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Pedagogical handout

Entitled

Management of creativity and innovation

Designed for students S2, Master1, Speciality Management, LMD system

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Management of creativity and innovation

INTRODUCTION

The fast and constantly changing world of business requires companies to grow and maintain a sustainable competitive advantage. From this perspective, creativity and innovation have become key concepts for organizations wishing to thrive in a highly competitive environment. Creativity and Innovation Management involves implementing processes and strategies to promote the production and implementation of new ideas.

Companies are increasingly recognizing that creativity and innovation are essential leverages for their long-term growth and survival. By encouraging and enhancing the creative talent of their employees, organizations can push the boundaries of conventional thinking and discover new opportunities to differentiate in the market.

Creativity and innovation management also involves creating an enabling environment for creativity, where ideas are encouraged, developed and put into practice. This requires a corporate culture that values risk-taking, lifelong learning and collaboration, while fostering confidence and openness.

It is also essential for organizations to develop effective innovation management processes, in order to transform creative ideas into concrete results. This may involve the implementation of specific project management methodologies, the use of tools and techniques to evaluate ideas, and the development of external partnerships to promote knowledge transfer and co-creation.
Creativity and innovation are key drivers of competitive advantage for organizations in today's dynamic business environment. By fostering a culture that nurtures curiosity, encourages calculated risk-taking, and values both successful and unsuccessful ideas, leaders can unlock their team's potential and propel their organizations towards sustainable success.

Organizations that prioritize creativity and innovation tend to outperform their peers financially.

By embracing creativity as a competitive advantage and taking concrete steps to nurture it throughout the organization, leaders can drive innovation, growth and long-term success

Creativity, innovation, and competitive advantage are deeply interconnected. Creativity fuels innovation, which in turn creates and sustains competitive advantage. Companies that foster a culture of creativity and innovation are better positioned to achieve and maintain a competitive edge in the market.

A-Objectives

In this handout, dedicated primarily to students enrolled in S2, Master 1, specialty Management, we will explore the different dimensions of the management of creativity and innovation in business organizations.

The development of a handout on the management of creativity and innovation has several objectives, such as:

Provide students or professionals with in-depth knowledge of key concepts related to creativity and innovation in the context of management. Provide practical tools and methods to stimulate creativity and foster innovation within organizations. Explain the different management approaches and strategies that promote an environment conducive to creativity and innovation. Highlight best practices and inspiring case studies to illustrate how companies have succeeded in innovation through effective creativity management. Encourage reflection and discussion on the importance of creativity and innovation in an ever-changing and competitive world.

In other words, the main objective of developing a handout of the creative and innovation management paper is to provide theoretical and practical knowledge to enable students to develop their creativity and innovation management skills in a professional context.

After proposing some general definitions of the concepts of creativity and innovation, we will demonstrate their importance and usefulness.

In a first chapter we will deal with some theories of creativity and innovation with a little more emphasis on the theory of innovation of Joseph Schumpeter considered the precursor, the pioneer in this field.

The second chapter will be devoted to the study of the basic principles of creativity and innovation management.

Indeed, by combining a strong culture of innovation with appropriate leadership and motivation, organizations can nurture creativity and innovation, and thus generate new ideas, develop new products, services or processes, and remain competitive in today's rapidly changing market.

The third chapter will be devoted to the study of methods and tools for managing creativity and innovation

Methods and tools for managing creativity and innovation are essential to nurturing and implementing new ideas within a company. Among the most commonly used methods are divergent thinking, which encourages the generation of a large number of ideas, and convergent thought, which enables the evaluation and selection of the best ideas. Tools such as brainstorming techniques, heuristic maps and evaluation matrices are also used to facilitate the process of creativity and innovation. Moreover, project management and change management are important tools for implementing and managing innovative ideas. The adoption of these methods and tools promotes the culture of innovation within the company and contributes to its growth and competitiveness.

The fourth chapter will address challenges and solutions in the management of creativity and innovation

We will examine the factors that foster individual and collective creativity, strategies to stimulate innovation, and the challenges and opportunities associated with managing this process.
In the fifth chapter entitled: Examples of Good Practices in Creative and Innovation Management we will analyze best practices and case studies of companies that have succeeded in establishing a culture of innovation and exploiting their creative potential to differentiate themselves in the market.

In the sixth chapter, entitled Intellectual Property and Innovation, we propose definitions of intellectual property, how it protects the rights of creators and innovators, encourages investment in research and development, promotes fair competition, stimulates the sharing of knowledge and facilitates the transfer of technology. All of these contribute to the promotion of innovation and economic progress.

In the seventh chapter, Innovation Challenges and Opportunities in a Changing World, we try to demonstrate that by investing in creative management processes and encouraging a culture of innovation, can explore new paths and find innovative solutions to meet the challenges of tomorrow.
It is becoming clear that creativity and innovation management has become an imperative for organizations that want to remain competitive and thrive in a changing environment. By investing in creative management processes and encouraging a culture of innovation, companies can explore new paths and find innovative solutions to meet the challenges of tomorrow.

B- Definition of creativity and innovation

There is a range of definitions of creativity and innovation according to authors and contexts[1]:

-Creativity can be defined as the ability to generate new and original ideas, to combine existing elements in new ways, and to solve problems in an innovative way. (Amabile T. , 1983)
-Innovation can be defined as the successful implementation of new ideas, practices or technologies that add value to an organization (Drucker P. , 1985).

According to the European Commission, innovation is "the implementation of a new or improved product (good or service) (or process, method or system) that creates value for the company, the economy or society" (OPEC, 2004) .

-Henry Chesbrough defines open innovation as "the process of combining internal and external knowledge in order to create value" (Chesbrough H. , 2003).

[1] See appendix 1: A literature of innovation

C-importance

Creativity and innovation management is essential to as it enables them to remain competitive in an ever-changing environment. Creativity and innovation management plays a crucial role in' survival and growth in an increasingly competitive and ever-changing environment. It is important for companies to adopt a proactive and strategic approach to foster creativity and encourage innovation within their organization.

It is important for the following reasons:

-Adaptation to change (Teece, Pisano, & Shuen, 1997)

In an ever-changing world, must be able to adapt quickly to new realities and new consumer demands. Creativity and Innovation Management enables companies to be agile and flexible, helping them develop new ideas and explore new opportunities.

It is important for companies to develop "dynamic capabilities" that enable them to quickly adapt to changing competitive environments, innovate and seize new opportunities.

-Continuous improvement (Kelley & Littman, 2001): Creativity and innovation management drives companies to challenge the status quo and constantly seek ways to improve their processes, products and services. This promotes a climate of continuous progress and constant innovation within the company.

-Responding to changing customer needs (Harari, 2015): The needs and expectations of customers are changing rapidly. Creativity and Innovation Management enables companies to understand and anticipate these changing needs by developing new products and services that meet customer expectations. Creativity and innovation management enables companies to develop new ideas, new ways of doing and original products or services. This gives them a competitive advantage by allowing them to stand out from their competitors and attract customers.
Employee engagement: Creativity and innovation are key factors in motivating and engaging employees. When employees are encouraged to share their ideas, participate actively in finding solutions and contribute to innovation within the company, they feel valued and involved.
Creativity and innovation management is therefore essential for companies to remain competitive and differentiate in the market, adapt to change, continuously improve, engage employees and respond to customer needs. Without effective management of creativity and innovation, companies risk being outstretched by their competitors and losing their market advantage.

D- A short history of creativity and innovation

The history of creativity (Gardner, 1993) dates back to the very origins of humanity, when early humans sought to survive and adapt to their environment. Creativity manifested itself through the creation of tools, the development of hunting strategies, and then rock art, as

evidenced by the paintings in the Lascaux caves, dating back to prehistoric times. Over the centuries, this ability to innovate has been fundamental in the development of civilizations. Greek philosophers, such as Aristotle and Plato, explored the role of imagination and intuition in creative thinking.

With the Renaissance, creativity became central, symbolized by figures like Leonardo da Vinci, who embodied the convergence of the arts, science, and technology. The modern concept of creativity, for its part, emerged in the 20th century, influenced by schools of thought such as Freud's psychoanalysis, which explored the depths of the human mind, or the work of Guilford and Torrance, pioneers in the psychological study of creativity.

According to Howard Gardner, in his book Creating Minds (1993), creativity manifests differently across various fields, whether in science, art, or politics. Thus, the history of creativity is that of an essential human capacity that, throughout the ages, has contributed to shaping the world we live in today.

The history of innovation (Schumpeter J. , 1942) is closely linked to that of humanity, marked by technological, social, and cultural advancements that have transformed daily life and the progress of civilizations.

Since Prehistory, innovation took shape with the discovery of fire, the creation of stone tools, and agriculture, allowing early societies to structure and develop. Antiquity saw the birth of major innovations, particularly in Mesopotamia with the invention of writing and in Egypt with the monumental architecture of the pyramids.

Later, the Roman Empire innovated in engineering, law, and governance. However, it was during the Renaissance that the modern concept of innovation truly took shape, with iconic figures like Leonardo da Vinci and Galileo, who revolutionized scientific and artistic thought. The industrial age, in the 19th century, marked a decisive turning point, with technological innovations such as the steam engine, the railway, and electricity, which transformed societies on an unprecedented scale.

More recently, the digital age and information technologies, such as the Internet and artificial intelligence, have propelled innovation into a new era, disrupting lifestyles and economic dynamics. Joseph Schumpeter, an Austrian economist, introduced the concept of "creative destruction," describing innovation as a process where new technologies replace old ones, leading to cycles of economic and social transformation.

According to his work Capitalism, Socialism and Democracy (1942), innovation is the driving force of capitalism, as it generates productivity gains and creates new opportunities, while rendering existing industries obsolete.

CHAPTER I- CREATIVITY THEORIES AND INNOVATION THEORIES

SECTIONI - CREATIVITY THEORIES

There are several theories of creativity that have been developed by different thinkers. In this handout, we will cite some theories and the thinkers associated with each of them: One of the main theories of creativity is that of Paul Torrance.In addition to this, there is the theory of the creative process of the psychologist Graham Wallas, the divergent thought theory developed by psychologist J.P. Guilford, the theories of force fields developed by Kurt Lewin, the association and combination theories developed by the English philosopher Francis Bacon, and also the creative contexts theory by the psychologist Mihaly Csikszentmihalyi.
These theories of creativity offer different perspectives on the processes and conditions that promote the creation of new ideas and new forms of expression.

Let's look at them in more detail:

Under Section 1 -Paul Torrance's Theory of Creativity (Torrance, 1974)

Paul Torrance was a renowned American psychologist known for his work on the measurement and development of creativity. He made a major contribution to the field of creativity, by developing a widely used creativity test, known as the Torrance Creative Thinking Test. (Torrance Tests of Creative Thinking, TTCT).

A-Paul Torrance’s specific contributions to the field of creativity Torrance's Creative Thinking Test:

Paul Torrance has developed a creativity test that measures several aspects of creative thinking. This test, known as TTCT, evaluates fluency, flexibility, originality and the development of ideas. It is used worldwide to identify and evaluate the creative potential of individuals.

Creativity Development: Torrance has also studied how creativity can be encouraged and developed in individuals. It highlighted the importance of teaching and learning creative strategies, as well as the role of creative educational environments.

Divergent and convergent thinking: Torrance has distinguished divergent thinking (generating a wide range of ideas) from converging thinking (finding the best answer to a problem). He highlighted the importance of divergent thinking in creativity and encouraged its development through brainstorming and unconventional problem-solving exercises.

Creativity in Education: Torrance stressed the importance of promoting creativity in educational programmes. He advocated a holistic approach to education that encourages creativity and innovation, and proposed teaching methods that foster creative thinking.

Engage creativity through the arts: Torrance has also highlighted the role of the arts in the development of creativity. He showed how engaging in visual arts, music, dance and theatre can stimulate creativity and promote self-expression.

Paul Torrance has thus made a major contribution to the field of creativity through his work on measuring and developing creativity, highlighting the importance of divergent thinking, creative education and engagement in the arts.

B-Torrance's Creative Thinking Test

This test, also known as the Torrance test, is a psychometric tool widely used to evaluate creativity in individuals.

It was developed by E. Paul Torrance in the 1960s and is based on his theory of "creative habits".
The Torrance test evaluates creativity through a series of various tests that explore different dimensions of creative thinking. It measures both divergent thought, which is the ability to generate multiple different solutions or ideas from a given situation, and convergent thinking, that is the capacity to find an optimal solution to a given problem.

The Torrance test consists of several tests, some of which are verbal and others are non-verbal. Verbal tests include sentence completion, story-making and drawing tasks, while non-verbal tests involve drawing and problem-solving tasks.

Each test is evaluated according to specific criteria, such as level of originality, elaboration, fluidity and flexibility of thought. Participants' responses are rated according to their ability to generate new, unusual and divergent ideas, as well as their capacity to select the best possible solution.
Torrance's creative thinking test has been widely used in creativity research and has been validated through numerous studies. It has proven to be a reliable and valid tool for measuring creativity among children and adults in different cultures.

Under section2 Graham Wallas' Theory of Creativity (Wallas, 1926)

Graham Wallas' theory of creativity is a classical theory that describes the stages of creative thinking. It was proposed in his book "The Art of Thought" in 1926 and is often regarded as one of the earliest systematic theories of creativity.

While this theory was developed by several thinkers, psychologist Graham Wallas is widely recognized as one of the first to conceptualize it.

According to Wallas, creative thinking takes place in four main stages:
Preparation: This is the stage in which the individual plunges into the knowledge of the problem or the creative question. It collects information, analyzes different perspectives and becomes familiar with the context.

Incubation: After being properly prepared, the individual lets the problem rest in his mind. In this phase, the unconscious is working on the problem subconsciously, allowing new connections and ideas to form.

Illumination: This is the phase in which the individual suddenly experiences an "illumination" or a "glare idea". He makes a sudden observation, an unexpected connection, or a creative solution to his problem. This phase is often described as a kind of epiphany. Verification: After having a creative idea, the individual proceeds to the verification and development of that idea. It tests its validity, develops it further, and implements it if possible. Wallas' theory emphasizes the importance of preparation, incubation and enlightenment in the process of creative thinking. It highlights the role of the unconscious and nonlinear thinking in the generation of creative ideas.

Under Section 3 J.P.Guilford's Theory of Creativity (Guilford, 1950) or “The Theory of Divergent Thinking “

It focuses on the structure of intelligence and offers a framework for understanding and measuring creativity. J.P.Guilford developed his theory in the 1950s and 1960s and made a distinction between the different dimensions of creativity.This theory emphasizes the ability to generate a wide range of different ideas. It was developed by psychologist J.P. Guilford, who identified several key factors of divergent thinking.

According to Guilford, creativity includes three key aspects:

Production: This is the ability to generate new ideas, original solutions and innovative products. Guilford emphasized the importance of flexibility of thought in creative production. Fluidity: It is the ability to produce a large number of ideas or associations. This includes the ability to think flexibly, explore different approaches and generate multiple possible solutions. Originality: It is the novelty and originality of the ideas produced. The more original an idea is, the more creative it is.

Guilford also developed a theory of structural intelligence, in which he identified several key intellectual operations that are at the base of creativity. These intellectual operations include fluidity, flexibility, problem sensitivity, recombination, analysis, and synthesis, among others. His theory has been used to develop divergent thinking tests that specifically measure aspects of creativity such as productivity, fluidity, and originality. These tests are widely used in creativity research and evaluation of creative thinking in individuals.

Under Section -4 The works of Kurt Lewin (Lewin, 1951)

Kurt Lewin did not develop a specific theory of creativity, but his work in social psychology had a substantial influence on understanding creativity and change. Lewin is known for his theory of force field, which explains behavior as an interaction between internal and external forces that act on an individual in a given environment. This theory can be applied to the understanding of creativity, as it emphasizes the importance of the environment and internal factors in the generation of creative ideas. According to Lewin, to foster creativity, it is necessary to create an environment that encourages exploration, openness, risk-taking and lack of critical judgment. He also emphasized the importance of intrinsic motivation and autonomy in supporting creativity. Although Lewin did not develop a specific theory of creativity, his ideas have been widely used by other researchers to understand and promote creativity in various fields.

Under section 5 Francis Bacon's Theory of Creativity (Bacon, 1620) or theory of association and combination of ideas

The theory of association and combination of ideas emphasizes the importance of associating and combining pre-existing ideas to generate new ideas. The English philosopher Francis Bacon was one of the first thinkers to formulate this idea.His theory of creativity is presented in his major work "Novum Organum" (1620), which is part of his larger work known as "Instauratio Magna".

In "Novum Organum", Bacon proposes a radically new approach to scientific knowledge, called by him Induction. According to Bacon, scientific knowledge must be constructed from the detailed observation of natural phenomena and not from theoretical speculation. He thus criticizes the traditional method of Aristotelian syllogistics, which relies on general principles to draw particular conclusions.

Bacon argues that in order to understand nature and discover new truths, it is essential to gather concrete facts through experience and careful observation. It advocates a systematic approach to experimentation, using rigorous methods to examine natural phenomena and draw conclusions based on these observations.

According to Bacon, scientific creativity is based on the ability to carefully observe and interpret data objectively. It emphasizes the importance of the scientific method and process for achieving new discoveries and a better understanding of reality.

In summary, Francis Bacon's theory of creativity is based on the idea that scientific knowledge should be based on observation and experimentation, rather than on theoretical speculation. His main bibliographic reference for this theory is therefore his work "Novum Organum".

Under section 6 Mihaly Csikszentmihalyi's Theory of Creativity (Csikszentmihalyi, 1996)

Mihaly Csikszentmihalyi's theory of creativity is presented in detail in his book entitled "Creativity: The Psychology of Discovery and Invention". (1996).

The theory of creative contexts: This theory argues that creativity is influenced by the context in which it occurs. Psychologist Mihaly Csikszentmihalyi developed this theory focusing on the conditions necessary for the emergence of the creative flow, where a person is completely immersed in a creative activity and loses the notion of time and space.

In this theory, Csikszentmihalyi proposes that creativity is a complex process that involves both individual and social aspects. He argues that creativity is not merely the emergence of original ideas, but also requires the ability to implement them in a concrete and effective way.According to Csikszentmihalyi, creativity is manifested when two main elements meet: the creative person and the field in which it operates. The creative person must possess certain skills and personality traits, such as openness, curiosity, persistence and the ability to take risks. The field in which the person operates must be sufficiently complex to enable new opportunities and challenges.

The creative process itself is described by Csikszentmihalyi as a state of flow, state of total concentration and commitment to an activity. It is in this state that people can be most creative, allowing themselves to be completely absorbed by their work and detached from external distractions.It also emphasizes the importance of the social context in the creative process. He argues that creative ideas cannot develop alone, but require interaction with other people and exchange of ideas.

Creative people must be able to find a balance between commitment to their work and openness to the influence and ideas of others.

Mihaly Csikszentmihalyi's theory of creativity thus emphasizes the interaction between the creative person, the field in which he operates and the social context. He considers creativity to be a complex process that requires skills and personal traits, as well as a state of flow and social interactions.

Under section7: Practical examples of creativity

A Concrete examples of creative thinking

A fashion designer who creates a new collection using recycled and unconventional materials, such as recovered plastic or biodegradable textiles.

An engineer who designs an innovative way to collect and store solar energy using more efficient photovoltaic cells and state-of-the-art lithium-ion batteries.

A chef who creates new dishes by merging different traditional cuisines and using unusual ingredients, such as mixing Asian flavors with French cooking techniques.

An artist who creates an interactive installation in a public space using recycled materials and inviting passers to participate, interact and contribute to the work of art by adding their own elements.

A social entrepreneur who develops an innovative educational program for children in rural areas, using free online resources, interactive learning tools and local teachers to bridge the digital divide and provide quality education.

These examples show how creative thinking can be applied in various fields and industries to bring new and innovative ideas.

B-Concrete examples of creativity

Steve Jobs and Apple: Steve Jobs was known for his creative thinking and innovative spirit.

It introduced revolutionary products such as the iPhone, iPad, and iPod, which changed the way we use technology on a daily basis.

Salvador Dalí and Surrealism: Salvador Dalì was a famous artist for his surrealistic works, such as "The Persistence of Memory" with his soft watches. His creative style and ability to push the boundaries of art had a major influence on the surrealist movement. Elon Musk and SpaceX: Musk is known for his creativity and visionary spirit. He founded SpaceX with the aim of revolutionizing space exploration by developing reusable rockets and working on colonizing Mars.

Coco Chanel and Fashion: Coco was a fashion designer who revolutionized the fashion industry with her sense of innovation and avant-garde style. She introduced comfortable and functional women's clothes, such as the small black dress and the tweed cutter. Thomas Edison and the invention of the electric bulb: Thomas Edison was the inventor of the electric bulb, an invention that had a major impact on the world. His creative spirit enabled him to find innovative solutions to solve technical challenges and develop revolutionary technology.

These examples illustrate how creativity can be applied in different areas to change the world and bring new and innovative ideas[2].

[2] See Appendix II: Examples of creative thinking

SECTION II: INNOVATION THEORIES

Innovation and productivity theories are well-established research areas that have been the subject of many studies and academic contributions. We will look at some of the main theories in these areas.

In this polycopy, we will first be interested in the great theorist, the one we consider to be the father of innovation: Joseph Schumpeter. Alongside Schumpeter we will deal with theories of innovation according to other thinkers such as Everett Rogers, Gardner, Chesbrough, Porter, Solow, Senge

Under section 1- The innovation according to Joseph Schumpeter

Joseph Schumpeter was born the same year as Keynes and the year Karl Marx died. He was an Austrian economist born on 8 February 1883 in Triesch, Moravia (now the Czech Republic) and died on 8 January 1950 in Taconic, Connecticut, United States. He is considered one of the greatest economists of the twentieth century and is known for his major contributions to economic theory and the study of entrepreneurship. Schumpeter began his academic career at the University of Vienna, where he studied political economics. He then taught at the University of Czernowitz, and then at Graz University in Austria. In 1921, he became a professor at the University of Bonn in Germany, and then at Harvard University in the United States in 1932, where he spent the rest of his career.

