InnoWork

MODULE 5: APPLYING CREATIVITY TO WORK TASKS	
Project Title	**“Towards a More Innovative Workplace”**
Project Acronym	**InnoWork**
Project Reference №:	**№: 2014-1-BG01-KA202-001634**

Erasmus+

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

"Towards a More Innovative Workplace"
Project Reference №: 2014-1-BG01-KA202-001634

MODULE 5: APPLYING CREATIVITY TO WORK TASKS

TABLE OF CONTENTS

I. Module overview 3
II. Learning content 4
Introduction 4
Part 1: Work tasks and Creativity 4
Part 2: Design thinking and Creative problem solving 6
III. Conclusion 22
IV. Additional reading 22
V. Self-test questions / Quiz 24
VI. Glossary 26
VII. Bibliography 28

I. Module overview

Learning objectives	As a result of engaging with this Module materials, learners are intended to achieve the following learning outcomes: *Knowledge*: understand the concepts "design thinking" and "creative problem solving". *Skills*: apply "design thinking" and "creative problem solving" to a variety of work tasks. *Competence*: problem solving, creative thinking.
Time schedule	*Workload: 2 hours* *Time necessary for self-test questions: 5 minutes* *Time necessary for exercises: 20 minutes*
Structure	This module is divided into 2 parts: Part 1 – work tasks and creativity Part 2 – design thinking and creative problem solving The module also includes exercises, self-test questions and a glossary.

II. Learning content

Introduction

> "I have not failed. I've just found 10,000 ways that won't work."
> — Thomas A. Edison

Creativity is not rocket science. We constantly apply creativity in our everyday lives without noticing it, for instance to find ways for saving time and energy, or making a new trial after a failure.

Module 5 shows that creativity is a skill which everyone can develop. Applying creativity to work tasks is viewed as applying creative thinking to solving problems, related to development processes of a company. The problems to solve and the goals to achieve can be huge – strategic, or small – associated with every day operations. In fact, it is creative approach to small, routine tasks that could create the atmosphere of innovation at work.

This module provides information and examples of applying creativity to work tasks. The reading material gives an overview of design approaches to problem solving and creative problem solving processes, describing its steps and suggesting creative techniques which can be used in each step.

In this module you will learn how to tackle work tasks in a creative manner, using the design thinking approach, creativity techniques and problem solving methodology. You will learn to increase the innovative potential of a company by generating original solutions. The process will be supported by exercises and a self-test.

This module is divided into 3 parts: part 1 – an overview of creativity and dimensions of work tasks; part 2 – design approach and creative problem solving process; and part 3 – exercises, self-tests, and a glossary.

Part 1: Work tasks and Creativity

> "In a truly creative collaboration, work is pleasure, and the only rules and procedures are those that advance the common cause." — Warren Bennis

The importance of creativity is undeniable. It has helped in finding life-saving vaccines, overcoming disasters, and producing great masterpieces of art. Creativity has been mystified on many occasions, yet it is as simple as breathing, because its essence lies in imagination and attitude.

We often associate creativity with "creative" professions such as artists, musicians, writers, etc. Does it mean you cannot be creative in engineering or in teaching, or in any other work you do? We often think that creativity brings revolutionary ideas and inventions which change our lives. Does that mean there is no place for evolutionary ideas which provide insight into existing things? We may believe that creativity is a gift which only few are endowed with. Does that mean others are not creative?

Actually, it is not so. These questions present the most common misconceptions about creativity. Creativity is not restricted by fields of expertise, kinds of ideas, or personal abilities. It is diverse, and can be applied to any kind of work by any individual.

In organizational context, applying creativity to work tasks may be a part of a company's strategy. It may happen on different levels: company-wide, project-specific or personal level. It may show itself in a more structured approach to tackling challenges which require innovative solutions or in a more unstructured way when individuals innovate in their routine tasks just to make their work easier. It is essential that the company's owner and managers empower their employees and instil in them the feeling of safety to apply creativity to work tasks.

Creativity in work tasks has different dimensions:

1. *Direct or primary application of creativity to work tasks*

   It happens when employees are asked to find a creative solution to an existing problem, when a creative task is directly assigned to employees. Direct application of creativity to work tasks also covers research and development activities.

