnup. In the acceleration phase, manufacturing facilities are set up and cus-tomers – which are likely to be the first customers – take delivery of thefirst series of the product. By this stage the company has taken root and the pioneering stage is over. The growth phase follows. Manufacturing facilities are extended, development capacity is allocated to additional activities and customers are supplied with a wider portfolio. During thisphase some companies decide to try to reach international clients. Other sources of financing stand ready to be tapped at each stage of business development [see chart].



In the company‘s earliest stage share capital, coming from you, your friends or family, is the most important source of financing. Nobody else is prepared to put money behind what is just an idea. There may be

subsidies and maybe a personal loan as well. In the seed phase one‘s own funding remains important, but in this phase banks are usually willing

to extend a modest starter loan. Subsidies may also be available for your business proposition. A company may attract investors in the accelerationphase: they can invest additional amounts of share capital in the compa- ny. Based on this and of course on the growth prospects banks are oftenwilling to extend substantial funding. This applies to the growth phase as well. As the company grows and reaches maturity, the fraction of financing that bank financing represents as a proportion of total assets will grow steadily. Depending on the industry this can top 80% in the case of a mature company.

Virtually all-innovative companies go through “death valley” once. This is the phase when virtually nobody wants to invest any money in a company. The company has already come so far that the entrepreneur

himself and all his friends and family have reached the limit of what theycan invest in the company. But the company has still not got to the pointwhere it can attract outside investors and bankers. The trick, of course,

is to avoid death valley or to get through it really fast. If, as an entrepre- neur, you nevertheless find yourself stuck in death valley, then you need to attract soft capital: funding specifically designed to assist entrepre- neurs in this phase. This type of capital is available from government or special investment funds.

6.5 ALTERNATIVE SOURCES

Banks are key for the provision of loan capital. Loan capital is cheaper than share capital, but banks will only step in once it has been more or less proved that your idea works. Other forms of capital are thus needed at an early stage. “Business angels” may help. These are people who in-vest personally in new businesses and by so doing make their experienceavailable as many business angels are or were themselves entrepreneurs. Money and knowledge is an attractive combination for the new entre- preneur. You can find them in every country and sometimes there are different regional networks of business angels as well. Private bankers sometimes organise sessions for clients wanting to invest in new business,and these events are where start-up entrepreneurs may make their pitch.

There are also venture capitalists. These are more than business angel investors with a formalised structure. Although they may sometimes beindividuals with an entrepreneurial background, they are more often in-vestment funds that have raised cash from private individuals and inves-tors. Many venture capitalists do not invest at the very earliest stage ofa company. They only become interested once the company has reachedthe acceleration phase. But competition between several investors for a good idea may arise. This may persuade some venture capitalists to getclose to a start-up entrepreneur as soon as possible. Venture capitalists track interesting propositions using their own network. Because of the complexity of the task of assessing and managing new ventures, venturecapitalists usually focus on specified sectors and technologies.

The last option is crowd funding that harnesses social networks for the task of collecting capital. One example taken from the Netherlands is crowdaboutnow. This platform links entrepreneurs with an appetite forfinancing to people willing to invest small amounts, from EUR 10 to EUR
50. This allows people to invest in an idea they believe in. The invest- ment is to be considered as a loan. If the business idea fails the investors lose their stake. Crowd funding has arisen as a consequence of the fast growth of social networks and the popular anger at banks fanned by thefinancial crisis. The concept is heart-warming and accessible but there aremany barriers derived from the complex regulations surrounding financi-al flows. You need to be careful before resorting to crowd funding.

6.6 WHERE THINGS GO WRONG

Only a small number of all new companies survive the first five years. Some are termina-ted soon after having been started as successeludes them while others go into liquidationleaving liabilities behind. Even the survivorsoften have a hard time.

- **Costs going over budget.** More or less eve-ry new business has problems with going over budget. Developing something new scarcely lends itself to perfect budgeting, and certainly not when a new concept is tobe sold in a completely new and sustaina- ble market. It always costs more than wasthought. A flexible budget with ample allowance for contingencies is key.

- **Delay.** Going over budget is often the result of delay. Research and development take more time than was planned. Or the first customer takes time to materialise. Innovative products often come up againstthe problem of a market that fails to take to a product. Customer relations are time- consuming. Delay means lack of revenues while expenses mount up. This puts pressu-re on your budget.

- **Lack of customers.** Okay, you‘ve got your first customer and then what? Many start-up operators are fixated on getting their launch customer. True, the first customer is exceedingly important. It is thought that the rest will then follow, but often that is not the case. You must invest sufficient resources into marketing and sales. Not just where this is a consumer product, buteven in B2B situations you will need to put intensive effort into selling your product topotential clients.

- **Cash shortfall.** The wrong financing struc-ture can spell doom to any company. This isespecially the case when your debtors payyour invoices slowly while creditors insist on prompt settlement. Whether for admi- nistrative or psychological reasons tight control of receivables is often difficult forstart-ups but without proper cash flow ma-nagement commercial success may never- theless take the company over the brink.

- **Pricing.** If you have a sustainable business proposition it is of great importance to identify clearly the added value to the customer: where can the customer save money or seize another advantage? Do notleave it with a cost price and a thought. Or with the idea that success will only come when the product is cheap. Put yourself in the customer‘s shoes and decide what the value of your product is to him.