In addition to his contributions to economic theory, Schumpeter also wrote on topics such as economic history, economic sociology, and economic policy. He marked the economic thinking of his time with works such as "Theory of Economic Evolution" (1912) and "Capitalism, Socialism and Democracy". (1942).

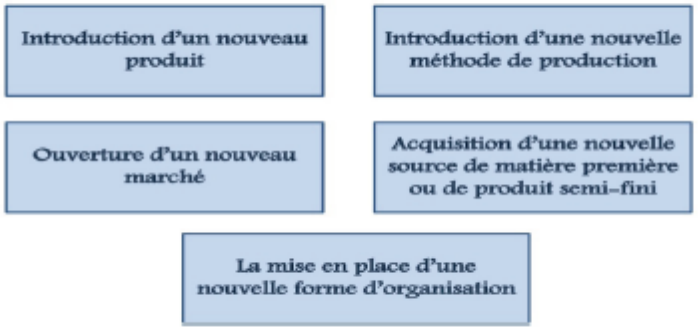
A- Joseph Schumpeter between invention and innovation and his interest in the role of the entrepreneur

In his research, Joseph Schumpeter distinguishes invention from innovation (PECHENOT-PAILLOT, 2003).

For him, invention is the discovery of new scientific and technical knowledge. While innovation is “the commercialization of any new combination resulting from new materials and components, the introduction of new processes, the opening of new markets or the introduction of a new organizational form”.

2.1. Modèle de Schumpeter (1934) : Types d'innovation

Figure 1 : Typologie d'innovation selon Schumpeter (1934)



(Source : Schumpeter 1934)

Innovation most often involves holding a favourable position in its field, and its dissemination enables the acquisition of commercial rights that technically allow the entrepreneur to have a monopoly.

Other entrepreneurs attracted to profit try to imitate innovation, either directly if it is not protected and protected, or creatively when it is protected. It does not therefore concern only the development of new products, but also covers areas as diverse as sales methods of distribution, marketing, packaging, design, production methods, organizational systems and services.

Schumpeter (Schumpeter, 1912) highlighted the central role of the entrepreneur in the innovation process. He presented the entrepreneur as the engine of innovation, the individual who introduces new combinations of productive factors and disrupts the existing economic balance.

Joseph Schumpeter exercised considerable influence on many economists and thinkers, and his theory of entrepreneurship is still studied and debated today. His work has helped broaden the scope of economics by including aspects such as innovation, entrepreneurship and economic change in traditional economic analysis.

B- Schumpeter and his theory of creative destruction (Schumpeter J. , 1942)

Joseph Schumpeter introduced the concept of "creative destruction", considered one of his most important contributions, to explain the role of innovation in economic development. According to him, economic progress is the result of the destruction of old technologies and the emergence of new ones, which leads to a constant restructuring of the economy.

According to him, the process of economic development is characterized by creative destruction. This theory explains that innovation, carried out by entrepreneurs, is the main engine of economic growth and social progress. Schumpeter argues that entrepreneurs are visionary and bold individuals who use new combinations of resources to introduce innovative products, production methods, or markets. According to him, entrepreneurs are essential to stimulating economic dynamism in a society.

C- Schumpeter and economic cycles (Schumpeter J. , 1939)

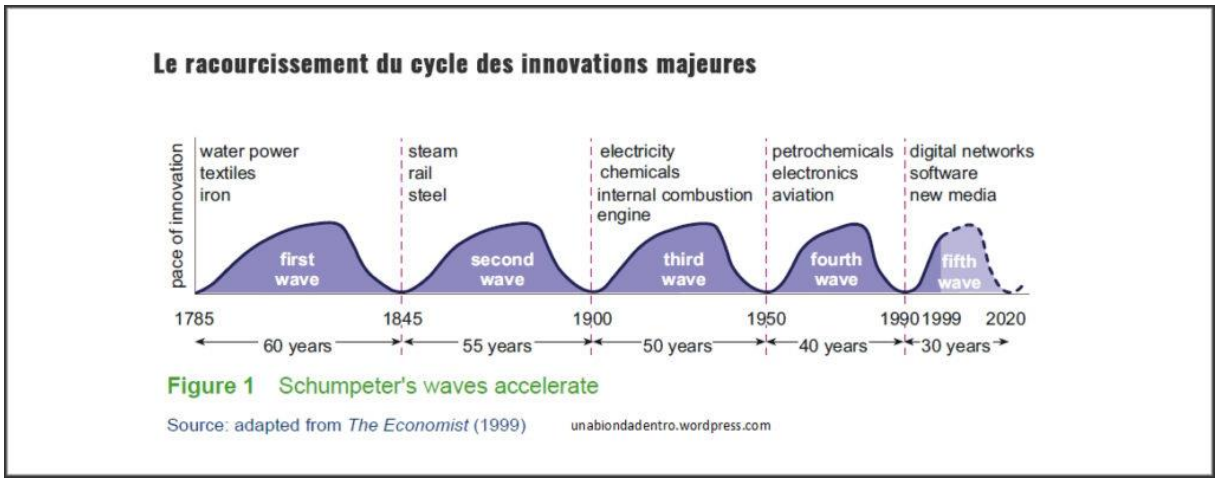
Schumpeter is also known for his theory of economic cycles, called the "cycle of innovation". According to him, periods of economic growth are marked by waves of innovation that help to overcome economic stagnation. However, these waves end up exhausted, leading to periods of recession.

Schumpeter also developed influential ideas in the field of economic cycle theory. It states that economic cycles are caused by disruptions in the process of innovation and economic development. It argues that these cycles are inevitable and necessary to ensure long-term economic growth.

From a macro perspective, major innovation cycles are accelerating. Schumpeter (based on Kondratieff's work) explains that innovations are born in clusters as a result of a technological or scientific breakthrough (Alami, 2003)

As shown in the chart below, these major innovation cycles are shortened, forcing companies to wait, look and anticipate so that they are not exceeded when it comes to sectoral innovation.

This shortening of cycles also requires all companies to get the train in motion very quickly when it comes to an innovation that indifferently affects all sectors. This is the case with digitalization, or at least its emerging part, that of ICTs now associated with the famous expression 'make your digital transition'.



But the current innovation cycle is not just this wave. Although they are born almost simultaneously, since they are based on computing and the Internet, it seems more appropriate to distinguish at least three waves:

• the wave ‘communication’ associated with Telecom

• the ‘transformation of the living’ wave associated with Biotechnology and Nanotechnologie

• the wave ‘artificial intelligence’ associated more widely with Cognitive Sciences
The latter two involve innovation clusters in fields far removed from the single common denominator ‘communication & digital’.

Schumpeter recognized the crucial importance of technological innovation in economic development. According to him, radical technological innovations are the main driving forces of economic growth, as they enable significant productivity gains to be achieved and new markets to be created.

Following J. Schumpeter, most theories distinguish two main types of innovation:
• Breakthrough innovation, which refers to the creation and marketing of radically new products, processes or services.

•Incremental innovation, which involves introducing small improvements to increase the performance of a product or reduce production costs, without fundamentally changing customer habits.

The minimum criterion for a change in a company’s products or functions to be regarded as an innovation is that it must be new or result in a marked improvement. The main impact of innovation on economic activity results from its dissemination to other actors. “Distribution” means the way in which innovations spread, through market mechanisms or otherwise, to a customer base or to countries, regions, sectors and markets.

Without dissemination, innovation will have no economic impact
Thus, Joseph Schumpeter made important contributions to the understanding of innovation and its central role in economic development. His ideas on creative destruction, the role of the entrepreneur, economic cycles and technological innovation continue to influence contemporary economic debates.

Under Section 2 Theory of the dissemination of innovation (Rogers E. M., 1962).

A- The theory of the diffusion of innovation according to Everett Rogers

According to Everett Rogers, innovation can be defined as the adoption of a new idea, object, or practice by an individual or group.

The theory of the diffusion of innovation, formulated by Everett Rogers in 1962, focuses on the process by which an innovation spreads across a population.

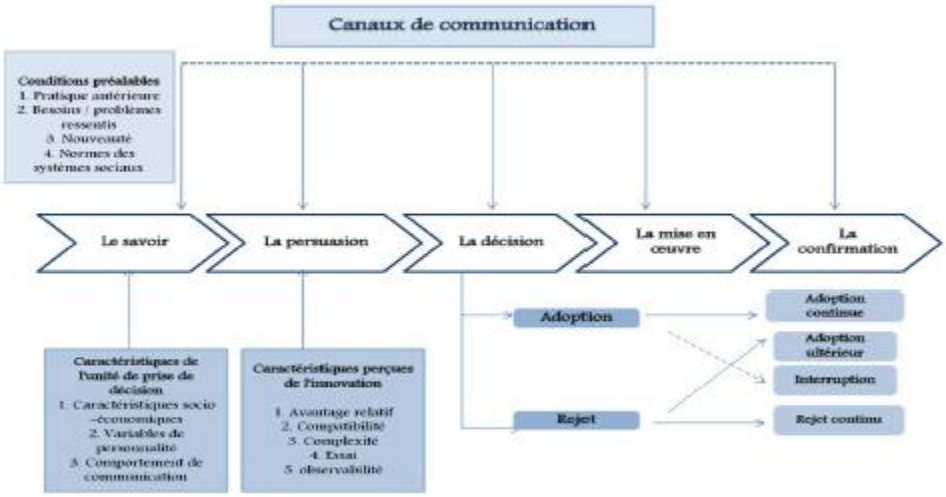
Rogers defines five categories of innovation adopters based on their adoption rate: innovators, early adopters, early majority, late majority and laggards. This theory has been widely used to understand the spread of new technologies and products on the market.

Innovators are the first to adopt an innovation, usually motivated by the search for novelty and concrete benefits. They are willing to take risks and are often in contact with sources of information and expertise. Early adopters quickly follow innovators and are influenced by their example.

The early majority, which constitutes the majority of the population, adopts innovation after hearing about its success from early adopters. They are more sceptical and need tangible evidence to be convinced of the adoption of innovation.

The late majority is more reluctant to adopt new ideas and prefers to wait for the benefits of innovation to be widely demonstrated. Finally, the backward ones are the last to adopt an innovation and usually do so because of social or economic pressures.

Figure 3 : Diffusion d'innovation selon Rogers (1983)



(Source Rogers 1983)

According to E. Rogers (PECHENOT-PAILLOT, 2003), there would be 5 principles that would determine the spread of an innovation:

Relative advantage: is the degree to which an innovation is perceived to be better than existing ones. It is not necessary that this innovation has much more advantages than others, but what is important is that the individual perceives it as more advantageous. The more the relative advantage of an innovation is perceived, the faster its adoption rate will be.

Compatibility: is a measure of the extent to which an innovation is perceived to be consistent with existing values, past experiences, social practices and user standards. An idea that would be incompatible with current values and standards would take longer to be adopted than a compatible innovation. Similarly, in some cases, adopting a compatible innovation will require the adoption of a new value system beforehand, which can take considerable time.

Complexity: is a measure of the extent to which an innovation is perceived to be difficult to understand and use. New ideas that are easy to understand will be adopted much faster than others, which require new skills to be developed before they can be understood.

Testability: The ability to test an innovation and modify it before committing to using it. The opportunity to test an innovation will allow potential users to have more confidence in the product, as it will have had the opportunity to learn how to use it.

Observability: is the degree to which the results and benefits of an innovation are clear. The clearer the outcomes of adopting innovation, the easier it will be for individuals to adopt it. Each of these principles alone is not sufficient to predict the adoption of an innovation, but studies have shown that a combination of those principles would result in greater chances of adopting the innovation than if the principles were not taken into account.

B-Rogers: Adoption, key to innovation (Alami, 2003)

The spread curve of Rogers' innovation is similar to that of the product lifecycle (launch, growth, maturity, decline) but seen from a different prism, the adoption of innovation. That is, adherence to something new

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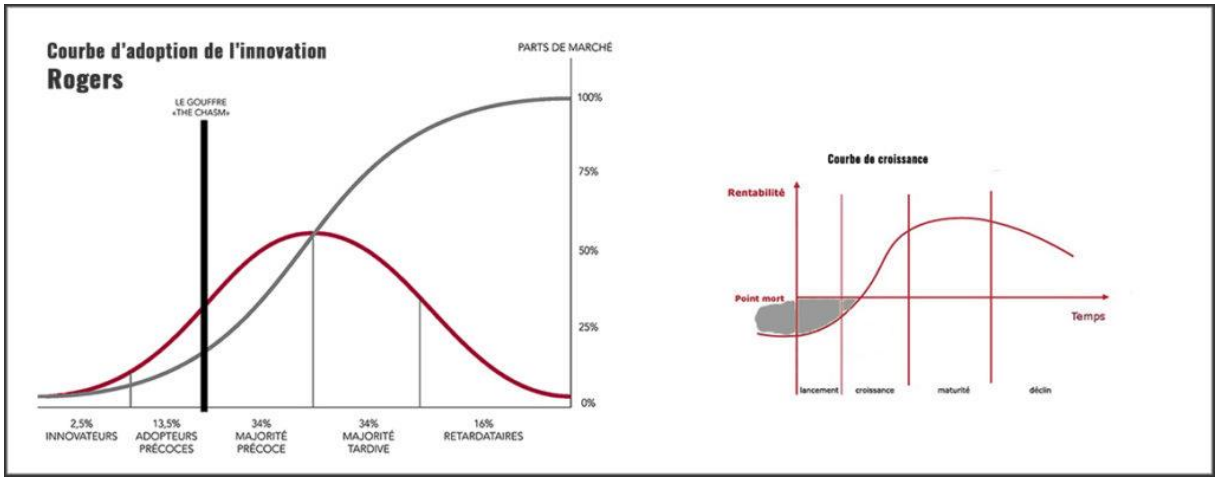


In innovation management, the Rogers curve presents two interesting points to highlight: Co-create with 'Innovators' and limit deployment investments to the bottom Co-create with 'Innovators'

In order to ensure the integration of ‘innovators’, they must be identified as early as possible and integrated into the innovation design process itself.

This success factor is a major element of innovation methods such as Lean Startup or BM canvas and Lean Canvas.Reduce deployment investments to the bottom

Between the early adopters and the early majority, Rogers warns of what he calls the ‘Chasm’

This is a break in the cycle of dissemination of innovation caused by the rejection of the majority to adopt it. It is therefore strongly advised to limit its deployment investments before passing this direction and to remain alert, able to evolve its innovation until passing the direction.

According to Rogers, the adoption of an innovation is a social process that depends on factors such as communication, interpersonal relationships, time and the environment. The characteristics of innovation itself, such as its compatibility with the values and needs of individuals, its degree of complexity and investment required, also influence its adoption.

In conclusion, according to Rogers, innovation is a process of adopting a new idea, object or practice, which is influenced by social, individual and environmental factors.

Under Section 3-The Innovation Cycle According to Gartner

"The Gartner Innovation Cycle: Understanding and Managing the Phases of Adoption of New Technologies" is a theory developed by the research firm Gartner. This theory aims to explain how new technologies are adopted by users and how they evolve over time.

According to Gartner, the innovation cycle consists of five distinct phases:

Launch: In this phase, a new technology is introduced to the market. It is usually adopted by a small group of visionaries and pioneers who see potential in this technology. Early users are willing to take risks and invest time and resources to experiment with this technology.

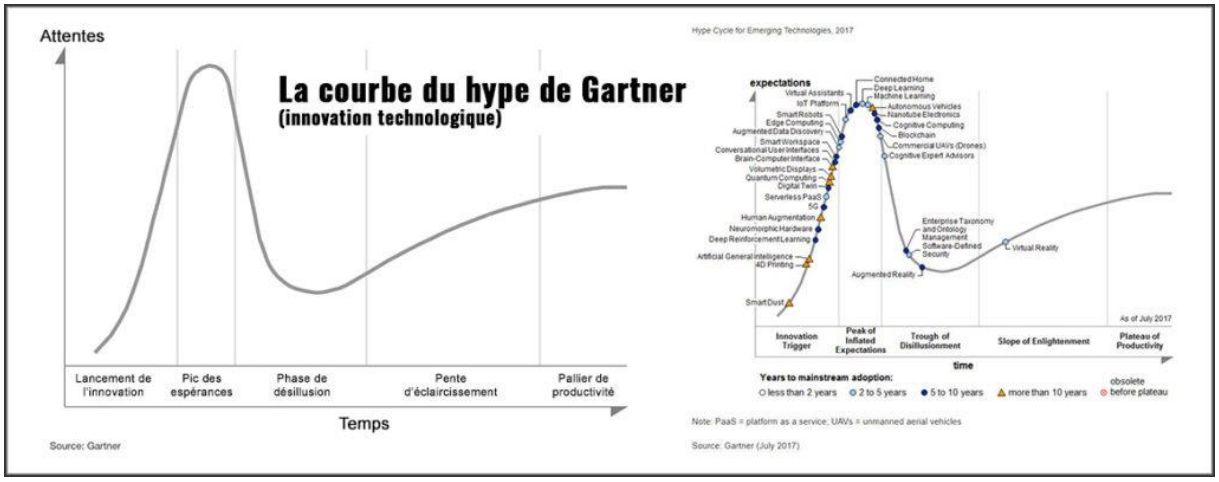
Accelerated growth: Once the technology has been validated by the first users, it begins to spread rapidly. Early adopters, who are often influential people and innovators in their fields, begin to use technology and talk about it to others. This creates a mouth-to-ear effect, resulting in faster adoption.

Majority adoption: At this stage, the technology has become widely accepted and used by the majority of users. This is when technology reaches its mass critical point, and sellers and begin to offer products and services based on this technology to meet growing demand.

Maturity: Once the majority of users have adopted the technology, it reaches a maturity stage. Innovations and improvements continue to occur, but they are generally less revolutionary and more incremental. Companies are starting to focus more on optimizing performance and differentiating their products and services.

Decline: Finally, technology reaches a point where it is overtaken by new innovations. It is entering a phase of decline, where users are beginning to abandon this technology in favour of newer and more advanced technologies.

Technological innovation cycles according to Gartner are cycles in two times (Alami, 2003) Gartner highlights in its Hype Curve that technological innovations take place in two times!



The first time, that of hope and disappointment .The first time corresponds to the discovery.

Technology has high hopes, but its application is disappointing.

Either technology creates a new product or service and it is not up to expectations. Either it is a new technology that replaces an old one and it is applied as 'cut glue' without bringing noticeable additional values but just change. The second time, the time of value When technology is digested, then comes the second time, the one that creates value.

The better-known technology is then naturally associated with other knowledge that, when combined, generates new uses or characteristics that bring value.

It is important to note that not all technologies reach the same phases or follow a regular pace. Some innovation cycles may be shorter or longer depending on various factors such as technological complexity, perceived value and market needs.

Under Section 4-Open Innovation Theory (Chesbrough H. , 2003)

The open innovation theory, developed by Henry Chesbrough, emphasizes the importance of exchanging knowledge and resources between organizations to foster innovation. From this perspective, a company can leverage external knowledge and ideas to develop new products, services or processes. This approach calls into question the traditional paradigm of internal research and development in favour of more open collaboration and the exploitation of collective intelligence.

The open innovation theory, developed by Henry Chesbrough, is a concept that proposes a new approach to innovation in enterprises.

According to Chesbrough, open innovation involves searching for innovative ideas outside the organization, working with external partners such as customers, suppliers, universities, start-ups, etc. This approach differs from the traditional practice of closed innovation, which is limited to the internal resources and competences of the organization. Open innovation is based on the principle that knowledge, ideas and technologies are everywhere, and that it is necessary to integrate them into the innovation process in order to remain competitive. It is based on three key principles:

Acquisition of external knowledge: The organization must actively seek knowledge beyond its borders. This can be done through partnerships, collaborations, expert networks, etc.

Internal and external exploitation of ideas: Once external knowledge is acquired, the organization must integrate it into its internal innovation processes. This can translate into co-innovation partnerships, technology licenses, mergers and acquisitions, etc.

Commercialization of innovations: The final step in the open innovation process is to commercialize innovations resulting from collaboration with external partners. This can be done by launching new products or services, improving existing processes, or creating new business opportunities.

The open innovation theory suggests that this approach offers many benefits to, such as access to resources and skills that they do not have internally, greater speed and flexibility in the innovation process, reduced R&D costs, increased value of developed technologies, etc. However, it is important to emphasize that open innovation does not mean abandoning internal innovation altogether. On the contrary, it presupposes a complementarity between internal and external innovation, seeking to harness the strengths of each approach.

Under Section 5-The Competitive Advantage Theory of Innovation (Porter M. , 1990):

The competitive advantage theory of innovation, developed by Michael Porter, argues that innovation is a key determinant of a company's competitiveness and its ability to create market value. According to this theory, companies can gain a competitive advantage by developing innovative products or processes, investing in research and development, and fostering a culture that encourages creativity and risk-taking.

The competitive advantage theory of innovation developed by Michael Porter emphasizes the crucial role of innovation in ensuring the competitiveness of and nations. According to Porter, innovation is a key factor in creating a sustainable competitive advantage.

Porter's theory is based on the concept of a value chain, which represents all the activities undertaken by a company to design, manufacture, market and distribute its products or

services. Porter identifies two main types of innovation that can contribute to a competitive advantage:

Product innovation: This involves developing and marketing new products or services, or improving existing ones to meet customer needs more effectively. Product innovation differentiates itself from competition and creates value for customers.