2. *Indirect or secondary application of creativity to work tasks*

   It occurs when routine tasks are rationalized and performed in a more efficient manner, when employees themselves try to find a way to implement their tasks more easily and quickly. Indirect application of creativity to work tasks helps to save time for more important endeavours.

   The first two points show that *creativity can be applied to work tasks on horizontal and vertical levels*: from small and simple "everyday" issues executed by individuals, to more complex research and development activities undertaken by certain departments or by the whole company.

3. *Creativity can be applied to work tasks in different sectors*

   Actually, it does not matter what sector your company operates in, or what your personal field of expertise is. Application of creativity is not limited to certain sectors; it can be applied to any kinds and fields of activities.

4. *Creativity can be applied by individuals and teams*

   An employee alone can apply creativity to his/her own work tasks in a way which best suits him/her. And working teams can apply creativity to anything from conversations and idea sharing to product development in multidisciplinary and even cross-border fields.

5. *Applying creativity to work tasks has a psychological dimension*

   By saying "psychological", we mean a person's motivation, attitudes and perceptions. An employee should be intrinsically motivated for personal and professional development, for experimentation and improvement of his/her practice (work processes and results).

   A person should have a holistic view on arising challenges instead of getting stuck in details. He/she should focus on finding a solution instead of concentrating on a problem; he/she should be ready to accept failure as a part of the creative process.

And, of course, a person should remember that we learn from each other. Thus, we are more likely to come up with a creative solution when we share ideas, consider the ideas of others, show empathy and are open to diversity.

When you apply creativity to your work tasks, use the following suggestions:

- Constantly reflect on what works well and what does not. Reflection helps you understand what may need rethinking. You can choose your own way to keep record of your thoughts and ideas. For some it may be a diary, for others it may be a tape recording.
- Share experiences and ideas with peers. Discuss them with your colleagues meeting them in the workplace; talk to other people using chats, blogs, social media and networks.
- Borrow and apply ideas. Look at what someone else has done and apply it to your own tasks. Do not be shy to borrow practices from other people and/or other sectors. Your aim is to make your work easier and more productive – for yourself, and more useful – for your customers or clients.
- Observe and listen to your clients or customers. Their ideas are the most important source of inspiration for innovation in services and/or products.

The benefits of applying creativity to work tasks are many. The most essential benefits include: increasing the company's competitiveness by suggesting more customer oriented products, processes, and services; increasing the company's flexibility and readiness to change; improving company's image; improving internal processes without overloading staff; empowering employees and improving their well-being.

Remember that all people are creative, and every one of us is creative in our own way. We all have unlimited potential to creativity. All we need is to learn how to unleash it: how to perceive the world in new ways, how to find hidden patterns, how to make connections between seemingly unrelated phenomena, and how to generate innovative solutions.

The following section of this Module introduces the processes which help to apply creativity to work tasks. These are *design thinking* and *creative problem solving*. Being applicable to all fields of expertise, they explain the way of using creativity from detecting challenges, through generating ideas, to finding solutions.

Part 2: Design thinking and Creative problem solving

Before we start exploring design thinking and creative problem solving, consider these three ideas:

1. We are living in the age of high competition. In order to stay competitive, you should create tangible or intangible added value for your customers and clients. Applying creativity to work tasks can help you do that.
2. We are living in a connected world, where narrow, specialized approaches to solving problems is becoming less and less effective. The need for multidisciplinary approaches to work tasks becomes more sound, because it helps to see a task – a problem from different perspectives and find more interesting, novel solutions. Moreover, researchers emphasize the importance of being a T-shaped professional – having deep knowledge in a specific area and broader multidisciplinary skills which

allow for linking up different perspectives from a variety of specialties [1]. Diverse knowledge from different fields of expertise and an ability to apply it to problem solving may contribute a lot to the creative process.

3. Despite creative techniques explained in this module, you should apply the common sense. As mentioned above, creativity is not rocket science. It is mainly based on logical processes and understanding of the context.