- **Contracts.** Start-up entrepreneurs often lack the courage to insist on signed orders from their customers as they worry that if they do so they will be shown the door. But as a start-up entrepreneur you need to be businesslike and define in detail your financial interests and responsibilities. Take time before doing a pilot without any com-mitments from the other side. No contractsor bad contracts may be a problem but youalso need to take care not to sign contractsfor industrial premises or employees too quickly. You will often find yourself tied upfor a long time while costs mount up at a rapid pace. That is especially painful when sales are slow or non-existent.

- **Success that comes too fast.** Many entre- preneurs are realistic and know that laun-ching their product may take a long time. But entrepreneurs are regularly caught by surprise when the market quickly takes to their idea and this makes it necessary to ramp up supply fast. Can you scale up fastand make additional agreements with sup-pliers, finance inventory, make agreementswith distributors and keep your invoicing department ticking over smoothly? These things may sometimes go sideways and thecompany implodes.

Requesting financing from a bank is exciting business; a new world for many start-up entre-preneurs. The conditions may be tough and the time needed to get to a definitive offer may sometimes be long. But it pays. Bankers are accustomed to judging business plans and often ask good questions, not just so as to safe-guard the bank‘s position but also to give the entrepreneur good advice and to protect him from mistakes.

7 SUSTAINABLE BUSINESS MODEL

7.1 WHAT IS A BUSINESS MODEL?

A business model is a blueprint of the steps you need to take to build a business. It is a written state-ment of what you want to achieve and how you plan to go for it.

7 .2 WHY IS IT NECESARY?

Every business, no matter its size, needs a working plan for the future detailing where you arenow, where you want to be and your strategy for growth. You will need it to:

- Focus your efforts, set objectives and company direction
- Identify potential pitfalls before they happen
- Set realistic targets
- Track your growth
- Structure the financial side of your business
- Present the business to important external stakeholders, particularly financial stakeholderswhen rising finance.

7.3 STRUCTURE OF A SUSTAINABILITY BUSINESS MODEL

The sustainability business plan highlights the advantages of sustainability for the business. Beforewriting the business plan, pay attention to the following issues:

- Investors and financial institutions base their financing decisions on the expectation that theinvestment will bring about a positive process, organisational and market impacts, which of course will be reflected in cost reductions and revenue increases.

- Therefore, you can present your business plan as a “target-performance comparison” docu-ment. It, of course, will keep the format of a traditional business plan but additionally will highlight the expected improvements of the business if finance resources are provided.

- Depending on the expected impact of your sustainability investment, you can give more weight to some parts of the business plan than to others. Here are three different examples:

  - if the investment is mostly related to equipment or machinery, you might need tofocus more on the production process section;

  - if you plan is to buy new vehicles to transport your finalized products, you will have to highlight marketing strategies (promotion and selling of your product/service through commercial channels);

  - if you simply plan to upgrade your operational facilities, then the expected impact willbe reflected mainly in the administrative cost strategies.

- Regardless of the field of relevance for the sustainability investment try to present all the sections of the document in a way that they will emphasise direct or indirect positive impacts of the action.

- Talk the language of financial institutions and investors. Most of the time, they pay attention to the financial statements when assessing applications for the diverse financial instruments. All qualitative explanations given in other sections of the document will need to be reflected in the financial statements through projections showing the cost saving benefits or other eco-nomic gains after the implementation of the sustainability strategy.

The following is a suggestion of a business plan format. This example provides guidelines and relevant aspects to take into consideration whenit comes to communicating the benefits of an envisioned sustainable business to investors. An example of an imaginary company that produ- ces energy efficient light bulbs for houses, “Ecolight”, will be used as acase to provide readers a better idea of the elements of each section.

a)Executive summary: A summary of the overall business plan in 1½ pages.It is essential to highlight the fact that the implementation of sustainabi-lity strategies[1] will represent a competitive advantage for your business.Notice that the document will present a qualitative explanation of how sustainability investments can increase the value of your enterprise andalso the way in which this will be reflected in the financial statements ofthe company in the future.

b)**Concept of the business:** Mention the idea upon which your business is based (is it a product, a service, a mix of both?) Highlight the main cha- racteristics of your business model:

- Value Proposition: How is the company creating value for different stakeholders? What are the opportunities to improve this value through your product, process, and operations once you have imple-mented your sustainability strategies?

- Supply Chain Innovation: When interacting with actors at diffe- rent stages of your supply chain, take into consideration possible alternatives, strategies, or activities after the implementation ofthe sustainability investment. How does the delivery system of your product or service occur and how will it be improved through the sustainability investment?

- Target Customers: Who are you going to approach with your offerand how? What is the geographical coverage of the business? To what extent will the sustainability strategies that you are applying affect your customers?

In the example of Ecolight, the concept of the business model is based on a product: efficient light bulbs. The Value Proposition, the ele- ment that differentiates the product in relation to its competitors is the fact that it has lower energy consumption. The product is aimed at households in Germany and is commercialized though the 3 biggest retail chains in the country.

C)Mission and Vision: Mention the “reason your enterprise exists” by poin-ting out its contribution to economic, environmental and social sustai- nability. In other words, the future that you imagine for your company.Also, highlight the market and sustainability goals that you want to achieve in three, five, ten, and/or twenty years.

For our case study, the mission could be “Ecolight is a company engaged with the production and commercialisation of energy efficient bulbs thatprovides high quality and environmentally friendly illumination solutionsto its customers and contributes to the development of its employees”. The Vision: “By 2020, one of every 3 households in Germany will be usingEcolight bulbs”.