Process Innovation: This involves improving production methods, logistics systems and operational processes to reduce costs, improve quality and speed up delivery times. Process innovation can also improve the overall efficiency of the company and increase its productivity.

According to Porter, innovation must be integrated into the company's overall strategy and supported by continuous investment in research and development (R&D). It also emphasizes the importance of collaboration and knowledge-sharing among, universities and research organizations to foster innovation.

The competitive advantage of innovation is considered to be sustainable, because it is difficult to imitate by competitors. Indeed, innovation requires specific resources, skills and knowledge that can be difficult to reproduce. This allows the company to differentiate in the market and maintain its long-term competitive advantage.

According to Porter, governments also have an important role to play in supporting innovation and promoting the competitiveness of their nation. They can implement policies to encourage innovation, invest in education and research, and facilitate collaboration between and research institutions.

The competitive advantage theory of innovation developed by Michael Porter thus highlights the crucial role of innovation, both as a product and as a process, in ensuring the competitiveness of and nations. Innovation must be integrated into the company's overall strategy and supported by continuous investment in R&D. The competitive advantage of innovation is considered to be sustainable, because it is difficult to imitate and allows the company to differentiate in the market.

Under section 6-Productivity Theory (Solow, 1956):

Productivity theory examines the determinants of an organization's productive performance, focusing on the efficient use of resources to produce results. One of the main theories in this field is the Theory of Total Factor Productivity (PTF), which suggests that technological innovation and improvement of production processes are the main drivers of productivity growth.
Solow's theory of productivity and technological innovation, also known as the "Solow production function", is an economic theory developed by American researcher Robert Solow in the 1950s and 1960s. This theory tries to explain a country's long-term economic growth by focusing on productivity factors and technological innovation.

The main idea of Solow's theory is that economic growth cannot be explained only by the accumulation of capital (machines, infrastructures, etc.), but that it also depends on technological innovation and improved productivity. According to Solow, capital and labour are the two main factors of production, but they are subject to decreasing yields, which means that each additional unit of capital or labour added has a smaller impact on production.

Solow's production function is represented by the equation Y = F(K,A,L), where Y represents production, K represents physical capital, A represents the level of technology and L represents labour. According to this equation, production depends on the amount of physical capital and labour, as well as the level of technology. Technological innovation and improved productivity are represented by factor A.

According to Solow, technological innovation boosts productivity and allows more production to be achieved with the same amounts of capital and labor. Technological innovation can take different forms, such as new inventions, process improvements, new production methods, etc. This technological innovation is often the result of research and development, as well as the accumulation of knowledge.

For Solow, long-term economic growth depends on the accumulation of human capital, i.e. education and training of workers. A more skilled workforce has a positive impact on productivity and economic growth.

Solow's theory gave rise to many further research and developments in the field of growth economy. It has also influenced economic policies, highlighting the importance of investment in research and development, as well as education and training, in fostering long-term economic growth.

Under section 7-Theory of Organizational Learning (Senge, 1990):

The theory of organizational learning emphasizes the importance of acquiring and disseminating knowledge within an organization to foster innovation and improve productivity. This theory suggests that organizations that learn and adapt quickly to changes in their environment are better positioned to innovate and higher levels of performance.

The theory of organizational learning, developed by Peter Senge, emphasizes the ability of organizations to learn, adapt and innovate. This theory is based on the idea that organizations are complex systems where individuals, teams and processes interact to common goals.

According to Senge, there are five key disciplines of organizational learning:

Systemic thinking: This discipline is to understand that organizations are interdependent systems, in which each element influences the others. Systemic thinking helps identify cause-effect relationships and anticipate the consequences of certain actions.
Personal mastery: This discipline encourages individuals to develop their skills and self-knowledge. By encouraging personal development, individuals can contribute to organizational learning by bringing their new skills and perspectives.

Mental patterns: Mental models are the beliefs, values, and assumptions of individuals. Senge argues that organizations should encourage the questioning of existing mental models and foster an environment where new ideas and different perspectives are welcomed.

Shared Vision: A shared vision is a shared picture of the organization's desired future. Senge argues that organizations should foster the creation of a shared vision to mobilize individuals and guide them towards common goals.

Team learning: This discipline emphasizes collaborative and collective learning. Teams are encouraged to share their knowledge and to support each other in their development.

With regard to innovation, Senge argues that organizational learning is essential to fostering innovation. Organizational learning helps identify existing problems, develop new skills and stimulate creativity.

According to Senge, organizations must create an environment conducive to innovation by encouraging knowledge sharing, critical thinking and risk-taking. It also argues that leaders should be facilitators of innovation, supporting new ideas and creating mechanisms for testing and implementing them.

Senge's theory of organizational learning thus highlights the importance of continuous learning and innovation for the development and growth of organizations. It proposes key disciplines to promote learning and encourages organizations to create an environment conducive to innovation.

It should be noted that these theories represent a sample among the many academic contributions in the fields of innovation and productivity.

Other important theories include the theory of corporate resources and capabilities, as well as theories related to technological adoption and individual creativity. In-depth study of these theories can provide a solid foundation for understanding and implementing innovation and productivity improvement strategies in organizations.

CHAPTER II BASIC PRINCIPLES OF CREATIVITY AND INNOVATION MANAGEMENT

Creativity and Innovation Management is an approach that aims to stimulate and support the production of new ideas and the implementation of innovative solutions within an organization. It is based on two basic principles: the culture of innovation and leadership and motivation.
The culture of innovation represents the organizational environment in which creativity and innovation can flourish. It encompasses values, beliefs and behaviors that encourage creative thinking, risk-taking and experimentation. A culture of innovation promotes openness, continuous learning, collaboration and acceptance of change. It allows employees to feel confident to propose new ideas, even if they are different or risky.

Leadership and motivation are also essential to fostering creativity and innovation. Leaders must serve as an inspiration and model for employees by showing their commitment to innovation and their willingness to take risks. They must encourage and support employees in their creative efforts, enabling them to explore new ideas, solve problems in an inventive way, and experiment with new approaches. In addition, leaders must create an environment conducive to innovation by providing the necessary resources, support and opportunities.

By combining a strong culture of innovation with appropriate leadership and motivation, organizations can nurture creativity and innovation, thereby generating new ideas, developing new products, services or processes, and remaining competitive in today's rapidly changing market.

This will be developed in the two sections that follow.

SECTION I. CULTURE OF INNOVATION

Section 1.Risk and divergent thinking

To encourage risk-taking and divergent thinking as basic principles of creativity and innovation management, here are some strategies:

Creating an environment of trust (Edmondson A. C., 1999):

fostering a climate of confidence within the organization where employees feel safe to take risks and express divergent ideas. This can be done by encouraging openness, respect and acceptance of all ideas, whatever they may be.

Encourage Diversity and Inclusion (Page S. E., 2007): Promote diversity of perspectives, experiences and skills within the organization. Diversity promotes a broader and more creative vision, which can stimulate divergent thinking and innovation.

Stimulating curiosity and lifelong learning (Pink D. , 2009)

encouraging curiosity through challenges, learning opportunities and projects that leave room for exploration and experimentation. This encourages the search for new ideas and new approaches.

Encourage collaboration and exchange of ideas (Nonaka & Takeuchi, 1995): encourage teams to work together and share ideas freely. The exchange of ideas and discussion can enable critical thinking and divergent thinking.

Recognize and Reward Innovation (Amabile T. M., 1998): Value new ideas and risk-taking by recognizing and rewarding employees who offer them. This encourages others to be creative and to take risks.

Encouraging Change and Experimentation (West & Farr, 1990): Promoting a culture that encourages experimentation and accepts mistakes as opportunities for learning. This allows employees to take calculated risks to innovate.

It should be noted that these strategies may vary depending on culture and organizational context, so it is important to adapt them to each specific situation.

Under Section 2- Environment for creativity

A culture of innovation is an essential element in promoting creativity and innovation within a company. It represents the values, beliefs, standards and behaviors that encourage and support the generation of new ideas and the implementation of innovative solutions.
To develop a culture of innovation, here are a few keys:

Promoting an environment of confidence and openness (Waber, Magnolfi, & Lindsay, 2014): Encourage employees to express their ideas, even the most bold, without fear of judgment or rejection. Promote open communication and frequent exchanges between teams.

Encourage and reward risk-taking (Christensen C. M., 1997): Create an environment where employees are encouraged to step out of their comfort zone and explore new ideas, even if they involve risks. Recognize and reward successful risk-takings, even if they do not always lead to immediate results.

Encourage collaboration (Tharp, 2008): Promote teamwork and knowledge sharing. Encourage multidisciplinary and diverse teams to enable more creative and innovative approaches.

Adaptability and flexibility (Ries E. , 2015): A culture of innovation must be adaptable and flexible to respond to the constantly changing market and competitive environment. Leaders must encourage employees to be open to new ideas, continuous learning and changing work processes and methods.

Give the example (Amabile & Khaire, 2008) : Leaders must set an example by being open to change and actively encouraging innovation. They must also support innovative initiatives and pilot projects.

The Pursuit of Excellence (Peters, 2021): A culture of innovation emphasizes excellence by encouraging employees to push boundaries and innovative results. Leaders must promote a culture of continuous improvement and commitment to excellence in all aspects of the organization.

SECTION II . LEADERSHIP AND MOTIVATION

Under section1.The role of the leader in encouraging innovation

The leader plays a crucial role in encouraging innovation within a team or organization. Here are some actions the leader can take to promote innovation:

Create an inspiring vision (Kouzes & Posner, 2007): A leader must provide a clear and inspiring vision of the future of the organization, with an emphasis on innovation. This motivates employees to focus on exploring new ideas and to work out of tracks.

It must establish a common vision and clearly communicate the company's vision of innovation, explaining why it is important and linking it to the overall objectives of the organization. This allows team members to understand their role in innovation and feel involved. The leader must set an example by being open to new ideas and willing to take risks.

It should also encourage the sharing of ideas and creativity within the team. The leader must encourage diversity of perspectives and skills within the team. This can be done by recruiting people with different experiences and perspectives, encouraging teamwork and promoting inclusion.

Encourage a climate of confidence (Edmondson A. C., 2008): The leader must create a confidence climate where team members feel comfortable expressing their ideas and taking risks. This can be achieved by appreciating everyone’s contributions, offering encouragement and celebrating successes.

Providing resources and support (Amabile & Khaire, 2008) : The leader must provide the resources and support needed to enable the team to innovate. This may include research and development budgets, time dedicated to exploration and experimentation, and suitable training and tools.

Encourage collaboration (Amabile & Kramer, 2011):

The leader must encourage collaboration among team members by establishing platforms and processes that foster the sharing of ideas, everyone's participation and co-creation. Reward and recognize innovative ideas (Amabile T. M., 2011) :

A leader must value and reward employees for their innovative ideas. This motivates employees to continue to propose creative ideas and to engage in the innovation process. The leader must recognize and reward achievements and innovative ideas. This can be done by offering opportunities for professional development, celebrating achievements at team meetings, or offering symbolic rewards.

By adopting these actions, the leader can create an environment conducive to innovation and motivate team members to express their creativity and to propose new ideas.

Under Section 2 Motivations that Stimulate Employee Creativity

Creativity plays an essential role in the success of any organization.

It enables innovation, finding new solutions and meeting the ever-changing challenges of the market. However, in order for workers to be able to express their creativity, it is important that they are motivated and encouraged to do so. Several factors can stimulate the creativity of employees in an organization:

Autonomy (Pink D. , 2009): Giving employees freedom and autonomy in their work can foster their creativity. When employees are responsible for their own projects and have the freedom to make decisions, they are more able to explore new ideas and implement original solutions.

Recognition and Rewards (Amabile T. M., 1998) : Positive feedback, rewards and recognition for creative work can motivate employees to be more creative. Workers will have a greater desire to be creative if they are recognized and rewarded for their ideas and achievements. This can take the form of promotions, bonuses, or just compliments and thanks.

Interest in work (Deci & Ryan, 2000): When employees are passionate about what they do, it can motivate them to be more creative. Communication and collaboration: Creativity is stimulated by exchanging ideas and collaborating with colleagues. Organizations should encourage a culture of collaboration and open communication, including by providing tools and platforms for sharing information. Teams of people with different experiences, skills and perspectives are better able to generate innovative ideas. Diversity encourages the confrontation of ideas, and thus fosters creativity.

Stimulating work environment (Amabile & Gryskiewicz, 1989): a work environment that encourages creativity, with resources, tools and collaborative opportunities, can motivate employees to be more creative. Development opportunities: Workers are stimulated by opportunities to learn and develop. The organization can encourage creativity by providing training, workshops and career development opportunities.

Challenging Challenges (Oldham & Cummings, 1996): Challenging tasks and projects that challenge employees can encourage creativity.

SECTION III. INNOVATION MANAGEMENT PROCESS

Under Section1 Identification of innovation opportunities

Identifying innovation opportunities is a crucial process for organizations wishing to remain competitive in an ever-changing market. This involves identifying unsatisfied needs or problems that customers or users face, and finding innovative solutions to address them. Some methods for identifying innovation opportunities in the innovation management process.
(Chesbrough H. , 2003) analyzing market trends, consumer needs and gaps in existing products, innovation opportunities can be identified.

One of the first steps in this process is to understand the market and its competitive environment. This involves collecting information about emerging trends, new technologies or new business models that could disrupt the existing market.

Secondly, it is essential to listen to customers and users. This can be done through market studies, observations, interviews or surveys. The goal is to understand their needs, desires and frustrations in order to identify gaps or opportunities for improvement.

Competition Analysis (Porter M. E., 1998): By studying competitor activities, patent applications and innovation strategies in the sector, innovation opportunities can be identified.

Technological exploration (Christensen & Bower, 1996): by monitoring technological advances, new scientific discoveries and technological progress in other industries, opportunities for innovation can be found.

Co-creation with customers (Prahalad & Ramaswamy, 2000): By involving customers in the innovation process, by collecting their ideas, needs and suggestions, innovation opportunities can be identified.

Ethnographic observation (Liedtka J. , 1998): by observing user behavior, by studying how they interact with products or services, we can discover opportunities for innovation.

Another approach to identifying innovation opportunities is to look at adjacent industries or look for similar problems in other areas. Sometimes innovative ideas can be inspired by existing practices or technologies, but applied in an entirely new context.
Finally, it is important to involve the entire organization in the process of identifying innovation opportunities. Ideas can come from anyone, regardless of their hierarchy level, and it is crucial to create an environment conducive to creativity and exchange of ideas.

Under Section 2 Production of ideas

Production of ideas plays a key role in the field of innovation. It involves gathering and developing new perspectives, concepts and solutions to solve existing problems or create new opportunities. Ideas can come from various sources, such as individual creativity, group collaboration, research and observation of emerging trends. Generating ideas requires an environment conducive to creativity, where individuals are encouraged to take risks, think in unconventional ways, and experiment with new approaches.

It represents the first step in the innovation process, followed by the evaluation and implementation of the most promising ideas. Generating ideas is therefore a key element in stimulating innovation and fostering growth and competitiveness for and society as a whole. Tools and methods are commonly used to generate innovative ideas such as Brainstorming, Madmapping, Paradoxical Thinking, Creative Ideas Testing, Visualization Techniques[3].

Under Section 3 Selection of Promising Ideas

Selection of promising ideas is a crucial step in the innovation management process. Methods are used to select the most promising ideas:

-Expert Assessment (Cooper, 2008) : engage internal or external experts to assess ideas based on predefined criteria such as technical feasibility, economic sustainability and adequacy with the company's strategy.

-Rentability analysis (Cooper & Kleinschmidt, 1987): assessing the potential for profitability of ideas using methodologies such as cost-benefit analysis, return on investment analysis (ROI) or innovation portfolio analysis.

-Concept or prototype testing (Ulwick, 2005): creating prototypes or models to test and evaluate ideas before implementing them on a large scale.

-Market and Competitor Analysis (McGrath, 2001): assess the competitive potential of ideas by analyzing the market, trends, consumer behaviour and competitor actions.
-Experimentation (Ries E. , 2011): testing ideas on small samples or in controlled environments to assess their feasibility and acceptance by users.

Under section 4. Development and implementation of innovation projects

The development and implementation of innovation projects are crucial steps in the innovation management process. For any innovation project, it is necessary to rely on methods, prototyping, good collaboration, adaptability and flexibility to change as well as ongoing evaluation

Project Management (Kerzner, 2017): Use project management methods to plan, organize and control activities related to the development and implementation of innovation projects.

[3] All these tools and methods will be developed on pages 38 to 45

Quick Prototyping (GaverW.W & al, 1999): Create quick prototypes to quickly test ideas and get feedback to improve them.

Collaboration and communication (Katzenbach & Smith, 1992): encourage collaboration among different stakeholders and communicate effectively throughout the development and implementation process of innovation projects.

Adaptability and flexibility (Tidd & al, 2001): be able to adapt to change and be flexible in the development and implementation of innovation projects.

Continuous evaluation (Sawhney & al., 2006): regularly evaluate the progress of innovation projects and adjust plans accordingly to maximize the chances of success.

SECTION IV MANAGEMENT OF CHANGE AND RESISTANCE

Management of change and innovation resilience is a crucial process for that want to introduce new ideas, technologies or practices into their operations.

Change management involves effectively planning and implementing the steps necessary for change to occur. This involves identifying the needs for change, developing an action plan, communicating transparently with stakeholders, training staff and measuring results.

Resistance to innovation is a natural reaction of individuals and groups that can hinder the process of change. It can be caused by fear of the unknown, the fear of losing control, or the insecurity associated with change. Management of innovation resistance requires clear communication, stakeholder involvement, the creation of an environment conducive to change, and recognition of concerns and fears of those involved.

Under Section 1. Manage Resistance to Change

Resistance to change management is an important aspect of change management and resilience to innovation.

Some methods used to manage change resistance in change management and innovation resistance.
Clear and continuous communication (Kotter J. P., 1995): communicate in a transparent manner about the nature of the change, its reasons and its benefits for the organization and individuals concerned.

stakeholder involvement and participation (Carnall, 2007): involving stakeholders in the decision-making process and making them actively involved in implementing change so that they feel involved and invested.

Skill training and development (Beer & al, 1990): Provide employees with the skills and knowledge needed to adapt to change and succeed in the new environment.

Identification and management of individual concerns and resistance (Waddell & al., 2013): Understand individual concerns and sources of resistance to change, and implement measures to mitigate or manage them.

Leadership and Example (Kotter J. P., 2011): Leaders must set an example by actively accepting and promoting change, providing support to employees, and managing resistance properly.

Management of change and innovation resilience is therefore about planning, implementing and managing change effectively while minimizing obstacles and resistance. This enables companies to remain competitive, adopt new ideas and adapt to market changes.

Under Section 2. Acceptance and adoption of new ideas

To promote acceptance and adoption of new ideas in the management of change and innovation resilience, here are some approaches:

Communication and awareness-raising (Rogers E. , 2003): Communicate clearly and effectively about the benefits and benefits of new ideas, focusing on the added value they will bring to the organization and individuals concerned.

Create a sense of urgency (Kotter J. P., 1996): arouse a feeling of emergency around new ideas by highlighting the opportunities and consequences of not adopting them, in order to motivate individuals to accept them and put them into practice.
Engage stakeholders (Carnall, 2007): actively involve stakeholder and influencers in the decision-making and implementation process of new ideas, to help them feel involved in their development and promote their adoption.

Provide incentives and rewards (Amabile T. M., 1996): Provide tangible incentive and reward to encourage acceptance and adoption of new ideas, recognizing and valuing individuals who put them into practice.

Skill training and development (Davenport T. H., 1993): Provide training and skills development to support individuals in the adoption and optimal use of new ideas.

CHAPTER III MANAGEMENT METHODS AND TOOLS OF CREATIVITY AND INNOVATION

Methods and tools for managing creativity and innovation are essential to nurturing and implementing new ideas within a company. Among the most commonly used methods are divergent thinking, which encourages the generation of a large number of ideas, and convergent thought, which enables the evaluation and selection of the best ideas.

Tools such as brainstorming techniques, heuristic maps and evaluation matrices are also used to facilitate the process of creativity and innovation. Moreover, project management and change management are important tools for implementing and managing innovative ideas. The adoption of these methods and tools promotes the culture of innovation within the company and contributes to its growth and competitiveness.

Some commonly used methods to generate innovative ideas.

SECTION I: BRAINSTORMING

Brainstorming (Osborn, 1957)

A group technique that encourages participants to generate a large number of ideas without judgment or criticism.

Brainstorming is a method and tool commonly used to generate creative ideas and encourage innovation. It is a group process used to generate ideas, solve problems, and encourage creativity. It encourages the participation and contribution of all members of the group, regardless of their status or level of experience.

During a brainstorming session, group members are encouraged to share their ideas freely, without criticism or judgment. This freedom allows participants to explore new and innovative ideas without fear of being judged by others. Brainstorming also fosters collaboration and synergy among group members, as each individual's ideas can be developed and enhanced by the whole group.

This process can be used in many contexts, such as product development, strategic planning or problem solving. By using brainstorming, groups can often generate a significant amount of ideas in a short time, which can help create effective and innovative solutions and encourage collaboration, encourage active participation of all team members and collaboration among participants to enrich the ideas generated. (Paulus & Nijstad, 2003) Some effective brainstorming techniques:

Brainwriting (Rickards, 1999): Instead of sharing ideas out loud, participants write their ideas on separate sheets, then exchange and develop them. This encourages greater participation and avoids the influence of dominant ideas.

Directed or targeted brainstorming (VanGundy, 1987): Here, participants are invited to focus on a specific aspect of the problem to be solved or a specific issue. This can channel ideas and generate more targeted solutions.

SCAMPER (Eberle, 1971): This technique proposes a series of questions to stimulate creative thinking. Participants use these questions as triggers to rethink, reorganize, and adapt existing elements to generate new ideas.