DESIGN THINKING

> ”Design is a funny word. Some people think design means how it looks. But of course, if you dig deeper, it’s really how it works.” — Steve Jobs

Design approach or design thinking is about applying the principles of design to the way people work. It implies tackling complex problems and delivering user-friendly solutions.

Design approach may seem far-fetched, or related only to aesthetics. However, it describes well, an attitude to approaching work tasks in a creative manner. Indeed, designers constantly apply creativity to what they do; and creativity becomes a core element in their work.

The researchers (Nigel Cross [2], Tim Brown [3], Jon Kolko [4] and others) mention the following principles of design thinking:

- *Focusing on users’ experiences – building empathy with them*. Understanding users is one of the main elements in the design approach. It involves listening, observing, and making them participate in the process. Designers involve their clients in the design process making them co-creators of the solutions.
- *Creating models to examine complex problems*. Design thinkers often use physical models, design artefacts in the form of diagrams or sketches, to explore and define the existing problem. Such models allow for nonlinear thought when tackling complex challenges.
- *Using prototypes to explore potential solutions*. Prototypes may be physical, digital, or diagrammatic, but in all cases they are a way to test new ideas and communicate them to potential users. Design thinkers believe that only the act of prototyping can transform an idea into something truly valuable.
- *Accepting ambiguity and embracing risks*. It is difficult to estimate the value of new solutions and the return on investment in creativity. But design thinking invites you to take chances and move forward without knowing what exactly you will gain in the result.
- *Tolerating failure*. Design thinking recognizes that it is difficult to find the right solution first time. It views failing as a way of learning towards reaping the results of creativity and innovation.

Design thinking is an imaginative, human-centric approach to “inventing the future” by *developing what customers want and currently don’t have*. It provides the guidelines for the attitude you should acquire to succeed in delivering creative solutions to your work tasks.

CREATIVE PROBLEM SOLVING

> "Creative problem solving is an intentional process of defining success and setting out to achieve it." – Don Koberg and Jim Bagnall

Creative problem solving simply means applying creative thinking to solving problems. Creative thinking is a capacity which shows the way you think about your problem, while problem solving is an instrument which defines the process you go through in finding a solution [5]. Creative problem solving unites a *non-linear thinking about problems* and *a linear process of solving them*.

You may ask how it is possible. The matter is in understanding what a problem is by itself. Problems arise when we perceive a discrepancy between the current and desired situation, when there is a dysfunction or disorder in what we are dealing with. A problem is a question which does not have a predefined solution; answering it requires research, exploration, ideas generation, and experimentation.

Although problem solving suggests a set of steps from defining to solving a problem, the procedures in each step involve creative thinking – going beyond the established practices, seeing things from different angles, building up new connections, and generating truly original solutions.

Let's see how you can make use of "design thinking", "creative thinking" and "problem solving" in your work (Figure 5.1.).

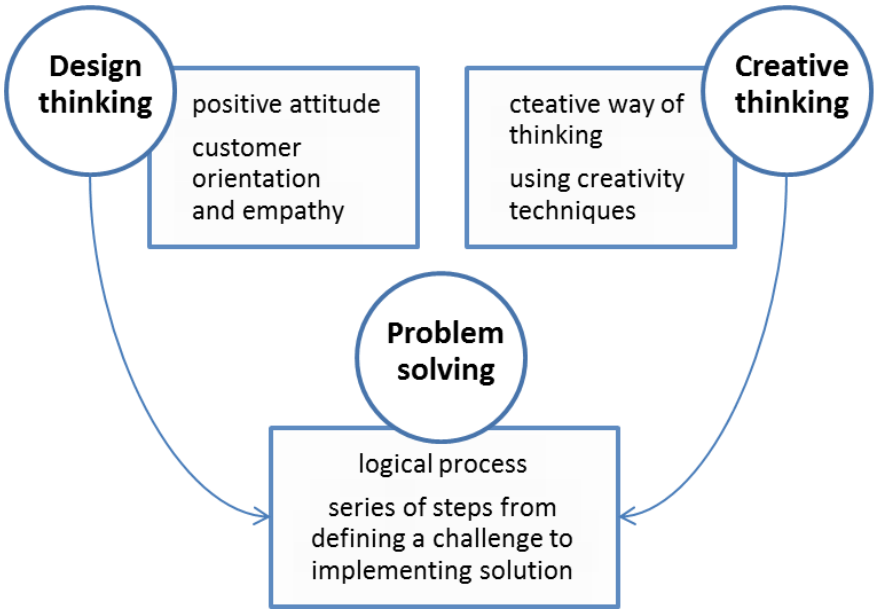


Figure 5.1. Relations between Design thinking, Creative thinking and Problem solving