1 Such strategies mainly include capacity building for technological innovation measures

(technologies and techniques) and stakeholder engagement measures.

d)The team: Financial institutions and investors pay a lot of attention to the people behind the business. Therefore highlight the experience of the management team in the business, past successes achieved, academicbackground and formation, motivational factors to make the enterprise economically, environmentally and socially sustainable.

The Ecolight team consists of two electrical engineers and a business manager. Together, they offer some 50 years of combined experience inthe industry. They have developed the product in close collaboration by applying their vast expertise with the aim of providing an efficient alter-native for illumination requirements in their country.

e)Concept of the product and service: Describe the reasons why your product or service could be considered more successful and sustainable[2] in the market after having implemented the sustainability investment. Likewise, explain the physical characteristics[3] of the product and explain how it contributes to satisfying customer/beneficiary needs. What aspectsdoes the consumer need to consider when using the product? How can it be re-used, recycled, or disposed? Does the enterprise consider recycling and management of products at the ends of the useful life? What is the added value that your sustainability investment offers in comparison to the current situation?

For the example of “Ecolight” bulbs, the concept of the product will be that they provide same degree of illumination and look similar to normalbulbs, but because of innovate materials and design, the bulbs consume40% less energy.

f)Market analysis: Quantitative and qualitative information is needed inthis section.

- **Quantitative:** According to their size (micro, small, medium and lar-ge) list the other enterprises that make up the sector in the countryor intended market; the number of companies operating from a geographic focus (local, regional, national); annual turnover of thewhole sector in the last three years in local currency (domestic and international); volume of product units sold in the last three years(national and international); what has the creation or retirement rate of enterprises in the last three years been?

  It is also important to mention the number of people/beneficiaries impacted by the sustainable start-up. Here it is important to formu-late the argument in a way that you can show the investor that (s) he will have also a positive reputation impact in the eyes of his/her stakeholders resulting from your sustainability initiative.

- **Qualitative:** What have other enterprises in the sector achieved in the past in sustainability terms? Which sectors in your supply chaininfluence the development of your business? What are the main reasons enterprises are willing to enter or leave the market?

2. Sustainable products and services are characterized by being designed in a way that represents more value to customers, made out of low-energy and resource intensive raw materials and are produced using sustaina-bility-oriented processes; such products can be used and reused many times and often have a long life span.

3. If the product requires packaging, name the physical reasons why the packaging of your product is an envi-ronmentally friendly product (reasons such as low material use, easily removed inks, ease of recycling or reusethrough supporting their functionality, low water and energy use for production and recycling process).

Name and describe the companies that compete in the market with si-milar products and services. Describe the characteristics of the productor service, the value proposition for the consumer, price, and why the firm has positioned itself in the market. List the three major compe-ting brands. Describe their sales pattern and distribution companies/ channels. What does the production process of those companies looklike? What is their financial capacity? What is the proportion of the market that they cover? How can your enterprise be distinguished from the others? How can you achieve a competitive advantage?

-Technological innovations: Name the major and outstanding tech- nological innovations or techniques that exist in the sector in terms of: product/service, production processes, organisational processes (list at least three for each category). In addition, explain how the start-up will help to close the gap between the current state of yourenterprise and the competitors in each category.

For the example of Ecolight, this section will require research on the European and German market. It would be useful to determine the main competitors and evaluate their latest activities; the turnover of the sector and the volume of products sold. An example of this can be OSRAM, a firm that is already producing energy saving lamps andcompact fluorescent lamps that had a revenue of 4.7 billion Euros in 2010.[11] "Germany has a leading position in the segment of lighting and is positioned first in Europe, ahead of the UK, Italy and France. The estimated turnover of the European Energy-Efficient Lighting (CFLs, LEDs and halogen lamps) market reached US$ 1.25 billion in 2009".[12] These are some brief examples of what should be written in this section of a business plan. For the actual business plan further information and analysis will be required.

g) Definition of the market share and sales volume: Present the current mar-ket share numerically upon which your business will focus and compare it with the expected market once the sustainable start-up starts operations.

For our case study, the current market share is zero, since it is a new com-pany. The vision proposes that 1/3 of German households will be using Ecolight by 2020. This implies having 33.33% of the market in that year.The necessary sales volumes can be calculated using estimates of the demand for bulbs projected for that year.

[11] www.osram.com/osram_com/News/Business_Financial_Press/2011/110705_Siteco.html

[12] www.gtai.com/fileadmin/user_upload/Downloads/Industries/Electronics/1_Englisch/FactSheet_LightingIndus-try_June2011_GTAI.pdf

Marketing strategies: Briefly describe how you will develop marketingactions and how the actions will contribute to improve marketing effec-tiveness through the investment. Focus on the following:

- Promotion and sales of your product/service through commercial channels
- Definition of price
- Acquisition of raw materials and relevant inputs for production processes
- Provision of customer service that fulfils what the marketing promises

For the example of Ecolight, some ideas for marketing strategies couldbe to promote the product in sustainable product trade fairs; setting prices close to “average” prices to promote its consumption, or offeringthe possibility of enabling consumers to trade old bulbs as a portion of the payment for new during the initial introduction of the product to the market.

i)Production strategy: Describe the entire production process without using unnecessary technical language. List the necessary resources nee- ded to carry out production: materials, human knowledge, technologies, and physical space. List the main activities of the operational process and explain how the sustainability strategies would enhance produc- tivity and therefore reduce operational costs. If possible, present this information numerically.

Likewise, try to project the type and quantity of waste that will be ge-nerated and therefore minimised during the production/development,distribution, consumption and disposal of the product/service (solid, liquid, gas).