Side thinking (De Bono, 1992): Developed by Edward de Bono, this technique encourages participants to move away from usual thinking patterns using strategies such as finding provocative solutions, using metaphors, or combining seemingly disparate elements.

World Café (Brown & Isaacs, 2005): This brainstorming method involves small group discussion on key issues, followed by a rotation of participants between groups to share and build on the ideas of others.

These different brainstorming techniques could help generate creative and innovative ideas.

SECTION II DESIGN THINKING (Martin., 2009)

Design thinking is taught in many institutions and companies around the world.It is an innovative user-centred approach that seeks to solve complex problems by proposing creative solutions. It emphasizes deep understanding of user needs, generating ideas, rapid prototyping, and continuous experimentation.

The design thinking process typically includes five key phases, which are as follows:

Empathy (Brown T. , 2009) : It is about understanding the needs, aspirations and challenges of users in a deep and empathic way. This involves observation, active listening and immersion in the user environment.

Problem Definition (Plattner, Meinel, & Leifer, 2020): Once you have an in-depth understanding of the users, it is important to define the specific problem or challenge to focus on. This requires a precise reformulation of the problem from the user's point of view to better guide creative thinking.

Ideation (Kelley, T, & Kelley, 2013): This phase involves generating a wide range of creative ideas to solve the problem. It is important to foster divergent thinking, push the boundaries of creativity and encourage collaboration among team members.

Prototyping (Brown T. , 2008) : Once some promising ideas have been selected, it is time to put them into practice as tangible prototypes. This allows you to quickly test concepts, iterate and collect user feedback to refine solutions.

Testing and iteration (Liedtka, King, & Bennett, 2013): In this last phase, prototypes are tested with target users to collect feedback and understand their real experience. This information is then used to adjust and improve solutions in an iterative manner.

Design thinking is therefore an iterative and user-centred approach aimed at solving complex problems by proposing innovative solutions. It is based on deep understanding of user needs, generation of creative ideas, rapid prototyping and iterations based on user feedback (Cross, 2011).

SECTION III MIND MAPPING (Buzan, 2010)**:**

It is a visual method that enables new ideas to emerge by organizing thoughts and associations of ideas.

Mindmapping, also known as a mental map, is a visual thinking method that helps to organize and hierarchize information more effectively. This technique was developed by British psychologist Tony Buzan in the 1970s.

Mindmapping is the creation of a map or diagram that graphically represents ideas, concepts or information. In the center of the map is the main subject, which is then connected to branches that represent the different categories or sub-categories. Each branch can in turn be developed with sub-branches and so on, creating a clear and logical hierarchy.

One of the main advantages of mindmapping is its ability to stimulate creativity and association of ideas. By using colors, images and keywords, mindmapping enables you to create links between ideas more intuitively and freely. This promotes broader and more flexible thinking, avoiding linear and rigid thinking patterns.

In addition, mindmapping facilitates the memorization and understanding of information. By using symbols, icons, or images to represent ideas, the brain is visually stimulated, which promotes faster and more effective memorization. By structuring information visually, mindmapping also helps to better understand the relationships between different ideas and concepts.
Finally, mindmapping is a very handy tool for taking notes, organizing a project, solving problems or planning a presentation. It synthesizes information in a concise and logical way, which facilitates the communication and transmission of ideas.

Mindmapping is an excellent way to organize and structure information visually and creatively. It stimulates associative thinking, facilitates memorization and promotes a deeper understanding of concepts. Whether for taking notes, planning a project or troubleshooting, mindmapping is a powerful tool that can be used in many situations.

SECTION IV PARADOXICAL THINKING (De Bono, 1992)**:**

It is an approach that encourages participants to reverse expectations and challenge established standards to stimulate new ideas.

The paradoxical thinking in the innovation management process is to recognize and effectively navigate between pairs of contradictory concepts or forces. This helps to manage the tensions and dilemmas inherent in innovation, which can lead to better results. For example, paradoxical thinking involves finding a balance between exploration and exploitation. Exploration is the search for new ideas, new technologies or new markets, while exploitation is the maximization of the value of existing resources. These two activities are essential for innovation, but they are often tense, because they require different skills and approaches.

Paradoxical thinking also involves managing the tension between risk-taking and stability. Innovation often requires taking risks and experimenting with new ideas, but it can also be unstable and uncertain. Finding a balance between searching for new territories and the need for a strong base can be a challenge.

In summary, the paradoxical thinking in the innovation management process is to recognize and strike a balance between pairs of contradictory concepts such as exploration and exploitation, risk-taking and stability. This helps to manage the tensions and dilemmas associated with innovation, which can promote the success of the company.

SECTION V. TEST OF CREATIVE IDEAS (Amabile T. M., 1996)**:**

Propose hypothetical scenarios or provocative questions to encourage reflection and generate new ideas.

Testing creative ideas in the process of generating innovative ideas involves submitting preliminary ideas to quick evaluations, experiments or prototyping to verify their potential for success and collect information to improve and refine ideas.

Techniques commonly used to test creative ideas are:

Quick Prototyping: Create a simple, basic or simulated prototype of the idea to enable a practical experiment and evaluate its viability and relevance.

Experiments: Conduct controlled experiments, pilot tests or trials to assess the effectiveness and technical feasibility of the idea.

Surveys and surveys: Ask prospective consumers or stakeholders for their opinions, preferences and suggestions about the idea.

Expert assessment: Submit the idea to field experts or qualified professionals for feedback, expertise and recommendations.

Market analysis: Study market trends, evaluate competition, and perform profitability analyses to identify the usefulness and commercial viability of the idea.

Validation of assumptions: Identify the assumptions underlying the idea and test them individually to verify their validity and potential impact.

User Feedback: Engage end users or target customers in the idea development process to gather their feedback, specific needs and ideas to improve the idea.

These creative ideas tests are aimed at evaluating, validating and reinforcing ideas generated in the process of generating innovative ideas. They help to make informed decisions, reduce risks and maximize the chances of success of ideas when implemented.

SECTION VI. VISUAL TECHNICS (Lokman & Saunders, 2014)**:**

It involves using visual methods such as collage, drawing or storyboards to stimulate imagination and generate innovative ideas.

The visualization techniques in the process of generating innovative ideas consist of using visual tools to stimulate creativity, encourage reflection, and facilitate the communication of ideas. Here are some of the most commonly used visualization techniques: Visual Brainstorming: Use tables, post-it or maps to note ideas and group them according to themes or relationships.

Mind maps: Use diagrams where ideas are organized treewise around a central concept. This allows for associations and stimulates connections between ideas.

Quick sketches: Draw quick visual representations of ideas to make them concrete and facilitate mutual understanding.

Storyboarding: Use sequences of images or illustrations to tell a story and explore different possible solutions.

Ideation Matrix: Create a matrix with axes to rank and evaluate ideas based on different criteria such as feasibility, relevance, or potential impact.

Mind mapping: Use diagrams with interconnected ideas to explore different perspectives, generate new ideas, and stimulate associative thinking.

Data Visualization: Use graphs, diagrams, or infographics to represent information or trends, and facilitate understanding of relationships and insights.

These visualization techniques help individuals and teams better explore, structure, communicate and evaluate innovation ideas. They foster a more collaborative, creative and visual approach in the process of generating ideas.

SECTIONVII KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL LEARNING

Under Section 1. Capitalize on existing knowledge (Nonaka & Takeuchi, 1995)

Managing knowledge and organizational learning by capitalizing on existing knowledge is an important area for promoting innovation, collaboration and performance within organizations. By capitalizing on existing knowledge, companies can leverage the accumulated expertise and experience to remain competitive in the market.

Knowledge management is the effective collection, organization, sharing and use of knowledge and information within an organization. This includes the creation of databases, the establishment of information-sharing methodologies and processes, and the training and development of employees to promote lifelong learning.

By capitalizing on existing knowledge, can avoid reinventing the wheel and engaging unnecessary resources. They can also improve their operational effectiveness by avoiding repetitive mistakes and by applying best practices already identified. Knowledge capitalization also accelerates the innovation process, enabling employees to quickly access relevant information and generate new ideas based on past work and successes.

Knowledge management also fosters collaboration by facilitating the sharing and exchange of information between departments and employees. By encouraging collaboration and knowledge sharing, organizations can strengthen teamwork, foster mutual learning and create an environment conducive to innovation.

With regard to organizational performance, knowledge management improves decision-making by providing decision makers with the information they need to understand problems, evaluate opportunities and choose the best options. It also facilitates adaptation to changes and changes in the market, enabling employees to learn quickly and adapt to new requirements.

To capitalize on existing knowledge (Davenport & Prusak, 1998) it is essential to establish systems and processes to collect, organize and share it effectively. This may include the establishment of databases and knowledge management systems, the creation of practice communities where employees can share their knowledge and experience, and training and skills development programmes to promote lifelong learning.

It is also important to create a culture of learning and sharing within the organization, encouraging collaboration, recognizing and valuing knowledge sharing, and encouraging employees to learn from each other.

Finally, it is crucial to establish monitoring and evaluation mechanisms to assess the effectiveness of knowledge management processes and to identify areas for improvement. Knowledge management and organizational learning is therefore a key area for promoting innovation, collaboration and performance within organizations. By leveraging existing

knowledge, companies can improve operational efficiency, boost innovation, facilitate collaboration, and make better-informed decisions.

Under Section 2. Stimulating learning and innovation within the organization (Dweck, 2006)

Stimulating learning and innovation within the organization is essential for promoting growth, adaptability and performance.

Here are some ideas and practices for achieving this:

Encourage a culture of learning: Create an environment that values continuous learning and curiosity. Encourage employees to ask questions, explore new ideas, and take risks. Encourage collaboration, knowledge sharing and mutual learning.

Provide training and development opportunities: Provide training, workshops and career development programmes to help employees acquire new skills and stay up to date with the latest developments in their field. Also encourage self-training by providing online resources and learning platforms.

Facilitate exchange of ideas: Create spaces and platforms for employees to share ideas, experiences and perspectives. Establish multidisciplinary teams and encourage cross-cutting collaboration. Organize brainstorming sessions, sharing meetings or hackathons to stimulate creativity and innovation.

Support experimentation and prototyping: Encourage employees to test new ideas and experiment with innovative solutions. Create an environment where mistakes are seen as learning opportunities and where innovation is encouraged even in the event of failure. Establish agile and iterative processes to quickly test new ideas and adjust approaches to results.

Reward and recognize learning and innovation: Establish recognition and reward mechanisms to enhance learning and innovation. This can include reward programs, bonuses or promotions for those who make a significant contribution to learning and innovation within the organization.

Learning and innovation are two key elements in ensuring the growth and competitiveness of an organization. By fostering an enabling environment for lifelong learning and innovation, can stimulate creativity, accelerate adaptation to change, and improve overall performance. Encourage curiosity and questioning:

To encourage learning and innovation, it is important to create an environment where curiosity is encouraged and where employees are encouraged to question and question the established things. This can be done by encouraging risk-taking, appreciating new ideas and promoting a culture of learning.

Promote collaboration: Innovation is often the product of collaboration and exchange of ideas between employees. It is therefore important to create spaces and opportunities for employees

to collaborate, share knowledge and work together on innovative projects. This can be achieved by encouraging open communication, establishing collaborative tools and promoting diversity of perspectives and competences.

Focusing on training and skills development: In order to promote learning and innovation, investing in employee skills training and development is essential. This can include formal training programmes, workshops, coaching sessions and career development opportunities. By supporting skills development, companies enable their employees to acquire new knowledge and skills that can be applied to innovative projects.

Promote knowledge management: Knowledge management, as described above, plays a crucial role in stimulating learning and innovation. By capitalizing on existing knowledge, organizing it in an accessible way and sharing it effectively, can encourage mutual learning and the generation of innovative ideas.

Promote a culture of innovation: Finally, in order to stimulate innovation, it is important to promote an innovation culture within the organization. This can be achieved by providing incentives and rewards for innovative ideas, encouraging controlled risk-taking, and establishing processes and structures that encourage the experimentation and implementation of new ideas.

By adopting these practices, it is possible to create an enabling environment for learning and innovation within your organization. This requires a continuous commitment from management and a clear communication on the importance of learning and innovation for the success of the organization.

CHAPTER IV. DEFINITIONS AND SOLUTIONS IN THE MANAGEMENT OF CREATIVITY AND INNOVATION

SECTION I. DEFINITIONS AND SOLUTIONS (Catmull & Wallace, 2014)

Creativity and innovation management presents unique challenges for organizations. Here is a summary of the main challenges and possible solutions.

1-Challenge: Promoting an environment conducive to creativity. Organizations must create an environment that encourages experimentation, risk-taking and the sharing of creative ideas. However, this can be hampered by rigid hierarchical structures, strict rules and a culture of compliance.

Solution: Provide a safe and supportive space for employees to express their ideas without fear of judgment. Encourage openness and diversity of perspectives. Establish communication and reward mechanisms that enhance creativity and innovation.

2-Challenge: Encourage collaboration and sharing of ideas. Creativity and innovation are often the result of collaboration between different stakeholders. However, organizational silos and communication barriers can hinder collaboration and the sharing of ideas. Solution: Create formal and informal collaboration spaces and opportunities. Encourage employees to work with colleagues from different departments or disciplines. Establish online collaboration tools to facilitate the sharing of ideas and knowledge.

3-Challenge: Manage the innovation process effectively. Innovation management requires appropriate planning, coordination and monitoring. This can be difficult when innovation projects are often unstructured and uncertain.

Solution: Adopt project management methodologies appropriate to innovation, such as design thinking or agile approach. Set clear steps and measurable targets to measure innovation progress. Establish multidisciplinary teams to foster collaboration and synergy between different stakeholders.

4-Challenge: Manage innovation-related risks. Innovation always carries a share of risk, whether it is the failure of a new idea or organizational resistance to change. Solution: Encourage a culture that accepts failure and sees mistakes as opportunities for learning. Establish risk assessment and management processes to identify and mitigate potential risks. Communicate regularly about the benefits and positive outcomes of innovation to overcome resistance to change.

Creativity and innovation management requires a proactive and flexible approach to overcoming these challenges. By adopting these solutions, organizations can foster an enabling environment for creativity and innovation, thereby boosting long-term growth and competitiveness.

SECTION II. BARRIERS TO INNOVATION

There are several barriers to innovation within organizations. The main barriers include (Christensen C. M., 1997):

Cultural barriers: A rigid, change-resistant organizational culture can be a major obstacle to innovation. A culture that values compliance rather than risk-taking and experimentation limits the organization's ability to generate new ideas and implement them.

Structural barriers: Inflexible hierarchical structures and organizational processes can inhibit innovation by slowing down decision-making and hindering collaboration among different stakeholders. Organizational silos can also impede the dissemination of ideas and knowledge.

Technological barriers: Obsolete or ineffective technologies can hinder innovation by limiting opportunities for developing new ideas and slowing down the innovation process. Adopting modern technologies and keeping up to date with the latest technological developments is essential to facilitate innovation.

Financial barriers: The lack of financial resources dedicated to innovation can be a major challenge. Innovation often requires significant investments in research and development, technologies and infrastructure. When resources are limited, it can be difficult to finance innovation.

Skill barriers: Lack of skills and knowledge to generate and develop innovative ideas can hinder innovation. It is important to train employees and provide them with professional development opportunities to nurture their creativity and innovation skills.

In the following, we will look at the two main barriers: those linked to cultural and organizational barriers and those related to financial and resource constraints.

Under Section 1 Cultural and organizational obstacles (Amabile T. M., 1998)

In managing creativity and innovation, there are several cultural and organizational obstacles that can hinder the process. These barriers may stem from cultural norms, organizational structures, values and beliefs, as well as dominant ways of thinking. Here are some examples of cultural and organizational obstacles:

Rigidity and Resistance to Change: In some cultures and organizations, there may be resistance to change and preference for traditional ways of doing. This may limit the possibility of exploring new ideas and adopting different approaches.

Hierarchy and authority: Hierarchical organizational structures can make communication and collaboration between the different layers of the organization difficult. This can inhibit free expression of ideas and limit participation, especially of lower-level employees.

Lack of failure tolerance: Some cultures and organizations have a low tolerance for failure and put more emphasis on improvement and compliance. This can discourage the risk-taking necessary for innovation and restrict creativity.

Organizational Silos: Organizational silos are closed divisions or departments that operate autonomously and do not easily share knowledge and ideas with the rest of the organization. This can hamper collaboration and the exchange of creative ideas.

Lack of diversity: Cultures and organizations that lack diversity, whether in terms of gender, race, age or career background, can limit the diversity of perspectives and ideas. Diversity promotes creativity because it brings different perspectives and experiences.

It is important to recognize these obstacles and to develop strategies to overcome them. This can include promoting a culture of failure tolerance, creating innovative and collaborative working environments, promoting diversity, and encouraging the participation of all employees in decision-making and ideas generation.

Under Section 2. Financial and resource constraints (Mitchel, Smith, & Morse, 2001)

The management of creativity and innovation may be subject to financial and resource constraints. These constraints may limit a company's ability to develop and implement new innovative ideas and practices. Here are some examples of financial constraints and current resources:
Limited budget: Financial constraints may limit the resources available to invest in research and development, the acquisition of technology or external skills, or the creation of teams dedicated to innovation. A limited budget can make it difficult to explore new ideas and experiment with new concepts.

Lack of qualified staff: Creativity and innovation management often requires specialized skills and knowledge. If a company does not have qualified staff to design, develop and implement innovative ideas, it may impede its ability to innovate. The lack of qualified human resources can also have an impact on the management of the innovation process.

Infrastructure and limited tools: Companies must have adequate infrastructure and appropriate tools to support the innovation process. This can include cutting-edge technologies, project management software, spaces for creativity and collaboration, or fast manufacturing and prototyping equipment. Financial constraints may prevent the acquisition or upgrading of these resources.

Short-term financial pressures: Companies may face short-term financing pressures, which may lead them to focus on short term goals rather than investing in longer-term research and development activities. This constraint may limit a company's ability to take risks and explore new innovative paths.

Competition and competitive market: In a competitive environment, companies must constantly innovate in order to remain relevant and compete. Lack of resources can make it difficult to develop new ideas and adopt innovative practices, resulting in lagging behind competitors.

To overcome these constraints, companies can adopt different strategies. This may include implementing an efficient innovation process, seeking strategic partnerships to share costs and resources, investing in staff skills development, or seeking external funding such as grants or investments.

SECTION III SOLUTIONS TO OVERCOME INNOVATION DEFICITS (Brown M. , 2015)

How can we overcome these challenges?

Under Section 1. Encourage interdisciplinary collaboration

Interdisciplinary collaboration has become increasingly crucial to overcoming the challenges of innovation in various areas. To encourage this collaboration, here are some key points to consider:
Awareness and communication: It is important to raise awareness of the benefits of interdisciplinary collaboration. Awareness of the successes and benefits of this approach can help motivate people to work together. Open and transparent communication is essential for linking and encouraging collaboration.

Creation of a favourable environment: It is important to create an enabling working environment for interdisciplinary collaboration. This can include collaborative spaces, flexible schedules and incentives to encourage interdisciplinary exchanges. Businesses and organizations must also encourage and support new ideas and take action to overcome potential obstacles.

Training and professional development: Professionals should be trained to interdisciplinary collaboration from the beginning of their careers. Training programmes should be developed to develop communication, problem-solving and teamwork skills with people from different disciplines. Continuous professional development is also important forining and strengthening interdisciplinary collaborative skills over time.in other words, to train employees with innovation skills and methodologies, and to encourage lifelong learning.

Promotion of diversity: Diversity is a key element of interdisciplinary collaboration. It is important to encourage the participation of people from different disciplines and backgrounds in the working teams. This brings different perspectives and encourages creativity and innovation.

Partnerships: Interdisciplinary collaboration often requires partnerships with other organizations, institutions or. It is important to establish strong and trustworthy relationships with these partners in order to promote collaboration and resource sharing.

Maintaining a technological vigil and investing in innovative technologies to boost innovation (Schein, 2010).

Under Section 2. Investing in research and development (OCDE, 2015)

Investment in research and development (R&D) is a key solution to meeting the challenges of innovation. Here are some reasons why it can be effective:

Stimulating innovation: R&D enables the development of new ideas, technologies and products. By investing in R&D, companies can boost their innovation capacity and become market leaders.

Improving competitiveness: Investing in R&D enables companies to improve their competitives by developing new, better-performing products or services and improving their operational efficiency.

Meet consumer needs: R&D helps to better understand consumer needs and expectations. By investing in research, companies can develop innovative products that meet market demands and generate added value for consumers.

Promote economic growth: Investing in R&D can boost economic growth by creating new jobs, promoting entrepreneurship and generating positive economic outcomes.

Addressing social challenges: R&D can be used to address societal challenges such as climate change, health, renewable energy, etc. By investing in research, can help find sustainable solutions to these problems and have a positive impact on society.

Investing in research and development is an effective strategy to meet the challenges of innovation. This helps to stimulate innovation, improve competitiveness, meet consumer needs, promote economic growth and meet societal challenges. It is therefore essential that governments, and research institutions continue to support and invest in R&D to ensure sustainable prosperity.

Under Section 3. Partnerships with external actors (Chesbrough H. , 2003)

Building partnerships with external actors is another effective solution to the challenges of innovation. Here's why it can be beneficial:

Access to Complementary Resources: Partnerships provide access to complementary resources such as knowledge, skills, technologies, infrastructure, etc. By working with external partners, a company can strengthen its innovation capacity by combining its own strengths with those of its partners.

Risk and cost sharing: Innovation often involves significant risks and costs. Partnerships make it possible to share these risks and costs among the various stakeholders involved. This reduces the financial burden and brings together the resources needed to carry out innovative

projects.
Access to New Markets: Partnerships can enable a company to access new markets by exploiting the networks and distribution channels of its partners. This can help to accelerate the adoption and commercialization of new innovations.