When you think of applying creativity to your work, you should view your tasks as problems requiring innovative solutions. Then, you should involve in the problem solving process a "design thinking" attitude and a "creative thinking" approach. You should go through a series of steps (which we describe below) using various creative techniques and remembering that your solution needs to combine novelty and customer orientation.

THE PROCESS OF DESIGN THINKING AND CREATIVE PROBLEM SOLVING

There are a lot of approaches to defining the process of solving problems. Some of them describe "Design thinking process"; others speak about "Creative problem solving (CPS) process". Although different authors name the process differently and mention different steps in it, they all use the common problem solving methodology. It implies going through a series of steps from understanding the context and defining the problem, through generating and testing ideas, to implementing innovative solutions.

Scientists (Rolf Faste, Sidney Parnes, Donald Treffinger and Scott Isaksen, Min Basadur and others) have developed different approaches to applying "Design thinking process" or "CPS process" to such spheres as education, business, management, etc.

Depending on where and for what purpose it is used, the number of steps in the process and their content may vary. Here we suggest a seven-step approach (based on Basadur's SIMPLEX model [6], Morris's Creative Process [7], Don Koberg & Jim Bagnall's CPS Process [8], Stanford's Design Thinking model [9]), which is particularly useful for business.

The steps of the CPS process include: 1. Providing a vision; 2. Gathering information; 3. Defining a problem; 4. Generating ideas; 5. Selecting ideas; 6. Taking action; 7. Evaluating results.

Below we explain each step of the CPS process and suggest some techniques which may help you support the pursuit of creative ideas. For more detailed explanation of creative techniques and example, please, refer to Module 10.

Step.1 Provide a vision

The creative problem solving process begins with understanding your company's challenges and imagining the way you can meet them.

So, as the first step, diagnose the current situation. Ask yourself such questions as, for instance: What would our customers want us to improve? What could we do better to improve their experience with our product or service? What makes our work more difficult? How could we improve quality? How could markets and customers change over the next few years? How could we respond to this change? Etc.

Asking and answering such questions, you may get an insight into what you want your company to be in the future. You may visualize the picture of your company's success and come up with your *vision*.

A vision is a big and compelling picture showing what you strive to achieve and inspiring you to get there. A powerful vision sets up the contrast between what is now and what could be. Usually this contrast is so strong, that the idea of change toward a better condition becomes a powerful motivator for taking action. It gives meaning to professional life and encourages people (both management and employees) to bring to reality what they have envisioned [10].

You can provide a vision for your entire organization, for each of its departments, or for any specific project or task you are involved in. Your vision should help you and your employees or colleagues see

how your business, your product, or your service can be different and better; it should state what you want to achieve in your work and should serve as a starting point in deciding how to do it.

Your vision can be short or long; and in any case it should be clear, specific and measurable. It should describe your purpose, goal and desired outcome of the creative process.

Independent Training Services

ITS – an education and training provider based in Barnsley (the UK); employs 65 staff

"Our vision is to be the partner of choice, leading the way through innovation and excellence.

We will achieve this by:

- Developing a range of products to meet the diverse needs of learners, employers and customers
- Ensuring our delivery is cutting edge, personalised and responsive resulting in successful outcomes
- Sharing our success to benefit and develop our local communities
- Ensuring that we are recognised for what we do, and the way that we do it"

Sources:

1. *ITS website, http://independenttrainingservices.co.uk/about-us/*
2. *Hands-on or hands-off: effective leadership and management in SMEs*. Research insight, May 2014. CIPD in collaboration with Sheffield Hallam University. p.25.

There are a few creative techniques which you could use to comprehend your company's current challenges, foresee its desired future, and then craft a powerful vision.