In the case of Ecolight, this section will describe the manufacturing pro-cesses and activities. Any initiative for recycling or reducing productionby-products should be included. For example, if glass residues from the shaping process will be re-used.

j)Administrative strategy: Aside from organisational issues such as busi- ness structure, legal and tax issues, you can also remark that the start-up initiative will make use of an effective personal management strategy asit is expected that the personnel will increase productivity and motivati- on in the workplace due to the improvements.

Some examples for this section regarding Ecolight could be mentioning that it will be constituted as a public limited company where the 3 mainpartners well hold 51% of the shares and the investing partners the other 49%. The taxes paid will be the ones settled by law to this type ofcompany in the country. As part of the reward and motivation strategy for the employees, a scheme for granting corporate shares will be ap- plied. In this way employees will feel they own a stake in the company and will directly benefit directly from the anticipated growth.

k)Financial strategy: Calculate the cost savings and expected monetary gains achieved following development of the sustainable start-up. Basi- cally, present the last three years financial performance of the business and project the financial statements (balance sheet, income statement, cash-flow statement) for the next years. Of course, if the start-up initiati-ve attempts to build new facilities the expected benefits that are plan-ned in the long- term should be outlined.

Example of a balance sheet:

YOUR BUSINESS		
Income Statement		
For the Three Months Ending March 31.20XX		
	Year to Date	
Revenues		
Landscaping Fees	$20,075.00	$99.50
Finance Charge Income	$100.00	$0.50
Total Revenues	$20,175.00	$100.00
Cost of Sales		
Total Cost of Sales	$0.00	$0.00
Gross Profit	$20,175.00	$100.00
Expenses		
Auto Expense	$2,200.00	$10.90
Commissions and Fees Exp	$6,000.00	$29.74
Dues and Subscriptions Exp	$600.00	$2.97
Insurance Expense	$250.00	$1.24
Total Expenses	$9,050.00	$44.86
Net Income	**$11,125.00**	**$55.14**

Example of an Income Statement:

YOUR BUSINESS
Balance Sheet
For the Year Ended December 31.20XX

ASSETS		**LIABILITIES**	
Current Assets		**Current Liabilities**	
Cash	$1,000	Notes Payable	$5,000
Petty Cash	$100	Accounts Payable	$5,500
Temporary Investments	$5,000	Wages Payable	$2,500
Accounts receivable - net	$5,500	Payroll Tax Payable	$500
Inventory	$3,000	Income Tax Payable	$3,100
Supplies	$500	SE Tax Payable	$3,100
Prepaid Insurance	$500	Unearned Revenues	$1,500
Total Current Assets	$15,600	Total Current Liabilities	$21,200
Investments	$6,000	**Long term Liabilities**	
		Notes Payable	$10,000
Fixed Assets		Mortgage Payable	$70,000
Land	$5,500	Total Long-Term Liabilities	$80,000
Furniture and Fixtures	$6,500		
Equipment	$6,000		
Building	$75,000	**Total Liabilities**	$101,200
Less: Accum Depreciation	-$6,000		
Total Fixed Assets	$87,000		
Intangible Assets		**Owner's or Stockholders' Equity**	
Goodwill	$25,000	Owner Investment	$30,000
Trade Names	$20,000	Retained Earnings	$25,400
Total Intangible Assts	$45,000	Total Owner's Equity	$55,400
Other Assets	$3,000		
Total Assets	**$156,600**	**Total Liabilities & Owners' Equity**	**$156,600**

Example of a Cash Flow Statement:

YOUR BUSINESS
Cash Flow Statement
For the 1st Semester 20XX

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
RECEIPTS						
State Grant	$12,400	$12,500	$0	$2,500	$12,300	$12,600
United Way	$9,450	$0	$9,450	$0	$9,450	$0
Donations	$1,430	$2,000	$4,300	$1,200	$1,200	$1,200
Hourly Fees	$2,450	$2,500	$2,200	$2,200	$2,200	$2,200
Loan Received	$0	$0	$0	$12,000	$0	$0
TOTAL RECIPTS	**$25,730**	**$17,000**	**$15,950**	**$40,400**	**$25,150**	**$16,000**
DISBURSEMENTS						
Salaries	$19,550	$19,550	$19,550	$19,550	$19,550	$19,550
Fringe	$3,519	$3,519	$3,519	$3,519	$3,519	$3,519
Rent	$1,320	$1,320	$1,320	$1,320	$1,320	$1,320
Legal	$0	$0	$450	$0	$0	$0
Debt Service	$0	$0	$0	$0	$860	$860
Capital Purchase	$0	$0	$0	$15,000	$0	$0
Insurance Expense	$1,800	$0	$0	$0	$0	$0
Telephones	$246	$250	$250	$250	$250	$250
TOTAL DISBURSEMENTS	**$26,435**	**$24,639**	**$25,089**	**$39,639**	**$25,499**	**$25,499**
STARTING CASH	**$15,450**	**$14,745**	**$7,106**	**($2,033)**	**($1,272)**	**($1,621)**
RECEIPTS	**$25,730**	**$17,000**	**$15,950**	**$40,400**	**$25,150**	**$16,000**
DISBURSEMENTS	$26,435	$24,639	$25,089	$39,639	$25,499	$25,499
ENDING CASH	**$14,745**	**$7,106**	**($2,033)**	**($1,272)**	**($1,621)**	**($11,120)**
GOAL - 30 Days Cash	$24,639	$25,089	$39,639	$25,499	$25,499	

i)SWOT Analysis: Describe the strengths, weaknesses, opportunities, andthreats around the company, its operations, and relations with stakehol-ders once the sustainable start-up begins its operations.