Stimulate creativity and exchange of ideas: Collaboration with external partners promotes exchanges of ideas and creativity. By interacting with external actors, a company can benefit from new perspectives and different experiences, which can lead to more innovative innovations.
Enhance credibility and visibility: Partnerships with recognized and respected external actors can strengthen a company's credibility, and give it greater visibility. This can help attract investors, customers and talent, which is essential to supporting innovation.

Building partnerships with external actors is an effective solution to the challenges of innovation. This enables access to complementary resources, sharing risks and costs, access to new markets, stimulating creativity and exchange of ideas, and enhancing credibility and visibility. It is therefore important for companies to explore and develop strategic partnerships to foster innovation and remain competitive in the market.

CHAPTER V. EXAMENS OF BEST PRACTICES IN THE MATTER OF CREATIVITY AND INNOVATION MANAGEMENT (Amabile T. M., 2011)

Before presenting the best practices in the matter of creativity and innovation management we must examine an important aspect that of the organizational structure of innovation.

The organizational structure of innovation refers to how a company or institution organizes its resources, teams, and processes to foster and manage innovation.

Different structures suit different types of organizations and industries, and choosing the right structure can significantly impact the success of innovation initiatives. Here are some common organizational structures of innovation: Centralized Innovation[4], Decentralized Innovation[5], Cross-Functional Teams[6], Innovation Labs and Incubators[7], Open Innovation[8], Skunkworks[9] , Innovation Hubs[10]…

Choosing the right organizational structure for innovation depends on the organization's size, industry, culture, and strategic goals. Some organizations may even use a hybrid approach, combining elements from different structures to best suit their needs.

This is what we will clarify as we present certain cases of emblematic companies in this chapter.

It is clear that in this chapter, we present some examples of good practices in creativity and innovation management[11] that:

[4] In this structure, a dedicated team or department is responsible for all innovation activities. This team typically reports directly to top management and has a clear mandate to drive innovation across the organization.

[5] Innovation activities are distributed across various departments and teams within the organization. Each team or department is responsible for driving innovation in its area of expertise.

[6] Innovation is driven by teams composed of members from different departments and disciplines. These teams are often temporary and focus on specific projects.

[7] Separate units within or affiliated with the organization are dedicated to experimenting with new ideas and technologies. These labs often operate with more flexibility and less bureaucracy than the main organization.

[8] This approach involves leveraging external ideas and innovations through partnerships, collaborations, and crowdsourcing. It opens up the innovation process to include contributions from outside the organization.

[9] A skunkworks is a small, independent group within an organization given the freedom to experiment and innovate without the constraints of the larger organizational structure. These groups are often secretive and operate with a high level of autonomy.

[10] Geographically distinct centers that focus on innovation. These hubs can be internal or involve partnerships with local startups, universities, and other organizations.

[11] Cases of best practices at the international level are presented in Annex III
Excerpts from the "Guide to good practices for creativity in business"in
https://4.interreg-sudoe.eu/contenido-dinamico/libreria-ficheros/669CE1A8-BB4C-64BE-E11E-2F36F3C66BAD.pdf

Encourage diversity and inclusion: A diverse team brings different perspectives and experiences, which fosters creativity and innovation. It is therefore important to foster an inclusive environment where everyone feels valued and where ideas are welcomed with openness.

Promote freedom and autonomy: Giving employees the freedom to explore new ideas and take initiatives encourages creativity. It is essential to create a climate of confidence and empower employees to make decisions and experiment with new approaches.

Establish structured innovation processes: Having clear processes to manage innovation maximizes the chances of success. This may include phases of research, development, testing and implementation. It is important to establish mechanisms to evaluate and select the most promising ideas.

Encourage internal and external collaboration: Encouraging collaboration between different teams and departments within the company facilitates the exchange of ideas and stimulates innovation. In addition, partnerships with external actors, such as universities, start-ups or other, can enrich ideas and promote the implementation of innovative projects.

Develop a culture of lifelong learning: Encouraging continuous learning and continuous improvement fosters innovation. It is important to create an environment where failure is perceived as an opportunity to progress and where lessons learned are shared and integrated into future projects.

Give strategic priority to innovation: Innovation should not be seen as a secondary activity, but as a strategic priority for the company. This involves allocating adequate resources, setting clear targets and measuring results. Innovation-related key performance indicators may be useful.

Engage employees at all levels: Innovation should not be reserved for R&D or marketing departments alone. Engaging employees at all levels of the organization mobilizes collective intelligence and promotes the emergence of innovative ideas.

Creativity and innovation management is based on several best practices such as diversity, autonomy, structured processes, collaboration, lifelong learning, strategic priority and employee engagement. By implementing these practices, can create an enabling environment for innovation and increase their chances of success[12].

[12] See Annex III for examples of good practices in terms of creativity and innovation in some large European companies.

SECTION I. ICONIC INNOVATIVE COMPANIES[13]

In this section, we are going to give some examples of emblematic innovative enterprises in terms of creativity and innovation management:

Under section 1-Google (Schmidt & Rosenberg, 2017):

Google is known for its culture of innovation. The company offers its employees free time to work on their own projects, as part of the "20% time" program. This approach enables employees to develop new ideas and foster internal innovation. The company encourages creativity by offering its employees free time to develop their own personal projects, known as "20% time", which led to the creation of products such as Gmail and Google News. Moreover, Google emphasizes the culture of failure, seeing mistakes as opportunities for learning.

Google encourages and manages creativity in its workplace. It focuses on the role of leadership, corporate culture and decision-making processes at Google. It is an excellent example of understanding good innovation management practices in a leading technology company.
Google's approach to managing creativity and innovation is often cited as one of the best practices in this area.

Under Section 2-Apple (Segall, 2012):

Apple is renowned for its approach focused on product design and innovation. The company encourages creativity by bringing together multidisciplinary teams to work on projects and fosters a culture of innovation by encouraging employees to take risks and think differently. An emblematic innovative company that can be taken for example in creative and innovation management is Apple Inc.

Apple Inc. is an American company that stands out for its ability to constantly innovate in the technology industry. The company was founded by Steve Jobs, Steve Wozniak and Ronald Wayne in 1976 and is now run by Tim Cook.

Apple is known for its culture of creativity and innovation. The company encourages its employees to think differently and to push the limits of what is possible. This culture is embodied in the company's famous advertising campaign "Think Different". Apple's success in innovation can be attributed to several factors. First, the company invests heavily in research and development. Apple devotes a significant share of its revenue to creating new products and improving existing technologies. For example, the company spent more than $10 billion in R&D in 2020.

In addition, Apple is renowned for its ability to harmoniously integrate design and technology. Apple products are not only technically efficient, but are also aesthetically

[13] see the detailed case study in Appendix IV

pleasant and intuitive to use. This user-centered approach has helped differentiate the brand and keep its customers loyal.

Finally, Apple has managed to create an ecosystem of interconnected products and services. Apple devices, such as the iPhone, iPad, and Mac, are designed to work in harmony with each other. This interconnectivity enables users to benefit from a smooth and consistent experience, while encouraging the adoption of multiple brand products. **Apple Inc**.

Founded in 1976 by Steve Jobs, Steve Wozniak and Ronald Wayne, Apple is one of the most iconic and innovative technology companies in the world. Here are some of its key achievements and features:

1. **iPhone and the smartphone revolution**: Apple launched the iPhone in 2007, which revolutionized the smartphone industry by introducing a multi-touch touch screen, a user-friendly interface, and an ecosystem of applications.

2. **App Store**: The App Store, launched in 2008, created an ecosystem for app developers and transformed the way people use their smartphones by offering millions of apps for various purposes.

3. **iPad and touch tablets**: Apple popularized the touch tablet with the iPad in 2010, creating a new category of consumer electronics products.

4. **Mac and MacBook**: Apple has consistently pushed the limits of personal computing with its Mac and Macbook computers, focusing on stylish design, high resolution displays, and high performance.

5. **iOS Operating System**: Apple's iOS mobile operating system is recognized for its simplicity and security, and has become a standard in the industry.
6. **Integrated Ecosystem**: Apple has developed an integrated ecosystem of products and services, including iCloud, Apple Music, Apple Watch, and more, enabling a smooth and consistent user experience.

7. **Sustainability Innovations**: Apple is committed to sustainability initiatives, including the design of recyclable products, the use of renewable energy in its operations, and the reduction of its carbon footprint.

8. **Design and Marketing**: Apple is renowned for its stylish, minimalist product design and impressive marketing campaigns.

9. **Privacy protection**: Apple has taken steps to protect the privacy of its users, including by introducing features such as the App Tracking Transparency.

10. **Continued Innovation**: Apple continues to innovate by launching new products, services, and software updates, and investing in areas such as augmented reality and health. Apple has significantly influenced the technology industry, redefined design and usability standards, and created a base of passionate customers around the world. Its approach to user-centred innovation and simplicity has become a benchmark for many technology companies.

Under section -3M (Drucker P. , 1985)

3M is famous for its culture of innovation. The company encourages its employees to devote time to personal projects and also supports open innovation by working with external partners to develop new ideas and technologies.

In his book, Peter Drucker explores the different facets of innovation and entrepreneurship, focusing on how can promote creativity and innovation in their organizations. It also provides practical advice on how to identify innovation opportunities, manage the innovation process and develop a culture of innovation within the company. The 3M company is mentioned as an emblematic example of an innovative company in this book.

3M is an American company founded in 1902 and is known for its ability to innovate in many areas, including consumer products, protective equipment, medical devices, electronics, etc. 3M has been the source of many innovations that have had a significant impact in various sectors.
What distinguishes 3M in terms of creativity and innovation management is its culture of innovation and risk-taking. The company strongly encourages its employees to develop new ideas and experiment. It has put in place a program called "15% Culture" that allows employees to devote 15% of their working time to personal projects, thereby encouraging creativity and innovation.

3M also has a robust idea management system that allows employees to submit their ideas and develop them in collaboration with other colleagues. The company has a process of filtering ideas that allows selecting the most promising projects to develop.
3M is an emblematic example of innovative enterprise that stands out for its culture of innovation, its ability to take risks and its idea management system. This enterprise offers an interesting perspective on how to promote creativity and innovation in an organization.

Under section 4-Netflix (Reed & Meyer, 2020):

Netflix adopts a creativity- and innovation-oriented approach by giving its employees great autonomy.

The company also encourages risk-taking and values mistakes as learning opportunities. Another emblematic innovative company that can be taken as an example in creative and innovation management is Netflix.

Netflix is an American company founded in 1997 and is known for its streaming platform of audiovisual content. Netflix has revolutionized the entertainment industry by offering a business model based on the streaming of movies and series, without advertising and with a wide range of content. The company has been able to innovate in its way of producing and distributing content, including using algorithms to recommend movies and series to users.

What distinguishes Netflix in terms of creativity and innovation management is its culture of experimentation and lifelong learning. The company encourages its employees to take risks and test new ideas. It has set up a test and learning process, where small teams are tasked with experimenting with new concepts and measuring results.

Netflix is also known for its data-centred approach, where decisions are made on the basis of in-depth analysis.

Netflix is an emblematic example of innovative enterprise that stands out for its culture of experimentation and lifelong learning, as well as its data-centred approach. This enterprise offers an interesting perspective on how to promote creativity and innovation in an organization.

Under section 5-Amazon (Stone & Brad, 2013):

Amazon encourages creativity and innovation by fostering a culture of continuous experimentation and improvement. The company also encourages diversity of ideas and perspectives by promoting inclusion and having a global team.

Amazon is another iconic innovative company that has succeeded in positioning itself as a leader in the field of creativity and innovation management. Amazon's leadership and management approach places a strong emphasis on risk-taking and continuous experimentation, which has enabled the company to launch many disruptive products and services, such as Amazon Prime and the Kindle reader.

Under section 6- Pixar Animation Studios (Catmull E. , 2014)).

Another emblematic innovative company in creative and innovation management is Pixar Animation Studios. Pixar is known for its ability to produce successful and innovative animated films. Their approach to creativity management is based on principles such as collaboration, experimentation, and appreciation of the ideas of all employees.

These companies adopt different approaches to fostering creativity and innovation, but all share a culture of openness, experimentation and encouragement to take risks.

Under section 7- Tesla Inc. (Vance, 2015)

Tesla Inc. is an American company specializing in the design, manufacture and sale of electric vehicles, energy storage solutions and solar panels. Founded in 2003 by Elon Musk, JB Straubel, Martin Eberhard, Marc Tarpenning, and Ian Wright, Tesla has quickly established itself as a major player in the automotive industry with its innovative approach and vision to revolutionize the traditional car industry.

One of Tesla's most emblematic products is its range of high-end electric cars, including the Model S, Model 3, Model X, and Model Y. These cars are known for their stylish design, exceptional performance and high range thanks to the use of advanced lithium-ion batteries.

What distinguishes Tesla from other electric car manufacturers is its constant commitment to innovation. The company has invested heavily in research and development to continuously improve its products and introduce revolutionary new technologies to the automotive market. For example, Tesla was one of the first manufacturers to introduce the autopilot system, which allows its cars to drive semi-autonomously on highways.

In addition to its range of electric cars, Tesla is also a pioneer in energy storage solutions. The company offers residential and commercial energy storage batteries, which allow the energy produced by solar panels to be stored and used when needed. These energy storage solutions are considered a major breakthrough in the field of renewable energy.

In addition, Tesla has also invested in the development of a network of super chargers, ultra-fast charging stations spread around the world, which allow Tesla car drivers to recharge their vehicles in just a few minutes.

Innovation is not only limited to Tesla’s products, but also to the company’s overall approach. For example, Tesla has adopted a direct-sale model, avoiding traditional dealers and selling its vehicles directly to consumers. This allows it to fully control the customer experience and facilitate the purchase of an electric vehicle.

In short, Tesla Inc. is an emblematic example of an innovative company that has radically transformed the traditional automotive industry with its high-end electric cars, energy storage solutions and charging network. The company’s constant commitment to innovation and bold vision have helped make Tesla a global leader in the electric mobility sector.

Under Section 8- SpaceX (Vance, 2015).

Space Exploration Technologies Corp., more commonly known as SpaceX, was founded by Elon Musk in 2002. This enterprise is emblematic for its bold vision of making space exploration more accessible and affordable. Here are some key points that demonstrate its innovative character:

1. Reuse of rockets: SpaceX has revolutionized the space industry by developing reusable rockets. The Falcon 9, for example, can be used for multiple launches, significantly reducing the costs associated with space flights.

2. The Starship program: SpaceX is working on the development of the Starship, an interplanetary rocket that could possibly carry humans to Mars and other destinations. This ambitious vision of colonizing Mars is at the forefront of space innovation.
3. Inhabited missions: SpaceX became the first private company to send astronauts into Earth orbit through its partnership with NASA. The Crew Dragon capsule offers a new approach to transporting people to the International Space Station.

4. Satellite Internet: With the Starlink project, SpaceX seeks to provide worldwide high-speed Internet access using a constellation of satellites in low orbit. This has the potential to connect remote and poorly serviced regions.

5. Continuous innovation: SpaceX is constantly working on new technologies, such as Raptor propulsion, modernized space combinations and more, constantly pushing the boundaries of space exploration.

SpaceX' constant innovation has transformed the space industry and aroused global interest in space exploration. It illustrates how a company can change the world by pushing the boundaries of technology and having a bold vision for the future.

An emblematic innovative company other than those mentioned above is SpaceX, founded by Elon Musk in 2002. SpaceX is a private company specializing in the development of space technologies. It is known to have succeeded in significantly reducing the cost of satellite launches by developing innovative solutions such as reuse of rocket boosters. SpaceX also developed the first private capsule capable of transporting astronauts to the International Space Station.

When it comes to managing creativity and innovation, SpaceX is often cited as an example of success. Elon Musk encourages risk-taking and fosters an environment conducive to experimentation and innovation. It also encourages team-to-team collaboration and values the diversity of skills and ideas. SpaceX also practices a form of agile management, allowing rapid rotation and adaptation to new technologies and market demands.

Under section 9- Airbnb (Gallagher, 2017)

Another emblematic innovative company that can be seen as an example of good practice in creativity and innovation management is Airbnb.

Airbnb is a private rental platform founded in 2008. It revolutionized the hosting industry and experienced rapid growth thanks to its culture of innovation and its ability to stimulate the creativity of its employees.

The company has succeeded in innovating in a sector traditionally dominated by hotels and has put in place strategies to meet challenges and criticisms. Airbnb has succeeded in fostering creativity and innovation, offering useful lessons and insights for seeking to improve their creativity & innovation management.

Under section 10-LEGO (Kristiansen & Rasmussen, 2014)

Another emblematic innovative company in creative and innovation management is LEGO.

LEGO is a Danish toy company known for its construction bricks.

LEGO has managed to reinvent itself over the years and maintain its leading position through its ability to foster creativity and innovation. The company values the importance of play in the creative process and encourages its employees to think creatively. LEGO has also established flexible management structures that enable innovative ideas to develop and be implemented quickly.

Under Section 11-Zappos (Hsieh, 2010)

Zappos is an emblematic innovative company in creativity and innovation management. This online shoe sales company has managed to stand out with its culture of enterprise focused on creativity, innovation and customer service.

Zappos encourages creativity and innovation by providing a dynamic and positive working environment. They have established an organizational structure based on self-management, where employees have the power to make decisions and innovate in their daily work. They also set up an internal training and development program to help employees leverage their creativity and come up with new ideas.

The company also has a unique approach to customer relationship, focused on customer satisfaction and experience. They offer free express delivery service and facilitate returns, thus focusing on customer satisfaction rather than short-term sales.
Hsieh, the CEO of Zappos, explores how the corporate culture, based on key values and principles such as transparency, trust, autonomy and customer satisfaction, has helped shape Zappos's success. It also describes the creative and innovation management practices implemented by the company, including by encouraging individual innovation and empowering employees to be creative.

Under Section 12-International Business Machines Corporation(IBM) (Tedlow, 2003).

IBM is an American company that operates in the field of information technology and computer services. It is known for its rich history of innovation and its ability to adapt to changes in the market.

IBM has implemented several innovation management initiatives and practices that have contributed to its success. Here are some examples:

1. Advanced Research Program: IBM has an advanced research program that encourages fundamental and applied research in areas such as artificial intelligence, blockchain, cloud computing, etc. This program enables IBM to stay at the forefront of technology and develop innovative new solutions.

2. Open collaboration: IBM encourages open collaboration by working with external partners, such as universities, startups and customers, to develop innovative solutions. The company has also launched open collaboration initiatives, such as the IBM Watson AI XPRIZE program, which aims to stimulate innovation in the field of artificial intelligence.

3. Culture of Innovation: IBM fosters a culture of innovation by encouraging employees to take risks, experiment with new ideas and learn from failures. The company organizes internal hackathons, brainstorming sessions and training programmes to stimulate the creativity of its employees.

4. Agile Innovation Process: IBM has adopted agile methodologies to manage innovation. This includes using methods such as Design Thinking and Lean Startup to quickly develop prototypes, test ideas, and iterate on solutions. This approach allows IBM to reduce marketing delays and obtain quick feedback from users.

Under section 13-IDEO (Kelley T. , 2001)

An emblematic innovative company that can be regarded as an example of good practice in the management of creativity and innovation is IDEO.

IDEO is a multidisciplinary design company based in California, United States. It is known for its innovative approach to design thinking and its focus on creativity and innovation. An emblematic innovative company that can be regarded as an example of good practice in managing creativity and innovation is IDEO.

IDEO is a design and innovation company based in California, United States. Founded in 1991, IDEO is known for its human-centric approach to problem-solving and product development. The company has worked with many major companies such as Apple, Procter & Gamble, Ford and PepsiCo.

IDEO encourages multidisciplinary collaboration and co-creation, bringing together teams of designers, engineers, psychologists, anthropologists and other experts to work together on projects. The company also fosters a culture of experimentation, lifelong learning and critical thinking.

Under section 14-Spotify (Duportail, 2020)

Spotify is a Swedish company that revolutionized the music industry with its music streaming service. Founded in 2006 by Daniel Ek and Martin Lorentzon, Spotify offers an online

platform that allows users to access a vast catalogue of streaming music, in exchange for a monthly subscription.

What distinguishes Spotify from other music companies is its innovative approach based on customization and recommendation. Using sophisticated algorithms, Spotify analyzes the music preferences of users and offers them playlists and recommendations tailored to their tastes. This customized approach provides users with a unique listening experience and promotes the discovery of new artists and new songs.

In addition, Spotify has also established partnerships with labels and artists, enabling it to offer exclusive content and launch innovative marketing campaigns. For example, the company has launched customized playlists for professional athletes, collaborations with fashion brands and original podcasts.

When it comes to innovation management, Spotify stands out for its culture of experimentation and iteration. The company encourages its employees to try new ideas and learn from their failures. This has enabled Spotify to develop new features and adapt quickly to the changing needs of its users.

One iconic innovative company to consider is Spotify. Its approach to creativity and innovation, with the Agile culture and the promotion of team autonomy, is well documented.

Under Section 15- Atlassian (Kalelioğlu, 2023)

Australian company specializing in the development of collaboration and project management software. Founded in 2002, it has become one of the global leaders in its field, with flagship products such as Jira, Confluence and Trello.

One of Atlassian's main strengths lies in its creativity management. The company implements a number of strategies and practices to encourage innovation and stimulate the creativity of its employees.
First of all, Atlassian promotes a corporate culture oriented towards experimentation and risk-taking. Employees are encouraged to propose new ideas and test them quickly. The company implements pilot projects and internal initiatives to enable employees to explore new paths and innovate.