The Future Perfect is designed to help you understand the challenges you are facing now and may face in the future. You can use it to come up with the long-term strategy for your company and create a vision bridging the gap between the current and desired situations.

What if…? Analysis aims to question existing practices and search for alternative solutions. It may help you reflect on the present state of your company and investigate change possibilities.

Mental imagery may be used to develop a mental picture of a desired future for your company.

Step.2 Gather information

The second step in the creative problem solving process is to analyse the situation the company is in. While the first step points out the contrast between the current and desired situations, the second step clarifies the forces, empowering or restricting the company (or you personally if you work alone) on its way to achieving the vision.

You should think: how different people perceive the situation; what the customers' needs are; who your competitors are; what ideas they have; what has already been tried; what processes / components / services / technologies you may want to use; and what your potential threats are. You should also try to evaluate the benefits of solving the problem and see if they are worth the effort you put into solving it [11].

Your analysis could be done by using: **Michael Porter's Five Forces Model**, which offers a structured approach to drawing the picture of the competitive environment your company operates in; or **Force Field Analysis**, which provides a framework for diagnosing a situation and identifying the forces influencing it.

Step.3 Define a problem

The problem is prompted by the first and the second stages of the creative problem solving process. Your vision shows the contrast between the existing and desired situations and sets up your goal. The analysis of the situation describes the context you are operating in and indicates your strength and weaknesses in the competitive environment. When you compare your vision with your given context, you may define the problem you need to solve for achieving your goal.

A "defined problem" specifies the scope of the needed results. When you define a problem, you express your specific intended outcomes (problem statements) and then turn them into clear and challenging questions. In the next stages of the process, answering these questions, you generate a variety of solutions to your problem; and later selecting the best ideas and implementing them you solve your problem and step into you vision.

The following creative techniques may help you define your problem.

5 Whys, **Cause-Effect Analysis** **or Root Cause Analysis** [12] is used to identify the causes of the problem. It assumes that events and actions are interrelated. And by tracing them back, you can find out where the problem originated and how it developed into the symptoms you are facing now.

With either of these approaches, you are likely to generate all possible causes of your problem. Having done that, analyse them. Think how you would like to change each cause, so that all together they could lead to your goal. Then formulate the problem statements (specific results you want to get) and transform them into questions encouraging people to answer them.

The technique below will give you an idea on asking challenging questions.

Five Ws and How [13]: This technique implies asking open-ended questions (who? what? when? where? why? how?) for defining your problem.

Of course, you may also start your questions with "*which*", "*how much*", "*how serious*", "*in what ways might", "how could we", "what might be all the ways",* etc. Such questions move your mind into the problem-solving mode and invite participation. They sound like creative challenges encouraging suggestions and ideas.

Remember that your questions should be focused on a single issue, because it is difficult to generate ideas for multiple issues at the same time.

ACME Corp

Vision:

By extending our brand name to additional products we could make use of our brand equity, thus increase our sales and better the bottom line.

Problems:

- ✓ To which products should we extend our brand name?
- ✓ What will make our product different from the ones of the competitors?
- ✓ How will our product be better than the ones of the competitors?
- ✓ Which specific test markets should we use?
- ✓ Where should we produce? Should we produce in house or should we outsource?
- ✓ What market strategy will we use?
- ✓ What packaging? Etc.

Step.4 Generate ideas

Next step in the creative problem solving process is to generate ideas. There is a huge variety of idea generation techniques. You can use any of them in different combinations. However, no matter what technique you use, keep in mind the following suggestions [14]:

- ✓ Take a single question from those you have created in step 3. Give yourself and your problem-solving team time to produce ideas. Develop at least fifty that may help solve your problem.
- ✓ Write down any idea that comes to your mind. Even absurd and pointless ideas can often trigger better ones.
- ✓ Avoid criticizing ideas, as criticism kills creativity. Let everyone express whatever comes to their mind and show that you value their contributions.
- ✓ Try to attract people from outside – your customers, suppliers, researchers, experts – to your idea generation sessions. They are likely to bring a fresh perspective to your problem which could significantly improve the flow of creative ideas.