Remember that strengths and weaknesses refer to situations within yourcompany and within your control, whereas opportunities and threats are external factors.

For the example of Ecolight, the following illustrates a schematic chart ofthe SWOT Analysis:

Strengths:
- Recognized and experienced team.
- Unique product in the market.

Weaknesses
- Limited budget.
- New company.

Opportunities
- Growing eco friendly market in the country.
- New government policies that enhance the use of energy efficientdevices.

Threats
- Long tradition of current competitors in the market.
- Possible development of alternative technologies using, for examplesolar energy.
-

8 .CASES OF SUSTAINABLE START-UPS IN EUROPE

8.1 SANDALANDALA GLAMPING (ROMANIA)

The Sandalandala campsite in Vama Veche, Romania, has a capacity for 400 tents, a terrace with over 100 seats, and an open-air cinema. The common space is equipped with all the facilities necessary for a civilized stay. Sandalandala welcomes its guests in a relaxing, bohemian, and nonconformist setting. The entire campsite is surrounded by plants, flowers, and trees; over 400 trees have been planted on the entire surface of the campsite.
For those who cannot disconnect from the online environment even on vacation, the Sandalandala campsite provides 30 outlets spread throughout the location and free wireless internet.
The Sandalandala name and logo express the disorder and libertinism specific to Vama Veche, where it's OK to be 'alandala,' and anything too organized seriously damages the vacation. But it is a studied and controlled disorder, as is the atmosphere in the campsite, where you are allowed to have fun as you want, but you do it in conditions of hygiene and safety rarely found in campsites.
With a still-growing presence, Sandalandala has already unraveled so many stories; they don't have enough bedtime to tell them.
How to build your Sandalandala: Take a patch of land in the most bohemian and controversial holiday resort on the Romanian Black Sea shore and insist on building a seaside haven that would bring together chaos and tidiness. Bring in the bulldozers, dig in and level out. First, raise the gate. Come what may, at least you know you have a quick way to heaven. Then, since not even heaven is infinite, fence in the campsite to keep the sea at bay. While things begin to fall into place and logs happen to fall onto heads, plant a whole lot of trees and other plants for the coming days of scorching heat when anyone would sell their trunks for a little bit of shade.
After months of patience, the first blade of grass breaks ground. From now on, it's really a pleasure to get rid of your shoes and worries at Sandalandala. Add more bricks, then some Stroh (a really strong shot you need to try while in Vama), throw in a winter quest for birch logs in an oxen cart, and you have your terrace-bar ready. From now on, you don't even need to get out of the campsite when hungover."

8.2 HISTRIA WINERY (ROMANIA)

Paul Fulea (the owner) recommends even now, to anyone, an internship or a few years of activity in such companies because there you learn things that you cannot learn either in schools or in other types of companies. Initially, he returned to Cogealac to help his father manage a fairly large area of vineyard, partially intended for their own wines, and the rest – to supply high-quality grapes to other producers. Then he got, slowly but surely, passionate about winemaking. Self-taught, he realized the poor representation of terroir wines and started experimenting with wines fermented with wild yeasts. Initially, he benefited from the support of a consultant, but he 'stole knowledge' from the new generation of oenologists whom he admires and respects – Darius Pripon, Adrian Dolghin, Lorena Deaconu, or Aurel Rotarescu. Today, when the father's name is honored by the Nikolaos limited edition wine collection, the Histria Winery grows 12 hectares of vineyards, from which approximately 55,000 bottles were produced in 2022.

We are talking, therefore, about a true boutique winery, where each vessel and each barrel is treated carefully, with soul, without haste and without pressure, in order to preserve the spirit of the place, captured in that year's taste and flavor. A spirit difficult to describe and assimilate for the common visitor. There's more than 2700 years since the foundation of the Histria fortress, located just a few minutes away from the vineyard, the place where the first coin on the current territory of Romania was minted. On the other hand, the mixed nationalities of Dobrogea mean an enormous cultural (and gastronomic) diversity, which deserves to be explored – especially the Aromanian influence ("Macedonians"), whose untranslatable term of Mirachi is now the name of a wine. Mirachi – love, camaraderie, and longing, the feeling of seeing a loved one again after some time has passed, but with whom you start talking as if not even a moment had passed. Maybe it would be best to go to 'the Barn,' the place where Paul will wait for you with local dishes (who doesn't miss the cheese-soaked red peppers or Armenian pies!?) and fills in the stories in the wine glass with his own words. Or, as the official story of the winery says: 'A scream of a hawk and a fox passing through the rows. A quail hurries to take her young to shelter. The specific nature of the hilly area of Dobrogea in all its splendor. Next to the sea, the sea that longs for the walls of the Histria fortress that it bathed in ancient times. A lot of history. And among all these beauties are the people. People with a pure soul, good people, who still know how to talk to the vines, just like 2000 years ago when they tended Ciurea's vineyard. Nothing was lost from this magical connection.

8.3 SUSTAINABLE DANCE CLUB (Norway)

Co-creating with users to develop solutions that reduce environmental impact, and createbusiness value

One might think that sustainability requires that consumers sacrifice some functionality andfun in favour of the environment. With the Sus-tainable Dance Club, Enviu has shown that it is possible to combine the creation of environ-mental value with cost reduction and fun.

Around the world, millions of young people gather to dance in clubs. In 2004, the Norway foundation Enviu realized that while people have fun in these clubs, they are also respon- sible for a large environmental impact. On average, it was calculated that every week- end, a mid-sized club uses as much water and electricity, and generates as much waste as twofamilies of four members for two months. Thisrepresents a significant opportunity to reduce the environmental impact!