Next, Atlassian encourages collaboration and communication within the company. Employees are encouraged to share ideas, teamwork, and collaborate with colleagues from different departments. Open workspaces and online collaboration tools are made available to them to facilitate these exchanges.

In addition, Atlassian attaches great importance to autonomy and individual responsibility. Employees are encouraged to take initiatives and take care of themselves. The company promotes a distributed leadership model, where employees are encouraged to make decisions and act independently.

Finally, Atlassian also advocates transparency within the company. Information is shared openly, decisions are explained and mistakes are seen as learning opportunities. This approach creates an environment of confidence in which employees can express their ideas freely.

Through these different practices, Atlassian manages to foster the creativity of its employees and to stimulate innovation within the company. This approach contributed to its success and enabled it to develop high-quality products, responding to the changing needs of the market. A notable company for its creativity management is Atlassian. Explore "Team Geek: A Software Developer's Guide to Working Well with Others" by Ben Collins-Sussman and Matthew McCullough's Team Geek : A Software Developers' Guide to working well with others to learn more about the innovative management principles adopted by Atlassian.

Under section 16- Samsung Electronics (Song, Lee, & Park, 2018)

An emblematic innovative company that can be regarded as an example of good practice in creative and innovation management is Samsung Electronics.

Samsung Electronics is a South Korean company that has become one of the world leaders in technology and consumer electronics. It is known for its innovative approach and its ability to launch innovative products onto the market.

Samsung Electronics has implemented several innovation management initiatives and practices that have contributed to its success. Here are some examples:
1.Research and Development (R&D) investment: Samsung devotes a significant share of its revenue to R&D, enabling it to develop new technologies and launch innovative products. The company has many R&D centres around the world and also collaborates with universities and research institutes.

2. Culture of Innovation: Samsung encourages a culture of innovation by encouraging its employees to think creatively and to propose new ideas. The company organizes internal innovation competitions, brainstorming sessions and training programmes to stimulate the creativity of its employees.

3. Collaboration with External Partners: Samsung works with external partners, such as startups, universities and suppliers, to stimulate open innovation. This collaboration enables Samsung to gain access to new ideas, technologies and talents, thus strengthening its capacity for innovation.

4. Structured Innovation Process: Samsung has implemented a structured innovation process to manage the innovation lifecycle. This includes market research, product design, development, testing and marketing. This process enables Samsung to effectively manage innovation projects and ensure that they meet consumer needs.

Under section 17- IDEXX Laboratories (Hockenberry, 2015)

An emblematic innovative company that can be regarded as an example of good practice in creative and innovation management is IDEXX L.

This study examines how the company has succeeded in innovation in the animal health industry by adopting a customer-centred approach and fostering a culture of innovation. It provides a detailed overview of innovation management practices at IDEXX Laboratories. IDEXX Laboratories is an American company specializing in animal health and veterinary medicine. It is recognized for its innovative approach in the development of diagnostic and animal care solutions.

IDEXX Laboratories has implemented several innovation management initiatives and practices that have contributed to its success. Here are some examples:

1. Interdisciplinary collaboration: IDEXX encourages collaboration among different disciplines, including veterinarians, scientists, engineers and marketing specialists. This collaboration promotes the exchange of ideas and knowledge, which stimulates creativity and innovation within the company.

2. Listen to customers: IDEXX attaches great importance to listening to the needs and concerns of its customers, such as veterinarians and pet owners. The company organizes discussion groups, surveys and regular meetings with its customers to understand their needs and develop suitable solutions.

3. Investment in research and development (R&D): IDEXX invests significantly in R&D to develop new technologies and products. The company has advanced research laboratories and also collaborates with universities and research institutes to stimulate innovation.
4. Culture of Innovation: IDEXX promotes a culture of innovation by encouraging its employees to propose new ideas and take initiatives. The company organizes brainstorming sessions, internal hackathons and training programmes to develop the innovation management skills of its employees.

SECTION II SUCCESSED INNOVATION MANAGEMENT INITIATIVES AND PROGRAMMS (Tidd, Bessant, & Pavitt, 2005)

Successful innovation management initiatives and programmes are essential to fostering creativity and innovation within organizations.

1. Culture of innovation: Organizations that manage innovation successfully often have a strong culture of innovation. This means that they encourage risk-taking, foster lifelong learning, and value new ideas. They create an enabling environment for innovation by encouraging collaboration, diversity of ideas, and rewarding innovative efforts.

2. Structured innovation process: Successful organizations in managing innovation set up structured processes to manage the life cycle of innovation, from the generation of ideas to the implementation of innovative projects. These processes often include phases of research and

development, prototyping, testing and marketing. They enable efficient management of the resources, timelines and risks associated with innovation.

3. Internal and external collaboration: Successful innovation management initiatives encourage collaboration both internally and externally. Internally, this can translate into the establishment of knowledge-sharing platforms, collective brainstorming sessions, and collaboration between different teams or departments. Externally, this can involve partnerships with universities, startups, customers or suppliers to stimulate open innovation.

4. Change Management: Successful innovation management often requires cultural and organizational change. Organizations must be prepared to challenge traditional working methods and adopt new approaches. This can involve employee training, effective communication about the objectives and benefits of innovation, and alignment of incentives and rewards with innovative results.

5. Measurement and evaluation: Successful innovation management initiatives establish measurement and evaluation mechanisms to track innovation progress and outcomes. This can include innovation-related key performance indicators (KPIs), employee satisfaction surveys, regular evaluations of innovative projects, and feedback mechanisms to continuously improve innovation processes.

Some successful innovation management initiatives and programmes that are often cited as examples of good practice are:

Amazon's "Day 1" (Bezos, 2016): In his annual speech to shareholders, Amazon founder Jeff Bezos stressed the importance for the company to operate continuously as a startup and maintain a "Day 1" mentality. This encourages employees to remain agile, to be open to new ideas and not to complain about the status quo.

In the 1930s (Hewlett & Packard, 1930), Bill Hewlett and Dave Packard founded Hewlette-Packard (HP) in a garage in California. This small space has become the symbol of the entrepreneurial and innovative spirit of the company. HP continues to encourage innovation by offering internal entrepreneurial support programmes, enabling employees to develop and test their ideas.

The "Google's 20% Time" (Page & Brin, 2004): Google encourages its employees to devote 20% of their working time to personal projects or areas of interest that are not directly related to their current responsibilities. This encourages employees to explore new ideas and develop their creativity.

These initiatives and programmes are often cited as examples of good practices in managing creativity and innovation. They highlight the importance of a culture of innovation, support for internal entrepreneurship and the creation of an environment conducive to exploration and experimentation.

CHAPTER VI - INTELLECTUAL PROPERTY AND INNOVATION

Definition of intellectual property (Bently & Sherman, 2001)

Intellectual property is a concept that encompasses the exclusive rights granted to creators and innovators on their works, inventions, trademarks and trade secrets. It aims to protect the rights of holders and to encourage creativity, innovation and economic progress. Some key definitions of intellectual property:

Copyright: Copyrights are exclusive rights granted to authors on their original works, such as books, films, songs and works of art. They allow the author to control the reproduction, distribution, display and adaptation of his work.

Patents: Patents are exclusive rights granted to inventors for their new inventions. They offer legal and temporary protection to inventors, allowing them to market their invention and prevent others from using it without permission.

Trademarks: Trademarks are distinctive signs used to identify and distinguish the products or services of a company from the products and services of other companies. They allow consumers to easily recognize and distinguish a company's products or services. Business Secrets: Business secrets are confidential and valuable information that gives a company a competitive advantage. These can be formulas, manufacturing processes, business methods, customer data, etc. Business secrets are protected byining their confidentiality and appropriate security measures.

It is important to note that intellectual property is a complex and constantly evolving field, with specific laws and regulations in each country. Intellectual property rights may vary from country to country, so it is important to consult the laws and regulations specific to each jurisdiction.

SECTION I INTELLECTUAL PROPERTY AND INNOVATION (Bouchoux, 2012)

However, you can find many serious references to the relationship between intellectual property and innovation in the field of intellective property itself, as well as in related fields such as economics, law and innovation management.

Intellectual property plays a key role in encouraging innovation. Here's how it relates to innovation:
Protection of property rights: Intellectual property provides exclusive legal protection for creators and innovators. This means that they can control and economically benefit from their

creations, which gives them an incentive to innovate more. By protecting their property rights, intellectual property ensures the recognition and appreciation of their work.

Incentives for investment: Protection of intellectual property rights encourages investment in research and development. Companies are more likely to invest in new technologies, inventions or creations when they know that they can get a return on investment through property rights protection.

Promotion of fair competition: Intellectual Property prevents unfair competition and theft of intellectual property. When creators and innovators are protected by intellectual property rights, this encourages fair competition by preventing others from copying or using their work without authorization. This promotes a healthy and equitable culture of innovation. Knowledge sharing: Intellectual property also encourages knowledge sharing and collaboration. Intellectual property rights holders may grant licenses or technology-sharing agreements, allowing other market players to benefit from their innovations while retaining their intellectual ownership rights.

Promotion of technology transfer: Intellectual property facilitates technology transfer between countries and. Companies can enter into licensing or technology transfer agreements to share their inventions and innovations with other market players. This can help stimulate innovation and economic development in different countries.

In short, intellectual property protects the rights of creators and innovators, encourages investment in research and development, and promotes competition loyalty, stimulates the sharing of knowledge and facilitates the transfer of technology. All of these contribute to the promotion of innovation and economic progress.

SECTION II- INTELLECTUAL PROTECTION ORGANISMS

Under Section 1 Intellectual Property Protection Agencies in the World (Johnson, 2015)

There are several organizations in the world responsible for the protection of intellectual property. Here are some of the world's most important organizations:

1.1 World Intellectual Property Organization (WIPO): WIPO is a United Nations specialized agency responsible for promoting the protection of intellectual property worldwide. It facilitates cooperation between different countries in the protection of intellectual property rights and administers several international treaties on intellective property (Harms, 2005).

2.2 National Intellectual Property Offices:The role of national IP offices in the protection, management and promotion of IP rights in each country (Gervais, 2015).

For example:The European Patent Office (EPO): The EPO is responsible for granting patents in Europe. It currently covers 38 Member States, including the countries of the European Union and other European countries.

The EPO's mission is to support innovation by promoting the protection of inventions at European level

United States Patent and Trademark Office (USPTO): The USPTO is the governmental agency responsible for granting patents and registering trademarks in the United States.

It plays a key role in the protection of intellectual property in the United States and works with other similar agencies around the world.

Japanese Patent Office (JPO): The JPO is the Japanese governmental agency that manages intellectual property rights in Japan. It issues patents and registers trademarks in Japan, and also cooperates with other organizations internationally.

World Trade Organization (WTO): The World Trade Organisation is an international organization that facilitates world trade and promotes the protection of intellectual property through the Agreement on Trade-Related Aspects of Intellectual Property Rights. (ADPIC).

It plays an important role in the protection of intellectual property rights within the framework of international trade rules.

It should be noted that there are many other national and regional agencies responsible for the protection of intellectual property in different countries and geographical areas. These organizations often work with international organizations such as WIPO to harmonize practices and standards for the protection of intellectual property rights.

Under section 2- Intellectual Property Protection Agencies in Algeria (WIPO, 2023) In Algeria, the body responsible for the protection of intellectual property is the Algerian National Office of Industrial Property (ONAPI). It is responsible for the issuance and management of industrial property rights, such as patents, trademarks, industrial designs and geographical indications.

ONAPI is the competent authority for the registration and protection of intellectual property rights in Algeria. It is responsible for receiving registration applications, examining their

compliance with legal criteria, issuing protection certificates, managing the registry and ensuring that intellectual property rights are respected.

UNOPS also works with other international organizations, such as WIPO, to facilitate exchange of information and cooperation in the protection of intellectual property.

In addition to ONAPI, other Algerian agencies also play a role in the protection of intellectual property, such as the National Centre for Research in Social and Cultural Anthropology and the Ministry of Culture, which are involved in protecting copyright and traditional cultural expressions.

SECTION III MEASURING INNOVATION

Instruments for measuring innovation and creativity are tools used to evaluate and quantify these two complex concepts. They allow you to measure and compare the level of innovation and creativity of an organization or company.

There are different types of instruments for measuring innovation and creativity, ranging from quantitative indicators to qualitative methods. Here are some examples of commonly used measuring instruments (Drucker P. , 1985):

Quantitative indicators: These indicators use numerical data to measure innovation and creativity. These may include measures such as the number of patents filed, expenditure on research and development, turnover generated by new products or services, etc. Surveys and questionnaires: Surveys and questionnaires are commonly used tools to gather information on innovation and creativity. They can be used to measure the skills and attitudes of individuals towards innovation and creativity, or to gather information about innovation practices and processes within an organization.

Case studies: Case studies are qualitative methods that allow specific examples of innovation and creativity to be examined in detail. They can provide detailed information on the key factors of success or failure of an innovative project, as well as the processes and skills needed to innovate creatively.

Composite indicators: These indicators combine several measures to provide an overview of innovation and creativity. For example, the Global Innovation Index uses a combination of quantitative and qualitative measurements to measure the level of innovation in countries. It is important to note that measuring innovation and creativity is not an exact process. These concepts are multifaceted and complex.

CHAPTER VII CHALLENGES AND OPPORTUNITIES INNOVATION IN A CHANGING WORLD

SECTION I TECHNOLOGICAL AND SOCIETAL TRENDS WHO INFLUENCE INNOVATION (Harari, 2015)

Among the technological and social trends that influence innovation, we cite:

1. Artificial Intelligence (AI): AI has become a driving force in many areas, enabling significant advances in automation, machine learning, voice recognition, computer vision, etc. AI offers new opportunities for innovation in product and service customization, process automation, and data-based decision-making.

2. Internet of Things (IoT): The IoT connects physical things to the Internet, enabling real-time data collection and exchange. This connectivity offers new opportunities for innovation in the areas of home technology, smart cities, connected health, precision agriculture, etc.

3. Blockchain: Blockchain technology enables the creation of decentralized and secure registers. It offers opportunities for innovation in the areas of finance, logistics, supply chain management, governance and transparency.

4. Renewable Energy and Sustainability: The transition to renewable energy sources and sustainable practices is a major social trend. Innovation in clean energy, energy storage, electric mobility, waste management, etc., is essential to addressing environmental challenges.

5. Personalized Medicine and Connected Health: Technological advances enable a more personalized approach to medicine, using genetic data, health sensors, mobile applications, etc. Innovation in health enables better prevention, diagnosis and treatment of diseases.

6. Sharing and collaborative economics: Sharing and collaboration platforms, such as Airbnb and Uber, have disrupted many industries. Innovation in the sharing economy, collaborative platforms, crowdsourcing, etc., continues to evolve and transform traditional business models.

7. Emotional intelligence and well-being: Emotional and wellness consideration has become a growing concern in society. Innovation in the areas of mental health, stress management, wellness technologies, etc. is aimed at improving the quality of life and well-being of individuals.

It should be noted that these trends are constantly evolving and that new trends emerge regularly. It is important for innovators to keep an eye on technological and social developments in order to seize the opportunities for innovation.

SECTION II- SUSTAINABLE INNOVATION: INTEGRATING ENVIRONMENTAL AND SOCIAL ISSUES

Under section 1-Innovation and ecology (Braungart & McDonough, 2022)

The relationship between innovation and ecology is an important and constantly evolving subject. Over the years, growing concerns about environmental problems have led to a greater awareness of the need to develop sustainable and environmentally friendly solutions. Innovation plays a key role in this process by enabling the development of new technologies and practices aimed at reducing environmental impact and promoting sustainability.

Ecological innovation, also known as eco-innovation, is the development of new products, services, processes or business models that contribute to the protection of the environment while creating economic value. It can cover several areas, such as renewable energy, energy efficiency, waste management, sustainable mobility, organic farming, etc.

Eco-innovation has many advantages. It reduces the consumption of natural resources, greenhouse gas emissions, air and water pollution, and thus contributes to the preservation of the environment and the fight against climate change. It can also create new economic opportunities, stimulate economic growth and foster job creation in green and sustainable sectors.

Many companies, governments and institutions are committed to promoting green innovation. Policies and incentives are being put in place to encourage research and development of green technologies, as well as to support that adopt environmentally-friendly practices.

Collaborations between the public and private sectors are also encouraged to promote knowledge transfer and the adoption of new technologies.

However, it should be noted that eco-innovation cannot be seen as a single solution to all environmental problems. It must be accompanied by other measures, such as appropriate regulatory policies, environmental awareness and education, as well as a change in consumer and business behaviour.

Eco-innovation is an essential element in responding to today's environmental challenges. It plays a key role in the transition to a greener and more sustainable economy, while providing economic opportunities and preserving our planet for future generations.

Some examples of green innovations (Braungart & McDonough, 2013):

Renewable energy: The development of solar, wind, hydroelectric and geothermal technologies enables clean, renewable power to be produced, thereby reducing dependence on fossil fuels.

Eco-design: eco-design aims to design products taking into account their environmental impact throughout their life cycle, from their manufacture to their disposal. This can include the use of sustainable materials, waste reduction, ease of recycling, etc.

Sustainable mobility: innovation in the field of mobility aims to reduce the environmental impact of transport. This can result in the development of electric vehicles, vehicle-sharing systems, more efficient public transport, etc.

Agritech: agritech brings together technological innovations in the field of agriculture. This can include the use of drones to monitor and process crops, vertical farming techniques to optimize land use, intelligent management of water and nutrients, etc. Sustainable buildings: Building innovation aims to build more sustainable and energy-efficient infrastructure.

This can include the use of sustainable materials, the optimization of energy efficiency through enhanced insulation, use of intelligent heating/cooling systems, etc. Waste management: Innovation in waste management is aimed at reducing the amount of waste produced, improving recycling and developing waste recovery techniques. This may include selective collection, the conversion of waste into energy, the reuse of materials, etc. Circular economy: the goal of the circular economy is to optimize the use of resources by promoting the reuse, recycling and reuse of products and materials. This involves rethinking traditional patterns of production and consumption.

These are just a few examples of eco-innovation. There are many other initiatives and technologies that contribute to building a greener and more sustainable society.

Under Section 2-Innovation and Sustainable Development (OCDE, 2022)

Innovation and sustainable development are closely linked, as innovation plays a key role in finding sustainable solutions to the environmental, social and economic challenges we face. Innovation can take different forms in the context of sustainable development. This can involve the development of new technologies and new products that are more environmentally friendly, the adoption of more sustainable practices in and organizations, and the exploration of new economic models based on sustainability.

Some companies and organizations are developing innovative products and technologies that have a positive impact on the environment. For example, companies have developed more efficient solar panels, batteries for storing renewable energy, more sustainable water management systems, etc.

Innovation can also be used to improve business practices for sustainable development. For example, some companies have adopted circular approaches, where waste is minimized and materials reused as much as possible. Other companies have implemented corporate social

responsibility programs to improve working conditions, reduce the environmental impact of their operations, and support local communities.

It is important to note that innovation is not limited to large companies. Small and medium-sized enterprises, social entrepreneurs and startups also play a crucial role in sustainable innovation, bringing new ideas and developing local solutions tailored to specific needs.

Innovation is a key driver of sustainable development. By creating new technologies, adopting new practices and exploring new economic models, we can find sustainable solutions to build a more positive social, environmental and economic future.

Under Section 3 Marketing creativity: The Key to Modern Business Success

In an increasingly competitive business landscape, companies must find innovative ways to capture and retain customer attention. Creativity in marketing is the driving force behind such efforts. It involves a blend of imagination, strategic thinking, and execution to craft messages, campaigns, and experiences that resonate with audiences and differentiate brands from their competitors. In this under section , we will explore the significance of marketing creativity, the factors influencing it, and how companies can foster creative approaches to achieve sustained success.

A Definition. What is Marketing Creativity?

"Marketing creativity is the ability to generate fresh, original ideas that are both novel and appropriate, aimed at solving marketing problems or exploiting market opportunities in innovative ways." (Kotler & Lane Keller, 2016)

Marketing creativity involves using innovative and imaginative approaches to promote products, services, or brands. It goes beyond traditional marketing strategies to capture the audience's attention and engage them on a deeper level.

Marketing creativity refers to the ability to generate fresh, innovative ideas that solve business problems or achieve marketing objectives. It is not simply about being flashy or original; rather, it is about finding new ways to connect with customers, build brand awareness, and drive engagement through compelling messaging or campaigns. This form of creativity can be expressed through different mediums—whether through advertising, social media, content marketing, or experiential campaigns.

Creative marketing is often what turns an ordinary product or service into something memorable. When executed well, creative marketing not only enhances a brand’s image but also plays a crucial role in its overall success.

B. The Role of Creativity in Modern Marketing (Fillis & Rentschler, 2005)

"Creativity in modern marketing isn't just about flashy ads or clever copy. It's about finding novel ways to make products, ideas, and messages spread. Creativity helps marketers break through the clutter, gain attention, and make their content more shareable." (Berger, 2013)

This highlights creativity as essential for building buzz, engaging consumers, and ensuring that messages spread virally in today's digital landscape.

In other terms and more precisely it means:

1.Brand Differentiation In a crowded marketplace, standing out is one of the biggest challenges businesses face. Creativity in marketing allows brands to differentiate themselves. A creative campaign can give a brand its unique identity, appealing to target customers in ways competitors cannot.

One of the best examples of creative marketing for brand differentiation is Apple. Apple's "Think Different" campaign effectively positioned the company as an innovative force in the tech industry. The company's approach to minimalist design, coupled with iconic advertising campaigns, continues to reinforce its brand identity decades later.

2. Emotional Connection Customers today seek more than just products and services; they want to connect emotionally with brands. Creative marketing taps into these emotions by telling stories, evoking feelings, or aligning with the values and aspirations of the target audience. This emotional resonance fosters loyalty and encourages repeat business.