Here are a few creative techniques for generating ideas.

Attribute listing suggests a way to improve existing products or services. It implies breaking a product or service into components and brainstorming their attributes. A combination of different attributes may create a better product or service.

Circle of opportunity implies that you randomly select the problem attributes and develop free-associations with them. The association map you create in this process helps you come up with original solutions.

SCAMPER is a method used for transforming product, service, or process into something new. It suggests a set of questions which you relate to your problem to generate ideas.

Rich Pictures can help look at your problem from a totally different perspective and change the thinking patterns within your team.

Mind Mapping is a brainstorming approach which helps in structuring and connecting ideas.

Step.5 Select ideas

Having generated ideas, you need to review and evaluate them.

First, get back to your vision, problem statements and problem question. They express your goal and your intended outcomes. Analyse them and develop criteria for idea evaluation. You may consider the extent to which selected ideas: are likely to solve your problem; are likely to be implemented; are accepted by the members of your team; fit the organizational constraints.

Take each idea, match it to your criteria, and see how well it meets them. You can score ideas, for instance, from 1 to 5, with five indicating a perfect match. Once you have finished, select the ideas with the highest score. Those ideas best meet your criteria, and therefore may best solve your problem and let you achieve your goal.

There are a lot of different techniques developed for idea evaluation and selection. Here we give a few examples which you can adopt for your CPS process.

NAF [15]: It is a simple technique which suggests evaluating ideas by three criteria, awarding each of them a score from 1 to 10: 1. *Novelty* – Is the idea new? 2. *Attractiveness* – Is the idea attractive? Does it completely solve the problem? Or does it offer a partial solution? 3. *Feasibility* – How feasible is it to implement the idea? This method is appropriate for an early phase of idea selection (Figure 5.2.).

Ideas	Novelty 1	Attractiveness 2	Feasibility 3	Score 1+2+3
1				
2				
3				
…				

Figure 5.2. NAF technique

Idea advocate [15] is a group approach to idea assessment. It is used after checklist evaluation, when certain ideas have been selected as a best match to the criteria. Each idea is allocated to a member of a problem-solving team, usually that one who initiated it or who will implement it. Having become an "idea advocate", the participant presents a case for the idea to decision makers and other idea advocates. Then the ideas are discussed and decisions are made.

Six Thinking Hats is a creative technique which allows exploring your idea through a range of perspectives (facts, emotions, risk assessment, advantages, drawbacks, management).

Having selected a few best ideas, you need to decide which of them to implement. **Prototyping and testing** is crucial for making a right decision about launching a new product or service. It is a process through which you can transform your product or service ideas into tangible results. Some ideas will prove their viability, while others will turn into failures. Creating a prototype, you understand if you can really produce a new product or deliver a new service. Testing your prototypes, you discover shortcomings which may need improvement. Inviting your consumers to try them, you get their feedback. The results of prototyping and testing help you choose the idea which best meets your vision, fits your production capabilities, and serves consumers' needs.

Step.6 Take action

At this point, all you need is to give form to the selected idea and implement your solution. You may use the following techniques to facilitate this process.

Action Plan [16] is list of tasks that you need to complete in order to implement your idea. An action plan gives you a framework for completing your problem solving process. It helps you structure and execute necessary activities in a sensible order. Moreover, when you see a complete list of tasks, you may quickly decide which of them you can delegate or outsource, and which you need to implement yourself.

Implementation Checklist (VanGundy, 1988) [17] is a list of questions which make you reflect on possible obstacles for taking actions on your decision (Figure 5.3.).

	Questions	Answers Yes	No	What can you do to overcome obstacles?
1	***Resourses***			
	Are the resources (time, personnel, equipment, money, information) sufficient for executing the idea?			
2	***Motivation***			
	Are there people motivated for and commited to successful implementation?			
3	***Resistance***			
	Is the idea likely to come across any 'closed thinking' and/or resistance to change?			
4	***Procedures***			
	Are there any procedural complications to get over?			
5	***Structures***			
	Are there any structural obstacles to surmount (e.g. bad communication channels)?			
6	***Policies***			
	Are there any official/unofficial policies need to be overcome?			
7	***Risk***			
	Will risk taking be tolerated by those responsible for implementation and if so to what level?			
8	***Power***			
	Do any power struggles exist relating to the idea that might obstruct implementation?			
9	***Clashes***			
	Are there any clashes of personalities that may hinder advancement in the implementation?			
10	***Climate***			
	Is the organisational environment support teamwork and co-operation (and not suspicion and distrust)?			