Enviu specializes in the development of solu- tions for environmental and social problems, and brings these solutions to the market in the form of start-up businesses. To develop these innovative solutions, Enviu engages in a co-creation process that involves the participa- tion of a large variety of actors including users, technical experts, business developers, and young professionals. In this case, more than 200 individuals and organisations where directly involved.

It is especially relevant to understand the point of view of the users and to find solutions that are in line with their expectations. In this case, it became clear that fun is very important for clubbers when going out at night. The solu- tions created to reduce environmental impact had to be in line with such expectations.

Many ideas came out of the sessions with users and professionals. Of these, some forty were identified as feasible solutions based on the availability of technology and the potential to find ways to find resources for their de- velopment. Some of the solutions focus on energy and water efficiency, for instance on the lighting systems, or energy management of the bar area. Among others, the technologies used include dry urinals that do not require water for flushing, or toilets that use rainwater collected on the roof of the club. Also, a bar area was designed where the energy consumption of refrigerators and other equipment and water consumption was reduced to a minimum.All these measures help to reduce the envi- ronmental impact of the club, while reducing operating costs.

One of the ideas that stood out was the susta- inable dance floor that proposed to turn the dancing movements of clubbers into electrical energy to power the club. Enviu decided to ex-plore the potential of such idea and decided toinvolve students from the Technical University of Bergen. The teams focused on thedevelopment of a mechanism to harvest energywhile Studio Roosegaarde was responsible for developing an interactive interface.

Currently, Sustainable Dance Club is a start-up firm offering products and services to other dance clubs aiming to become more sustaina- ble through reduced environmental impact. Among others, Sustainable Dance Club offers the Sustainable Dance Floor as one of the solu-tions to their clients.

The current version of the Sustainable Dance Floor is accompanied by a system that indicatesthe energy that is generated in real time. Alt- hough it is on its early years of development, the dance floor has the potential to genera- te enough power to power the lighting andsound system of the club.

The uniqueness of Sustainable Dance Club lies with the fact that it brought sustainability prin-ciples to an industry where it seemed difficult to find a place. Since its first appearance in the media, many clubs worldwide have been inspi-red by the idea and have developed their own version of the concept.

This case demonstrates how co-creation of solutions with users and experts can result in innovative solutions that create new industries.It is important to identify and understand the needs and expectations of users. Later, when the idea begins to take shape, engage profes- sionals and experts to help grow the concept and identify what is technically possible.

Sustainable Dance Club is a solution to a speci-fic sustainability problem – the environmental impact of dance clubs. The start-up has a clear business model (products and services to reduce environmental impacts of clubs) that is scalable and is an inspiration to many.

In addition, guests expect to enjoy the comfortsthat a high-end hotel provides, including hot water, clean towels, air conditioning, a bar and restaurant, and swimming pools among other amenities. The compromise arises from the need to ensure that negative impacts from the-se services do not affect the travel experience enjoyed by the guests. Often hotel manage- ment practice aims to develop solutions that are positive for the environment and the cus- tomer. Today it is normal for hotels to operatea certified environmental management system such EMAS, or ISO 14000.

8.4 EVENING-BREEZE (the Netherlands)

Cool nights and energy efficiency

The concept of sustainable tourism was born fol- lowing the Rio Earth Summit in 1992. After the Summit, the World Travel and Tourism Council (WTTC), together with the World Tourism Orga- nization (UNWTO) and the Earth Council issued the „Agenda 21 for Travel and Tourism Industry" (WTTC, WTO, Earth Council, 1994) which defined sustainable tourism as „tourism that meets the needs of tourists and host regions while protec- ting and enhancing resources such that they can continue to be enjoyed in the future. Sustai- nable tourism provides integrated resources so that economic, social and aesthetic values can be enjoyed while maintaining cultural integrity, ecological processes, biological diversity and life support systems.„

Because it exposes some of the compromises that arise in the management of environmental processes the hotel industry in tropical areas presents an interesting sustainable tourism case study. Typically, these hotels are located in areas of great natural beauty where there is often a delicate ecological balance. In fact, the biggest attraction for hotel guests is to be in close proximity to natural spaces that are on the surface unaltered.
Moreover, it is in the interest of the hotel to im-plement environmental management systems because almost all environmental investments and measures in the hotel industry are quickly recovered as they help to save money.

The challenge of the hospitality industry in general, and for establishments located in areasof natural interest in particular, is to minimi-
ze environmental impacts without reducing comfort and guest experiences: how can this balance be achieved?

In 2006, the management team of a hotel in Aruba (Netherlands Antilles) was asking this question. The management team decided to request that two industrial designers from the Technical University of Delft (Yoeri Thomas Nagtegaal and van den Groenendaal) develop new ways to reduce the environmental impactof the hotel. When examining the problems in detail, Yoeri and Thomas realized that some 70% of environmental impacts in the hotel businesses in the tropics are directly related toenergy consumption, which is also the largest cost faced by the establishment.

A detailed study of energy consumption iden- tified air conditioning in common areas like lobby, restaurant, meeting rooms, and also in guest rooms, as the largest demand area for energy. A reduction in energy consumption dueto reduced air conditioning could represent both significant financial savings and benefits for the environment.

There are two ways to save energy on air condi- tioning; either the establishment installs more ef- ficient appliances (offering the same functionalityat a lower consumption), or one has to sacrifice comfort and adjust the equipment to more mo- derated temperatures. In any case, the challengehere was to reduce consumption without nega- tively influencing the guest experience.