Consider Nike's "Just Do It" campaign. By merging athletics with empowerment and storytelling, Nike was able to inspire consumers to push beyond their limits, creating an emotional bond that transcended mere products.

3. Adaptability in the Digital Age The rise of digital media has dramatically changed how businesses market themselves. With the advent of social media, influencer marketing, and viral campaigns, creativity has become more important than ever. Creative digital campaigns allow businesses to leverage social platforms to reach massive audiences, often with a fraction of the budget needed for traditional advertising.

For instance, Old Spice's viral "The Man Your Man Could Smell Like" campaign is a prime example of how creative digital marketing can revive a brand and connect with younger audiences. It was fresh, unexpected, and perfectly tailored for the online audience.

4. Problem Solving Beyond communication, creativity plays a critical role in problem-solving. Marketers are often tasked with overcoming challenges such as low brand awareness, changing market conditions, or customer apathy. Creative solutions often lead to out-of-the-box thinking that addresses these challenges in innovative ways.

C. Components of Creative Marketing (Fillis & Rentschler, 2005)

Marketing creativity is built on several core components that come together to form a successful campaign. These components are interdependent and must be skillfully managed to achieve the desired results.

1. Insight and Data Creativity in marketing does not emerge in a vacuum. It is driven by insights derived from data, including market research, consumer behavior analysis, and

industry trends. Marketers must first understand their audience—what they want, how they think, and what motivates them. This data serves as the foundation upon which creative strategies are developed.

2. Storytelling At the heart of creative marketing is the art of storytelling. Stories are a powerful tool for communication because they create an emotional bond with the audience, making the brand more relatable. Whether it's through a 30-second ad spot or a social media post, storytelling has the ability to make a brand memorable and foster a sense of connection.

3. Innovation and Experimentation Creativity requires risk-taking and a willingness to experiment. Innovative ideas often arise from trying something new—whether it's a new content format, distribution channel, or messaging style. Marketers who embrace innovation are more likely to stay ahead of the curve and keep their campaigns fresh.

4. Visual and Sensory Appeal Creative marketing also relies heavily on visuals and other sensory elements to capture attention. Whether through striking imagery, color schemes, or immersive experiences, the way a brand presents itself visually can make a lasting impression on its audience. In today's digital landscape, where attention spans are short, a strong visual identity is crucial for engagement.

D. Challenges in Implementing Marketing Creativity (Hisrich & Veland, 2017)

The most important challenges in Implementing Marketing Creativity are

1. Risk Aversion Creative marketing often involves a degree of uncertainty and risk, which can make businesses uncomfortable. Not every idea will succeed, and fear of failure can prevent marketers from taking bold, creative leaps. Overcoming this challenge requires a culture that values experimentation and is willing to learn from failure.

2. Balancing Creativity with Strategy Creativity for creativity's sake does not guarantee success. The most effective marketing creativity is aligned with a clear strategy. Marketers must balance bold ideas with business goals, ensuring that campaigns are both imaginative and purposeful.

3.Limited Resources Creativity can sometimes be constrained by budget and resources. Producing high-quality creative content, especially in a competitive market, often requires significant investment in talent, tools, and distribution. Smaller businesses, in particular, may struggle to compete with larger brands in this regard. However, creativity does not always require huge budgets—sometimes, simple, cost-effective ideas can have the most impact.

E- How to Foster Creativity in Marketing (Judkins, 2001)

To Foster Creativity in Marketing, it's important

1.Encouraging a Creative Culture Companies that succeed in creative marketing often cultivate a workplace culture that encourages creativity. This involves giving employees the

freedom to think outside the box, rewarding innovative ideas, and creating a safe environment where experimentation is encouraged.

2. Collaboration and Diverse Perspectives Creativity thrives in collaborative environments where people from different disciplines come together to brainstorm and solve problems. Marketers should work closely with designers, writers, data analysts, and even customers to generate fresh ideas.

3. Continuous Learning and Adaptation The marketing landscape is constantly evolving, and staying creative requires continuous learning. Marketers should keep up with industry trends, study consumer behavior, and be open to new technologies and methodologies. Adaptability is key to maintaining a creative edge in a dynamic environment.

4. Use of Creative Tools and Technology Today, there are countless tools available that can help marketers tap into their creativity. From graphic design software and video editing platforms to AI-powered analytics tools, technology can enhance the creative process by streamlining workflows and offering new avenues for creative expression.

F. Case Studies of Marketing Creativity (Amra and Elma, 2023)

1. Coca-Cola's "Share a Coke" Campaign One of the most iconic examples of creative marketing is Coca-Cola's "Share a Coke" campaign. By replacing its iconic logo with popular names on bottles, Coca-Cola created a personalized experience that resonated with customers on a personal level. The campaign drove a 7% increase in sales in the United States and generated significant social media buzz.

2.Airbnb's "Belong Anywhere" Airbnb's "Belong Anywhere" campaign was a brilliant example of creative storytelling. By focusing on the idea of belonging, Airbnb tapped into the emotional needs of travelers looking for authentic, personal experiences. The campaign redefined the brand's identity and reinforced its core mission of community and belonging.

3. Spotify Wrapped Spotify's annual "Wrapped" campaign is a creative way to engage users by personalizing their experience. By offering users an individualized summary of their listening habits, Spotify makes its users feel seen and valued, while encouraging them to share their Wrapped stories on social media. This campaign has been wildly successful in creating buzz and engagement around the brand each year.

4.Dove's "Real Beauty" Campaign:

Dove's campaign focused on real women and real beauty, challenging societal standards of beauty. The use of real women in ads and the message of self-acceptance resonated deeply with their audience, fostering a strong emotional connection.

5.Red Bull's Stratos Project:

Red Bull pushed the boundaries of marketing creativity by sponsoring Felix Baumgartner's record-breaking freefall from the edge of space. This stunt not only showcased Red Bull's

brand message of extreme energy and adventure but also garnered worldwide attention and massive media coverage.

6. Burger King's "Whopper Detour":

Burger King offered its app users a Whopper for one cent if they ordered it within 600 feet of a McDonald's. This clever use of geofencing technology drove app downloads, increased engagement, and generated buzz.

7.IKEA's "Bookbook" Ad:

IKEA created a parody video mimicking a tech product launch to introduce their catalog. The humorous and clever approach likened the physical catalog to a high-tech device, making the mundane exciting and shareable.

Marketing creativity is an indispensable asset in the modern business landscape. It allows brands to differentiate themselves, connect emotionally with customers, and remain adaptable in a fast-changing world. While creativity comes with its challenges, those who embrace it and integrate it strategically into their marketing efforts will be positioned for long-term success.Businesses that invest in fostering creativity, nurturing collaboration, and continually experimenting with new ideas will be able to craft memorable campaigns that not only captivate their audience but also drive measurable results. Whether through storytelling, innovation, or visual appeal, marketing creativity is the key to staying relevant and competitive in today's marketplace.

CONCLUSION

Creativity and innovation management is expected to play an increasingly crucial role in the coming years as companies seek to differentiate in increasingly competitive markets. Here are some important prospects for creativity and innovation management (Chesbrough H. , 2003):

Interdisciplinary collaboration: Tomorrow's innovations will often require the integration of skills and expertise from different disciplines. Companies will need to foster interdisciplinary collaboration by encouraging team diversity and creating collaborative work spaces that enable smooth interaction between departments and individuals.

Open Innovation: Collaboration with external actors, such as universities, start-ups and customers, will become increasingly important to boost innovation. Businesses will need to develop strategic partnerships, open acceleration programmes and innovation platforms to leverage external ideas and knowledge.

The incorporation of technology: Technological advances such as artificial intelligence, the Internet of Things and virtual reality offer new opportunities to stimulate creativity and support more agile innovation processes. Companies will need to explore and integrate these technologies in a strategic way to improve their innovation capabilities.

Organizational agility: Innovation cycles are becoming shorter and shorter, which requires increased organizational agility. Companies will need to adopt agile methodologies such as scrum or design thinking, so that they can quickly adapt to change and quickly iterate on emerging ideas.

The culture of innovation at all levels: Creativity and innovation should not be limited to a few teams or departments. They must be integrated into the corporate culture at all levels, encouraging each employee to contribute and engage in innovation initiatives.

Creativity and innovation management must evolve to adapt to technological, economic and social changes. Companies must be prepared to explore new approaches, promote collaboration and create an environment conducive to creativity and innovation.

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APPENDICES

APPENDIX I

Tableau 1 : Evolution du concept d'innovation entre 1934 et 2020

Auteurs	Années	Points de vue	Définitions
Schumpeter	**1934**	Action face à une mutation industrielle	« L'innovation est un processus de mutations industrielles, qui révolutionne, sans cesse la structure économique de l'intérieur, détruisant sans cesse l'ancienne, en créant sans cesse une nouvelle » cité par (Sledzik, 2013, p : 90)
Schumpeter	**1942**	Domaine d'invention	« L'innovation est particulièrement le domaine des entrepreneurs, dont la fonction est de réformer ou de révolutionner le modèle de production en exploitant une invention ou, plus généralement, une possibilité technologique non testée pour produire une nouvelle marchandise ou en produire une ancienne d'une manière nouvelle, en ouvrant un nouveau débouché pour les produits », p :132.
Barnett	**1953**	L'innovation comme quelque chose de nouveau	« L'innovation peut être toute pensée, tout comportement ou chose qui est nouveau parce qu'il est qualitativement différent des formes existantes» cité par (Kotsemir et,al.,2013, p :6).
Mohr	**1969**	Fonction de surmonter les obstacles	« L'innovation est une fonction d'interaction entre la motivation à innover, la force des obstacles à innover et la disponibilité des ressources pour surmonter ces obstacles», p : 111.
Utterback	**1971**	L'innovation comme domaine d'invention	« L'innovation est une invention qui a atteint son introduction sur le marché dans le cas d'un nouveau produit ou qui a été utilisée pour la première fois dans un processus de production, dans le cas d'une innovation de procédé », p : 77.
Aiken & Hage	**1971**	Processus de génération et mise en œuvre des nouvelles idées	« L'innovation est la génération, l'acceptation et la mise en œuvre de nouvelles idées, processus, produits ou services, pour la première fois au sein d'une organisation », cité par (Kotsemir et al., 2013, p : 6).
Zaltman, Duncan and Holbek	**1973**	L'innovation comme processus d'invention	«L'innovation est un processus créatif par lequel deux ou plusieurs concepts ou entités existants sont combinés d'une manière nouvelle pour produire une configuration inconnue auparavant de la personne impliquée », cité par (Kotsemir , 2013, p : 6).
Nelson&Winter	**1982**	Nouveauté des productions ou structures organisationnelles	« L'innovation est un ensemble des nouveaux produits ou services, des nouveaux processus et des nouvelles structures organisationnelles que les entreprises utilisent pour se concurrencer et répondre à la demande des clients », cité par (Hadjimanolis, 1997, p : 15).
Drucker	**1985**	Outil d'exploitation d'un changement	« L'innovation est un outil spécifique des entrepreneurs pour exploiter le changement pour une entreprise ou un service diversifié et une discipline qui peut être apprise et pratiquée », cité par (Zawawi et al, 2016, p : 88).

Van de Ven	**1986**	Mise en œuvre et développement d'idée	« L'innovation est définie comme le développement et la mise en œuvre de nouvelles idées par des personnes qui, au fil du temps, s'engagent dans des transactions avec d'autres au sein d'un ordre institutionnel », p : 590.
Urabe	**1988**	Mise en œuvre d'idée	« L'innovation consiste à générer une nouvelle idée et la mettre en œuvre dans un nouveau produit ou service, conduisant à développer de l'économie nationale et à l'augmentation de l'emploi ainsi qu'à une création de profit pur pour l'entreprise commerciale innovant », p : 3.
Dosi	**1988**	Découverte et développement d'un nouveau produit ou structure	« L'innovation est la recherche et la découverte, l'expérimentation, le développement, l'imitation et l'adoption de nouveaux produits, de nouveaux processus de production et de nouvelles configurations organisationnelles », p : 222.
Amabile	**1988**	Mise en œuvre d'idée	« L'innovation est une mise en œuvre réussie d'idées créatives au sein d'une organisation», notant en outre que les idées créatives étaient celles qui étaient «nouvelles et utiles», p : 126.
Twiss	**1989**	Processus visant la nouveauté et l'émergence d'idée	« L'innovation est un processus qui combine la science, la technologie, l'économie et la gestion, car elle vise la nouveauté et s'étend de l'émergence de l'idée à sa commercialisation sous forme de production, d'échange, de consommation »,Cité par (Kogabayev,&Maziliauskas, 2017, p : 60).
West & Farr	**1990**	Introduction de nouveaux produit ou processus à l'unité	« L'introduction et l'application intentionnelles dans un groupe ou une organisation d'idées, de nouveaux processus, de produits ou de procédures, pour l'unité d'adoption concernée, conçus pour bénéficier de manière significative à l'individu, au groupe, à l'organisation ou à la société au sens large », p : 9.
Jorde&Teece	**1990**	Découverte et création d'un nouveau produit, service, processus ou structure	« L'innovation est la recherche et la découverte, le développement, l'amélioration, l'adoption et la commercialisation de nouveaux processus, de nouveaux produits et de nouvelles structures et procédures organisationnelles », p : 76.
Damanpour	**1991**	L'adoption de quelque élément de nouveau	«L'innovation est l'adoption d'un appareil, d'un système, d'une politique, d'un programme, d'un processus, d'un produit ou d'un service généré en interne ou acheté qui est nouveau pour l'organisation qui l'a adopté», p : 556.
King	**1992**	Processus d'introduction d'un nouvel élément	« L'innovation est la séquence d'activités par laquelle un nouvel élément est introduit dans une unité sociale, dans l'intention de profiter à l'unité ; L'élément n'a pas besoin d'être entièrement nouveau ou inconnu des membres de l'unité, mais il doit impliquer un changement perceptible ou une remise en question », p : 91.

Nohri & Gulati	**1996**	Adoption d'un nouvel élément par l'unité	« L'innovation peut être tout politique, structure, méthode ou processus, produit ou opportunité de marché que le responsable de l'unité innovante perçoit comme nouvelle », p : 125.
Amabile, Conti , Coon , Lazenby & Heron	**1996**	Mise en œuvre de bonnes idées	« L'innovation est la mise en œuvre réussie d'idées créatives au sein d'une organisation, et la réussite de l'implémentation de nouveaux programmes produits ou services dépend d'une personne ou d'une équipe ayant une bonne idée, p : 1154.
Damanpour	**1996**	Outil de changement organisationnel	« L'innovation est un moyen de changer une organisation» et les changements pertinents peuvent prendre plusieurs formes, de nouveaux produits ou services, de nouvelles technologies de processus, de nouvelles structures organisationnelles systèmes administratifs, ou nouveaux plans ou programmes »,p : 694.
Afuah	**1998**	L'innovation comme ensemble de nouvelles connaissances	« L'innovation se définie comme de nouvelles connaissances incorporées dans les produits, processus et services » cité par (Kogabayev, Maziliauskas, 2017, p : 64).
Tidd, Bessant,Pavit& Willey	**1998**	Processus de changement d'une opportunité à une idée	« L'innovation se définie comme un processus de transformation d'une opportunité en idées nouvelles et largement utilisée dans la pratique », cité par (Zawawi et al., 2016, p :88).
Porter & Stern	**1999**	Transformation des connaissances à un nouvel élément	«L'innovation est une transformation des connaissances en nouveaux produits, processus et services…», p : 12).
Van de Ven, Polley , Varud & Venkataraman	**1999**	Mise en œuvre et développement d'idée	«L'innovation est un processus de développement et de mise en œuvre d'une nouvelle idée », p : 9).
Boer & During	**2001**	Combiner de nouveau entre des éléments	« L'innovation est une création d'une nouvelle combinaison entre le produit, le marché, la technologie, et l'organisation », p : 84.
Garcia et Calantonne	**2002**	Processus permettant le développement de la production et de la commercialisation	« L'innovation est un processus itératif initié par la perception d'un nouveau marché et/ou d'une nouvelle opportunité de service pour une invention technologique qui mène à des tâches de développement, production et de commercialisation agissant pour le succès commercial de l'invention » cité par (Ben Rejeb, 2008, p : 21).
Rogers	**2003**	Nouvelle idée, pratique ou nouvel objet	« L'innovation peut être une idée, une pratique ou un objet qui est perçu comme nouveau par un individu ou une autre unité d'adoption » p : 12
Bessant, Lamming, Noke, & Phillips	**2005**	Processus de renouvellement	« L'innovation représente le processus de renouvellement de base dans toute organisation», p : 1366.
Hobday	**2005**	Nouvel élément	« L'innovation est tout produit, processus ou service nouveau pour l'entreprise, pas seulement nouveau dans le monde ou sur le marché. », p. 122).

Boly	**2008**	Activité issue d'un nouvel élément	« L'innovation est une activité qui est issue d'un objet nouveau, durablement intégré à son environnement », (cité par, Ben Rejeb, 2008, p : 21).
Lafley & Charan	**2008**	Transformation d'idée en profit	« L'innovation est la conversion d'une nouvelle idée en revenus et en bénéfices», p : 21.
Bledow , Frese, Anderson,Erez & Farr	**2009**	Mise en œuvre et développement d'idée	« L'innovation est le développement et l'introduction intentionnelle d'idées nouvelles et utiles par des individus, des équipes et des organisations », p : 305.
Baregheh, Rowley& Sambrook	**2009**	Processus de transformation d'idée en nouveaux ou améliorés produits ou service	« L'innovation est un processus en plusieurs étapes par lequel les organisations transforment leurs idées en produits, services ou processus nouveaux ou améliorés, afin de progresser, d'être compétitifs et de se différencier avec succès sur leur marché », p : 1334
O'Sullivan & Dooley	**2009**	L'innovation comme vecteur du changement	« L'innovation est l'application d'outils et de techniques pratiques qui apportent des changements aux produits, processus et services, par l'introduction de quelque chose de nouveau pour l'organisation qui ajoute de la valeur aux clients et contribue au stockage des connaissances de l'entreprise », p : 5.
Wang & Kafouros	**2009**	L'innovation comme moteur de valeur	« L'innovation est l'infusion de nouveaux produits et services, elle donne une impulsion aux économies émergentes en ouvrant des opportunités de commerce international », cité par (Kotsemir et al., 2013, p : 6).
Silverstein, Samuel & Decarlo	**2009**	Valeur donnée au client et à l'entreprise	« L'innovation est l'acte de générer plus de valeur pour le client et l'entreprise en accomplissant un travail à faire mieux que quiconque », p : 18.
Tidd & Bessant	**2009**	Processus de transformation d'opportunité en idée nouvelle	« L'innovation est un processus qui consiste à transformer les opportunités en idées nouvelles et à les mettre en pratique largement répandu », p : 16.
Crossan & Apaydin	**2010**	Introduction et développement d'un produit, service, marché ou systèmes de gestion	« L'innovation est la production ou l'adoption, l'assimilation et l'exploitation d'une nouveauté à valeur ajoutée dans les sphères économiques et sociales, renouvellement et élargissement des produits, services et marchés, développement de nouvelles méthodes de production; et mise en place de nouveaux systèmes de gestion. C'est à la fois un processus et un résultat », p : 1155.
Kahn	**2012**	Mise œuvre d'une nouvelle idée pour créer un nouveau produit ou procédé comprenant à une invention	«L'innovation est une nouvelle idée, méthode ou appareil, c'est l'acte de créer un nouveau produit ou procédé, qui comprend une invention et le travail requis pour amener une idée ou un concept à sa forme finale », p : 454.
Trott	**2012**	Gestion du processus d'idée, de développement de production ou commercialisation d'un nouvel élément	«L'innovation est la gestion de toutes les activités impliquées dans le processus de génération d'idées, de développement technologique, de fabrication et de commercialisation d'un produit ou d'un processus de fabrication ou d'un équipement nouveau (ou amélioré)», p : 15.
Kumar	**2013**	Nouvelle offre	« L'innovation est une nouvelle offre viable, dans un contexte et une époque spécifiques, créant de la valeur pour l'utilisateur et le fournisseur », p : 1.
Rothaemel	**2013**	Commercialisation ou modification d'un nouveau produit ou idée	«L'innovation est la commercialisation de tout nouveau produit, procédé ou idée, ou la modification et la recombinaison de produits existants», p : 172.
Schilling	**2013**	Mise en œuvre et pratique d'idée	«L'innovation est la mise en œuvre pratique d'une idée dans un nouveau dispositif ou processus», p : 18.
McKinley, Latham & Braun	**2014**	Nouveau produit, service ou processus	«L'innovation peut être tout nouveau produit, service ou processus de production qui s'écarte considérablement des architectures de produit, service ou processus de production antérieures», p : 91).
Zawawi	**2016**	Création ou amélioration d'un nouveau produit ou service	« L'innovation, est définie comme la création ou l'amélioration de produits ou de services pour produire quelque chose de nouveau », p : 91.
Taylor	**2017**	Création ou amélioration d'un nouveau produit ou procédé	« L'innovation peut être considérée comme un produit ou un procédé nouveau ou existant mais qui a été amélioré », p : 14.
Kogabayev& Maziliauskas	**2017**	Stratégie de mise en œuvre d'un projet, produit ou processus de production permettant la réduction des coûts et l'augmentation de qualité	« L'innovation est une stratégie bénéfique qui s'appuie sur la mise en œuvre de projets, produire les nouveaux produits avec la nouvelle qualité et aider à réduire les coûts du cercle de production ,elle permet également catalyser les processus et gagner du temps »,p : 70.
Taques, Lopez, Basso & Areal	**2020**	Amélioration des méthodes et techniques pour générer de nouveaux produits ou services	« L'innovation peut être une source d'avantage concurrentiel pour les entreprises, soit par l'amélioration des méthodes et techniques capables de générer de nouveaux produits ou services, soit par le perfectionnement de ceux existants », p : 1.