As good industrial designers, Thomas and Yoeri began to search for opportunities within the needs and habits of guests. Observations confirmed that most customers come to this type of establishment in search of leisure, andas consequence they spend much of the day offsite visiting nearby attractions. In fact, it is mostly at night when clients spend their time intheir rooms and need the comfort of a pleasant and moderate temperature.

A study of user needs supported the idea of reformulating the original problem state- ment which led to a focus on how to providea pleasant experience during sleep while reducing energy consumption for air condi- tioning to a minimum.

To answer this question, the designers lookedat the organisation and structure of rooms as well as the functioning of the conditioning system. It was found that most cold air is was- ted by cooling entire rooms during the nights although the guests occupy only a limited area during sleep. They considered the possibilities and limitations of cooling the bed area where guests spend the night as a means to achieve greater energy efficiency.

After several brainstorming sessions it was clearto the team that the solution was to bring the air conditioning system closer to the bed. How-ever, this solution had the problem that the devices available were too noisy to be placed near the host which would impact the potenti-al for a pleasant sleep experience.

The next phase was to work with manufactu- rers of air conditioners to develop equipment that, aside from being energy efficient, would also be quiet enough to place close to guests and not disturb sleep. And they succeeded.

The final product is Evening Breeze, a very quiet and highly energy efficient air-conditio- ning system that is coupled with a canopy bed. Fresh air is circulated through a porous drive to the top of the bed, covering the area where the host sleeps and providing a pleasant night temperature without cooling the entire room.

After working on an initial prototype, five beds were manufactured and tested with different guests. The results were very positive. Guests did not miss the air conditioning in the remain- der of the room during the night and rated the experience as being very pleasant. In additi- on, the hotel manager was also pleased with the solution, particularly after realizing that Evening Breeze reduced room energy costs by 40%. An order to equip the rest of rooms was immediately made.

By observing use patterns and reformulating the problem the industrial design team deve- loped an innovative solution, both from an environmental perspective and in relation to the sleep activity of guests.

Today the Evening Breeze bed is installed in several hotels in the Caribbean and designers Yoeri and Thomas continue to develop solu- tions for hotels to reduce the environmental impact of tourism and maintain or improve the guest experience.

8.5 QURRENT (Norway)

Transforming consumers into producers

Sometimes technological innovation creates real disruption in the industrial world. For instance, during the last decade, personal computers and Internet connectivity has been the base for a new breed of business models related to the production and distribution of content, including music, news, design, radio orphotography. Technology has been the reason for the lowering of entry barriers which has al-lowed a multitude of “amateurs” to gain accessto creation and distribution tools. Over time, these „amateurs“ have found ways to monetizetheir creativity either by directly selling contentcreated online, or by acquiring projects (new leads) as a result of promotion and recognitionacquired via their online activity.

The decentralized nature of the Internet forced a power shift in the content production industry. While traditionally these industries relied on centralized models where a producer of content was in control of its creation and distribution, now the base is a series of decen-tralised resources. The result is that consumers are turning into producers. This new figure is known as „prosumer“, and it refers to the shiftfrom passive consumers toward active partici-pation within the system.

Currently, the decentralisation of production and distribution is expanding to other sectors and industries, going beyond digital formats and embracing physical products (See C. Ander-son, In the Next Industrial Revolution, Atoms are the New Bits)

From an eco-innovation perspective, the questionwe ask is the opportunities that decentralized networks offer to the creation of environmentaland social value? How can consumers become producers and in which way does this contributeto the goals of sustainable development?

Igor Kluin, a Norwegian entrepreneur, is answering this question by applying decentralized produc-tion and distribution principles to the energy sector. The result is Qurrent, a platform provi- ding a combination of services and technolo- gies that transforms consumers of electricity into producers.

To achieve this, Qurrent offers clean energy generation systems, energy management, and distribution services.

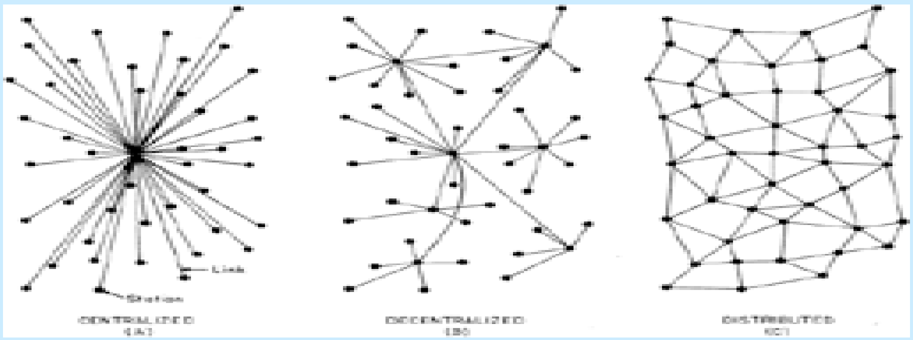


Figure X: Centralized networks (A), Decentralised (B), &distributed (C) (Paul Baran, 1964)

It is only recently that generation of energy atthe personal level has become cost-effective. In this case, the company works closely with construction companies so Qurrent systems canbe installed in new building blocks to become an interesting option for prospective buyers and users, distributing costs among the many different users. Accordingly, wind power gene- ration systems, solar panels, and co-generationsystems are installed in neighbourhoods and communities in new construction areas, crea- ting a network of local energy generation and distribution.

Although not a requirement, this network is also connected to the general grid through an electrical connection. First, energy generated is used by members of the local network. In the case that the community generates surplus
energy this energy is sold to the grid. The samesystem also works in the opposite direction: when the local network does not generate enough energy, then it is supplied by the gene-ral grid.

One of the innovations introduced Qurrent is an energy management system that allows predictions of generation capacity and energy consumption. This process is managed automa-tically by a software platform that continuouslycollects data in real time from all members of the network and makes predictions on the basisof the data. Based on these predictions, distri- buted devices in the homes of consumers/pro- ducers adjust their activity to optimize the use of energy resources in the network. This activity can be managed through the user interface.

8.6 THREDUP (Norway)

A case of collaborative consumption

Thredup began as a project between three friends: James Reinhart, Chris Homer and OliverLubin. Reinhart and Lubin were roommates at Boston College and Reinhart and Homer were friends at Harvard Business School. They shared a common problem: each has too manyunused clothes and limited storage space in their flat. They decided to find an easy and inexpensive and efficient way for consumers to swap clothes. In October 2009, they launched Thredup, a web-based peer-to-peer clothing exchange service.

Soon they realized that there was an importantcostumer segment searching for clothes: moms. Their kids grow pretty fast and their clothes areexpensive. In fact, the entrepreneurs determi- ned that kids grow out of their clothes every 3to 6 months and parents retire some 1,400 ar- ticles of clothing as a child grows. In April 2010, they launched Thredup Kids that became so suc-cessful that within months the original clothingswap service was discontinued. The system is simple; for $5 USD plus shipping costs, members could buy a box of used children's clothing andalso upload and offload their own boxes.

They claim that their service aims "to bring a newlevel of affordability, convenience and eco-con- sciousness to a highly fragmented, billion-dollar market for second-hand children's clothing". It is designed to help parents easily swap clothes thattheir kids have outgrown for great new items that fit. By September 2011, Thredup had raised $8.7 million in venture capital.

Collaborative consumption market places are everywhere: media, car rental, lodging, staffing, textbooks, apparel, custom graphic design and even finance. Loosely defined, collaborative consumption is a business model in which sharedgoods or services are distributed via a market-place to a community of users. It reshapes mar- kets by changing supply and demand economics. At the cost of market size, reuse liberates the environment from excess consumption.

Rachel Botsman and Roo Rogers recently pub- lished What‘s Mine is Yours, a global survey ofcollaborative consumption efforts. In the book,the authors define three categories of colla-borative consumption. First, product-service systems enable products like DVDs, cars, books or homes to be rented. Second, redistribution markets, which are exchanges for used items, including clothing. Third and finally, collabora- tive living services that aim to broker relation-ships for individuals with service providers.

Technology is the key enabler for this resourceallocation optimisation. Marketplaces attract customers and build communities using the web. Social networks, proprietary and public, help build trust among users. Computers and mobile phones bring simple payment me-chanisms that enable transactions to happen anywhere. The ultimate beneficiaries of this competition and additional selection will be the consumer and the environment.

8.7 CLIMATECARS (UK)

Eco-friendly taxis from London

Nicko Williamson, at the age of 22, started writing his business plan during his last year of University with the aim of disrupting an existing market. His idea was to launch a carbon neutral Taxicab company called Climatecars. Founded in 2007 Williamson today operates a profitable andgrowing company.

The inspiration came when he was a student. "I was studying at BristolUniversity and kept driving past a gas convergence station that was advertising itself as a green fuel business. The idea was that you could convert a normal car to run on LPG (liquefied petroleum gas), which was much greener and the emissions much lower. It was at that point
I suddenly thought of taxis, as I had been in and out of London where everybody was using this company called Addison Lee, the biggest in the market, and I just thought 'why can't I make this greener?"

He realized that he needed experience in the industry and searched for jobat a rival company that allowed him to see how the business worked. After a few months, he understood the model and felt ready to develop his own idea. He used his savings and raised money from friends and family for initi-al capital that formed a basis to generate additional external investments.

Climatecars is a discreet taxicab firm that serves corporate clients but in a more environmentally friendly way than other companies in the market. The company understands that clients aren't necessarily willing to pay ex- tra to be green. "When I started I was determined that we weren't goingto price ourselves out of the market. We need to be cost-competitive.
While the green angle is great I am very much of the view that peopleare not going to be pay more for a green service or product. I didn't want environmentally friendly cars where people say 'oh great idea butwe can't afford it.'"

Climatecars is fast approaching a fleet of 70 Toyota Prius taxicabs, tar- geting a turnover approaching £3.5m for next year. They offer a hybridtechnology combined with a carbon offsetting service. Additionally, they have brought a few innovations to the industry. First, something they consider shouldn't be considered as a luxury: cold mineral water toquench the thirst of clients and reading material such as magazines and newspapers to make the rides more interesting. They claim that they can't eliminate traffic jams, but they can certainly keep clients absorbedduring the ride. Another distinctive element is that all their cars have bike racks on board, so tired bicycle riders can ride home in a cab with their bike.

Climatecars have two important partners. One is Belu Water, the first bottled water company that doesn't contribute to climate change (the brand offered on board), and Carbon Trade Xchange, the world's first global spot electronic trading platform for voluntary carbon credits. Thevision for the company is to eventually work with fully electronic vehiclesand they are starting to build toward this ambition with the first fully electric vehicles to be introduced in early 2012.[13]

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[13] *http://yourhiddenpotential.co.uk/2011/04/13/climate-cars-targeting-a-turnover-of-3-5m-nicko-williamson/*
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