(Source : littérature de l'innovation)

APPENDIX II

نماذج للتفكير الابداعي

الرجل والسيارة :

كان هذا احد الأسئلة التي تستخدم في استمارة طلب الالتحاق بأحد الوظائف ..

كنت تقود سيارتك في ليلة عاصف , وفي طريقك مررت بموقف للحافلات , ورأيت ثلاثة أشخاص ينتظرون الحافلة:

1. **آمرأة عجوز توشك على الموت.**
2. **صديق قديم سبق ان أنقذ حياتك.**
3. **شخصية مشهوره تعتبرها قدوتك.**

كان لديك متسع بسيارتك لراكب واحد فقط , فأيهم ستقله معك ؟

يمكنك ان تقل السيده العجوز لانها توشك على الموت , وربما من الأفضل إنقاذها أولا , تستطيع أن تأخذ صديقك القديم لأنه قد سبق وأنقذ حياتك وقد تكون هذه هي الفرصة المناسبة لرد الجميل , وفي كل الأحوال فإنك لن تكون قادراً على إيجاد الشخص المشهور الذي تحترمه مره أخرى!

كان هنالك شخص واحد فقط تم ترشيحه لهذه الوظيفه (من بين 200 شخص تقدموا) وذلك لإجابته التي لا غبار عليها..

في أعتقادك ماذا كان جواب الرجل ؟

قال ببساطه : سأعطي مفاتيح السيارة لصديقي القديم واطلب منه توصيل السيدة العجوز إلى المستشفى فيما سأبقى أنا لأنتظر الحافلة بصحبة القدوة.

القلم والفضاء :

واجه رواد الفضاء الأمريكيون صعوبة في الكتابة نظراً لإنعدام الجاذبية وعدم نزول الحبر إلى رأس القلم .. للتغلب على هذه المشكلة أنفقت وكالة الفضاء الأمريكية ملايين الدولارات على بحوث استغرقت عدة سنوات لتتمكن في النهاية من انتاج قلم يكتب في الفضاء وتحت الماء وعلى أرق الأسطح وأصلبها وفي أي اتجاه ..

بالمقابل !!

تمكن رواد الفضاء الروس من التغلب على نفس المشكلة بحل بسيط

في أعتقادك كيف حل الروس هذه المعضلة ؟

باستخدام قلم رصاص ..

إن حصلت هذه القصة أو لم تحصل , علينا الإستفادة منها بتفكيرنا أنه قد تكون الحلول موجودة وسلهة , فقط علينا الإمعان بما هو موجود قبل التفكير باتخاذ حلول جديدة قد تكون مكلفة ..

الرجل والقرض :

يحكى أن رجل أعمال ذهب إلى بنك في مدينة نيويورك وطلب مبلغ 5000 دولار كقرض من البنك.

يقول إنه يريد السفر إلى أوروبا لقضاء بعض الأعمال , البنك طلب من رجل الأعمال ضمانات لكي يعيد المبلغ ، لذا فقد سلم الرجل مفتاح سيارة الرولز رويس إلى البنك كضمان مالي !! ..

رجل الأمن في البنك قام بفحص السيارة وأوراقها الثبوتية ووجدها سليمة ، وبهذا قبل البنك سيارة الرولز رويس كضمان.
رئيس البنك والعاملون ضحكوا كثيراً من الرجل ، لإيداعه سيارته الرولز رويس والتي تقدر بقيمة 250000 دولار كضمان لمبلغ مستدان وقدره 5000 دولار . وقام أحد العاملين بإيقاف السيارة في مواقف البنك السفلية .

بعد أسبوعين ، عاد رجل الأعمال من سفره وتوجه إلى البنك وقام بتسليم مبلغ 5000 دولار مع فوائد بقيمة 15.41 دولار.
مدير الإعارات في البنك قال : سيدي ، نحن سعداء جداً بتعاملك معنا ، ولكننا مستغربين أشد الاستغراب!!
لقد بحثنا في معاملاتك وحساباتك وقد وجدناك من أصحاب الملايين ! فكيف تستعير مبلغا وقدره 5000 دولار وأنت لست بحاجة إليها ؟؟ رد الرجل وهو يبتسم :

<u>في اعتقادك ماذا كان رد الرجل ؟</u>

سيدي ، هل هناك مكان في مدينة نيويورك الواسعة أستطيع إيقاف سيارتي الرولز رويس بأجرة 15.41 دولار دون أن أجدها مسروقة بعد مجيئي من سفري !!..

APPENDIX III

LISTE DES CAS DE BONNES PRATIQUES DU BENCHMARKING INTERNATIONAL,

DU PORTUGAL,DE LA FRANCE ET DE L'ESPAGNE

CAS INTERNATIONAUX	CAS PARTENAIRES CREA BUSINESS IDEA		
	PORTUGAL	FRANCE	ESPAGNE

• Bühler Laboratory (Suisse) • Unilever (International) • Hermia Ltd (Finlande) • Bosh Innovation Unit in Aveiro (International) • SONAE (Portugal)	CIEBI • "Benchmarking" • "Teatro para el cambio" • "Workwell – Gimnasia laboral" • "Empresa Na Hora" CRIA • "Ideas em Caixa 2007" • "Red GAPI" • "SPAROS • "Natura Algarve" (marque déposée)	CCI GERS • "Lean Management" • "Auto Management" • "El código de las búrbujas" • "ACT 21"	ADER (La Rioja) Cluster Genio Plan Emprende Rioja Ayecue LOGROTEX FUNDECYT (Extremadura) • "The Cofee Break" • "Gabinete de Iniciativa Joven" • "Emo – Formación y Comunicación Creativa" • "Hotel de la risa" IAT (Andalucía) • "Innovía" • "Open Mind Award" • "Laboratorio de Creatividad" • "Termicol" IMADE (Madrid) • "Madri+d" • "Madrid Emprende" • "Calordom" • "Projech"

CAS DES MEILLEURES PRATIQUES A L'ECHELLE INTERNATIONALE

NOM DE LA BONNE PRATIQUE	
Bühler Laboratory	
SECTEUR – DOMAINE DE CONNAISSANCE	
Industrie agroalimentaire, processus chimiques, fabrication de moules. BIOTECHNOLOGIE	
PAYS	REGION, LIEU
Suisse	Zurich
DESCRIPTION DE L'INITIATIVE	
Bühler est une entreprise spécialisée dans les services d'amélioration de la compétitivité de ses clients dans les domaines de la construction de locaux, dans les technologies de pressage (industrie agroalimentaire), traitement chimique, la fabrication et moulage de matériaux, et dans la fonte. L'entreprise emploie plus de 7 000 personnes dans le monde, elle compte environ 500 employés consacrés exclusivement aux tâches de Recherche et Développement, et elle consacre environ 47 millions d'euros aux activités de recherche. L'entité effectue un énorme travail d'innovation visible au nombre de brevets annuels (environ 300 à 400) et au nombre de produits nouveaux sur le marché (entre 15 à 20 à l'année).	
GESTION D'IDEES	
Dans la conception de l'idée, on comprend que la participation d'une équipe multidisciplinaire est nécessaire pour développer toutes les étapes indispensables à la concrétisation d'un projet. Chez Bühler, la conception et le développement d'une idée suit cette méthode, à l'exception du cas de la conception d'engins, où c'est la même équipe d'ingénieurs qui suit tout le processus. A l'échelle opérationnelle, les équipes de recherche se composent de 20 membres, qui développent la recherche fondamentale à partir des objectifs émis par la direction, qui, à son tour, se laisse guider par les nécessités spécifiques du client. De la conception initiale de l'idée jusqu'au développement du produit découle un processus plus ou moins régulier composé d'un "brainstorming", d'une recherche en base de données, la formulation de l'hypothèse, l'organisation de l'équipe de travail pour développer l'idée, l'attribution du budget et le contrôle depuis la direction. La durée totale d'un projet est d'environ 4 à 5 ans.	
ASPECTS RELATIFS A LA CREATIVITE ET A L'INNOVATION	
La direction est la source principale de soutien et d'incitation au développement de projets de	

NOM DE LA BONNE PRATIQUE	
Unilever (Port Sunlight Research Center, UK)	
SECTEUR – DOMAINE DE CONNAISSANCE	
Nutrition, hygiène et soins. BIOTECHNOLOGIE	
PAYS	REGION, LIEU
International	NA
DESCRIPTION DE L'INITIATIVE	
Unilever est une entreprise multinationale consacrée au développement et à la commercialisation de produits de nutrition, d'hygiène et de soins avec des marques commerciales telles que Sunsilk, Rexona, Axe, Knorr, Flora, Lipton, Signal etc. Elle emploie environ 174 000 personnes dans plus de 100 pays. En matière d' "Innovation et R&D", l'entreprise emploie environ 6 000 chercheurs (dont 800 se situent dans le centre de Recherche et Développement de Port Sunlight en Grande-Bretagne). La dépense destinée aux activités de recherche et développement s'élève à environ 920 millions d'euros d'après les données de 2008. Le travail d'innovation de Unilever s'apprécie par les brevets de son entreprise (environ 250 à 350 chaque année) et aussi par le nombre de produits nouveaux qu'elle lance sur le marché (entre 15 et 20 par an).	
GESTION D'IDEES	
La conception de l'idée dans l'entreprise naît grâce à des réunions périodiques où le débat tourne autour de la question suivante: que va faire Unilever dans 20 ans? Comme résultat de la réflexion qui suit, les idées générées doivent être approuvées par un chef de projet et dès qu'elles sont acceptées, un rapport détaillé est établi pour une analyse approfondie. Lorsqu'il est considéré intéressant pour l'entreprise, un financement lui est accordé ainsi qu'une équipe de développement spécifique chargée de suivre toutes les étapes.	
ASPECTS RELATIFS A LA CREATIVITE ET A L'INNOVATION	
Les personnes avec une capacité créative significative ont la possibilité de négocier leur salaire en fonction de leur "production créative". En ce sens, un chercheur peut gagner plus d'argent qu'un directeur. Ces personnes sont encouragées à participer dans plusieurs projets à la fois de façon à produire un enrichissement depuis des perspectives différentes. Les réunions de création d'idées s'organisent dans un bar où non seulement les développeurs sont invités à participer, mais aussi d'autres personnes. Il existe un degré élevé de flexibilité de travail, comme le démontre la possibilité de travailler à la maison. D'un autre côté, on favorise fortement la participation et la présence à des événements scientifiques (séminaires, journées, conférences, etc.). L'existence de réseaux de collaboration et d'accords avec des entités tierces est courante, même si dans la majorité des cas elle est soumise à des accords de confidentialité.	

NOM DE LA BONNE PRATIQUE	
Hermia Ltd	
SECTEUR – DOMAINE DE CONNAISSANCE	
Technologies de l'Information et de la Communication (TICs)	
PAYS	REGION, LIEU
Finlande	Tampere
DESCRIPTION DE L'INITIATIVE	

Hermia Ltd est une entreprise fondée en 1972 à Tampere, Finlande. Son objectif consiste à contribuer au développement de nouvelles entreprises et de soutenir le secteur de haute technologie dans la Région de Tampere. Plus précisément, Hermia est chargée de soutenir le développement compétitif de groupes clés de la région à travers le programme “Tampere Region Centre of Expertise” (contenus digitaux, énergies du futur, nano-systèmes et matériaux évolutifs), et des groupes nationaux des secteurs d' "informatique ubiquiste" et d’ "outils intelligents".

Actuellement, elle possède une équipe technique d'environ 40 personnes, grâce à laquelle elle apporte les services aux entreprises des groupes dans les secteurs déjà cités: surveillance technologique, développement du produit, formation et capacité du personnel, création de réseaux, recherche de financement , etc.

Dans les différents domaines et secteurs où se développe son activité, Hermia a identifié une série de pratiques d'intérêt en matière de créativité et d'innovation dans le domaine de l' "informatique ubiquiste" dont le détail se trouve ci-dessous :

GESTION D'IDEES

Domaines de l'innovation
L'objectif de la pratique est de promouvoir la collaboration entre les différents domaines technologiques ce qui permettrait le transfert de connaissance entre eux, et dans le processus, la création d'idées annexes qui puissent donner lieu à des spin-offs, nouveaux produits, nouvelles connaissances, etc.

Raffineries de l'innovation
Dans les "raffineries" de l'innovation, grâce à une méthodologie de travail en groupe, on peaufine des idées et des projets pour un développement postérieur commun. Un outil intéressant est les "road-maps" technologiques (cartes de route), où sont visibles les stratégies technologiques depuis une perspective "bottom-up".

Laboratoires vivants (Living Labs)
Il s'agit de forums de discussion où se réunissent utilisateurs, chercheurs et entreprises pour contribuer à la solution d’un besoin en générant des idées qui finalement sont développées par ces dernières.

D’autres activités qui sont réalisées sont des études de prospective, du conseil aux entrepreneurs et start-ups, de l'organisation d'évènements pour la mise en commun des idées et le lancement de projets pour développer ces idées.

ASPECTS RELATIFS A LA CREATIVITE ET A L'INNOVATION
En définitive, l'approche se caractérise par l'importance du travail en commun (fonctionnement en groupe) dans la création d'idées de base qui sont développées plus tard par les entreprises. Tout ceci possède un aspect multisectoriel marqué. Des évènements (workshops) ont lieu dans lesquels, grâce à des techniques de promotion de la créativité très variées, on met en commun besoins et solutions qui contribuent finalement à l'apparition de projets spécifiques.
ASPECTS IMPORTANTS POUR UN EVENTUEL TRANSFERT
• Approche en réseau des pratiques pour la promotion de la créativité dans les entreprises (méthode de travail en groupe). • Méthodologies de travail pour la création d'idées et développement de projets de Recherche et Développement tels que les "domaines de l'innovation", les "raffineries de l'innovation" et les "laboratoires vivants". • Utilisation de techniques de créativité dans la réalisation d'évènements (ateliers, séminaires, forums, etc.) pour la création d'idées.
REFERENCE
http://www.hermia.fi

NOM DE LA BONNE PRATIQUE	
Bosch Innovation Unit	
SECTEUR – DOMAINE DE CONNAISSANCE	
Termotechnologie	
PAYS	REGION, LIEU
Portugal	Aveiro
DESCRIPTION DE L'INITIATIVE	

L'Unité d'Innovation de Bosch à Aveiro (Portugal) a pour mission de participer à l'amélioration des processus d'innovation dans le groupe Bosch en matière de termotechnologie.

Pour l'entreprise, le centre a plusieurs éléments caractéristiques : une vision spécifique orientée vers l'innovation, une politique d'innovation, une feuille de route et une batterie d'indicateurs spécifiques.

En ce qui concerne la vision, celle-ci comprend la création d'idées (à travers le travail interne, sa mise en oeuvre (pendant le développement du projet) et la gestion de connaissance dans le centre. La politique d'innovation, elle, établit de forme claire les domaines où les tâches d'innovation sont critiques, c'est-à-dire les technologies et les domaines de connaissance à développer. Ceux-ci apparaissent reflétés dans des outils spécifiques : les feuilles de route d'innovation. Pour finir, la batterie d' indicateurs comprend des aspects comme le retour des activités de l'innovation ou le degré de succès dans le développement des projets de recherche.

En ce qui concerne les mécanismes de coordination, des réunions se préparent mensuellement avec le département d'administration et avec d'autres entreprises du groupe dans le domaine. Annuellement, des réunions se préparent aussi pour valider les plans stratégiques. Cela permet d'avoir une vision plus transparente et globale de l'activité du centre.

GESTION D'IDEES

Création de l'idée
Deux éléments apparaissent comme marquants : les boîtes aux lettres d'idées et l'équipe d'évaluation. Dans le premier, à l'aide d'un personnel spécifique on recueille différentes idées de l'équipe de travail. A l'aide du deuxième, un groupe d'évaluation se réunit une fois par mois pendant une heure pour décider les idées qui sont intéressantes pour les développer en profondeur.

Une fois l'idée approuvée, un processus de licence et de brevets se met en place. La récompense est liée aux attributions de ces brevets et non seulement au fait d'avoir créé l'idée.

Mise en oeuvre de l'idée
Une fois l'idée approuvée, celle-ci peut passer par deux circuits : pré-développement ou développement, par l'utilisation de la méthodologie CPS (Creative Problem Solving) qui contient les étapes suivantes : définition du problème, définition du groupe de travail, formation spécifique de l'équipe et organisation d'un atelier de travail.

ASPECTS RELATIFS A LA CREATIVITE ET A L'INNOVATION
La gestion de la connaissance est un aspect très important dans l'entreprise. Pour cela on organise un réseau dont l'objectif est de partager et de favoriser la diffusion de la connaissance entre les membres de l'entreprise. Il existe une plateforme formelle de communication à travers laquelle cela devient possible. En outre, dans ce réseau la participation des tiers est courante, tels que des universités et des centres de recherche. Ce réseau d'experts est disponible pour tout le monde dans l'entreprise. Ainsi, la diffusion de la connaissance contribue à la prise de contact de domaines différents de l'entreprise, qui est donc enrichie par la participation de tiers externes, favorisant ainsi la création d'idées et leur mise en œuvre commune.
ASPECTS IMPORTANTS POUR UN EVENTUEL TRANSFERT
• La création d'idées et la gestion de la connaissance apparaissent comme des éléments clés dans l'optique de l'entreprise. • Elle dispose d'un système pour la gestion du processus innovant : création d'idées (boîtes aux lettres d'idées où sont laissées les propositions et une équipe d'évaluation) et mise en oeuvre de l'idée (méthodologie Creative Problem Solving - CPS pour trouver des solutions à des problèmes grâce à des techniques de créativité diverses). • Il existe un réseau dont l'objectif est de partager et de favoriser la diffusion de la connaissance dans l'entreprise et avec des tiers (université et centres de recherche)
REFERENCE
http://www.bosch.pt/content/language1/html/3808.htm

APPENDIX IV

Case study[14]

Case study on Valve Company

Valve Corporation is an American development studio, publisher, and distributor of video games based in Bellevue, Washington. Valve became famous after the release of its first game, Half-Life, in November 1998. The studio extended the success of Half-Life by developing mods, spin-offs, and games, including Half-Life 2, Counter-Strike, Team Fortress, and Dota 2. Valve is also known for being the pioneer and leader in the digital distribution of video game content, with its platform Steam.

Valve is originally a video game development studio founded in 1996 by Gabe Newell and Mike Harrington, two computer scientists who spent 13 and 9 years at Microsoft, respectively. They decided to recruit a team made up of young modders and talented enthusiasts in their fields. In partnership with the publisher Sierra On-Line, the developer is embarking on the design of its first game, Half-Life. The game is released on November 19, 1998. September 12, 2003 marks the launch of Steam.

The company is self-financed; owns its intellectual property; and aspires to be more than just a gaming company: it aims for greatness. As the manual says: "We are an entertainment company." A software company. A platform company. But above all, a company full of enthusiasts who love the products we create.

One of the most important creative means of the company is the organizational culture. Valve's culture is based on the principle that there are no managers, and each staff member can choose the project they want to work on. The manual is subtitled: "A Fearless Adventure to Know What to Do When No One Is There to Tell You What to Do."

[14] Source: A Glimpse At A Workplace Of The Future: Valve - / Steve Denning
April 27, 2012 / https://www.forbes.com

- Among other creative means, we find:

"This company is yours to lead." Towards opportunities and away from risks. You have the power to give your approval to projects. You have the power to ship products. When you give freedom to creatives, it creates the possibility of unleashing their talents and creativity, instead of waiting to be instructed. This builds respect which, in turn, should foster pride in work and in the company.

-Hire the right people.

Aiming for greatness starts with hiring the right people, and the manual emphasizes proper hiring.

"Hierarchy is ideal for maintaining predictability and repeatability." This simplifies planning and makes it easier to control a large group of people from top to bottom, which is why military organizations rely on it so much.When you are an entertainment company that has spent the last decade recruiting the smartest, most innovative, and talented people on the planet, telling them to sit at a desk and do what they are told wipes out 99 percent of their value.

It may be too much to ask the rigid hierarchies of other developing societies to radically shift to this free-spirited, hippie way of conducting their business, but it shouldn't be too much.

for these companies to treat their employees like adults. After all, hiring someone is a sign of trust. Extend this trust to all aspects of the position.

-Aspiring to greatness means living with failure.

The fear of failure is a key factor in the struggle for perfection. Valve does not settle for mediocrity. He aspires to greatness and accepts the fact of failure as part of the package. "Offering the freedom to fail is an important trait of [Valve] – we couldn't expect so much from individuals if we also penalized people for their mistakes." Even costly mistakes, or those that lead to a very public failure, are truly seen as learning opportunities.

-Not for everyone.

This workplace will not be suitable for everyone or for all companies. This workplace will not be suitable for those who prefer to work in a traditional environment or for 20th-century organizations focused on maximizing shareholder value.

For organizations that need to grow or attract public funding, it would be necessary to establish more coordination mechanisms than what is outlined in this manual. And for organizations that wish to succeed consistently in the market, a more explicit focus on customer satisfaction will likely be central.

But for those who want to understand what it takes to create a creative workplace that fosters innovation and allows people to bring all their talents, this manual offers an interesting insight into a possibility.

-Taking care of people's families.

The fact that Valve makes a lot of money allows them to easily take everyone, along with their families, on a company vacation, which the Washington-based company does once a year.

A gesture like this acknowledges that employees bring their work home and that their families also struggle to cope with it. The difference between having the support of loved ones and not having that support is the difference between a fulfilling job and a miserable one.

These are some of the creative ideas that led the company to success. The company is today one of the most well-known video games in the world.