Figure 5.3. Implementation checklist

Step.7 Evaluate results

The last step in the creative problem solving process asks you to reflect on your achievements. Here you should determine the degree of your success by comparing your intended outcomes with those you actually attained.

Evaluation may be focused on the creative problem solving outputs, i.e. the product or service you have developed, and on the creative problem solving process, i.e. the way you went through these seven steps. The effects which you may consider include external and internal indicators. External indicators show the impact of your new product or service on the competitive environment, while internal indicators show its impact on your company: its organizational processes and culture.

Below we provide a general framework for evaluating results. You can adjust the indicators for your process by expanding or substituting those which are given in the table (Figure 5.4.).

	Creative problem solving outputs (product / service / process)	Creative problem solving process
Internal	- Help to achieve your vision - Help to solve the problems you defined - Enhance your brand - Provide opportunities for further development	- All steps have been implemented in accord with all requirements - Management and employees have been involved * quality of involvement * quality of contribution * quality of cooperation
External	- Accelerate acquisition of new customers * sales to new customers grow - Increase your revenue * revenue is significantly bigger than investment	- External partners have participated in the process * quality of involvement * quality of contribution * quality of cooperation

Figure 5.4. Evaluation framework

So, the creative problem solving process has seven interrelated sequential steps. But, does it mean they should be strictly followed in the given order? On the one hand, yes. If you want to achieve your goals, you should go all the way from stating your vision and defining a problem, through generating and selecting ideas, to taking actions and evaluating results. On the other hand, when you approach complex problems, involving creativity and learning, you may occasionally learn something in Step 5 which would affect how you perceive Steps 1 and 2, for example. Then you will have to go back and reconsider the previous steps, before you decide to implement your ideas.

Creative problem solving may also be viewed as a cyclic process. When you complete a single cycle, at the stage of evaluating results you may recognize new challenges which also need to be met in the next cycle of problem solving.

Creative problem solving is a powerful methodology which you can apply to any sort of problems or work task. It works equally well for an entire organization, its departments, separate projects, and individuals. All you need is to stay sensitive to yourself and the environment you operate in, imagine your desired future, and engage into the process of achieving it.

Below you will find an example of Creative Problem Solving process undertaken for a family-owned restaurant which is willing to diversify and improve their products and services. Read this example and think: *Can your company apply this approach?* If yes, go through the seven steps and fill in the table provided after the example.

Background

We are a family-owned healthy Asian food restaurant, situated in the commercial mall in the city center. We cater to clients from all ages and walks of life. Our menu includes meals, desserts, and drinks from South-East Asia. We feel like we can grow our business and we are looking to diversify and improve the products we offer and services we render.

Step.1 Provide a vision

We are the fast food industry's fastest growing healthy Asian food provider.

Step.2 Analyze a situation

Supplier Power

The products we use are commodities traded on the world market.
So, there is no significant supplier power.

Buyer Power

We sell retail to individual clients. Except for any soft power exerted with the use of social networking media, buyers don't have any significant influence on our prices.

Competitive rivalry

There are many competitors on the market with similar but not exact offerings.
The most important product and service features for our clients are healthy food, taste, personal preferring for Asian food, ease and time of ordering, convenience of location.

Threat of Substitution

Transaction cost is minimal if any. Therefore, threat of substitution is high.

Threat of New Entry

Relatively low capital is required to start up a business like ours. No trademarking and licensing, no specific know-how needed. Hence, threat of new entry is high.

Step.3 Define a problem

1. How to increase our sales using our existing assets?
2. How to increase the return on our assets?
3. How to keep personnel headcount the same?
4. What new products and services can we offer?
5. At which new location can we offer our new products?
6. Who will be responsible for the change?

In this example we elaborate one problem question and one alternative in each brainstorming step.

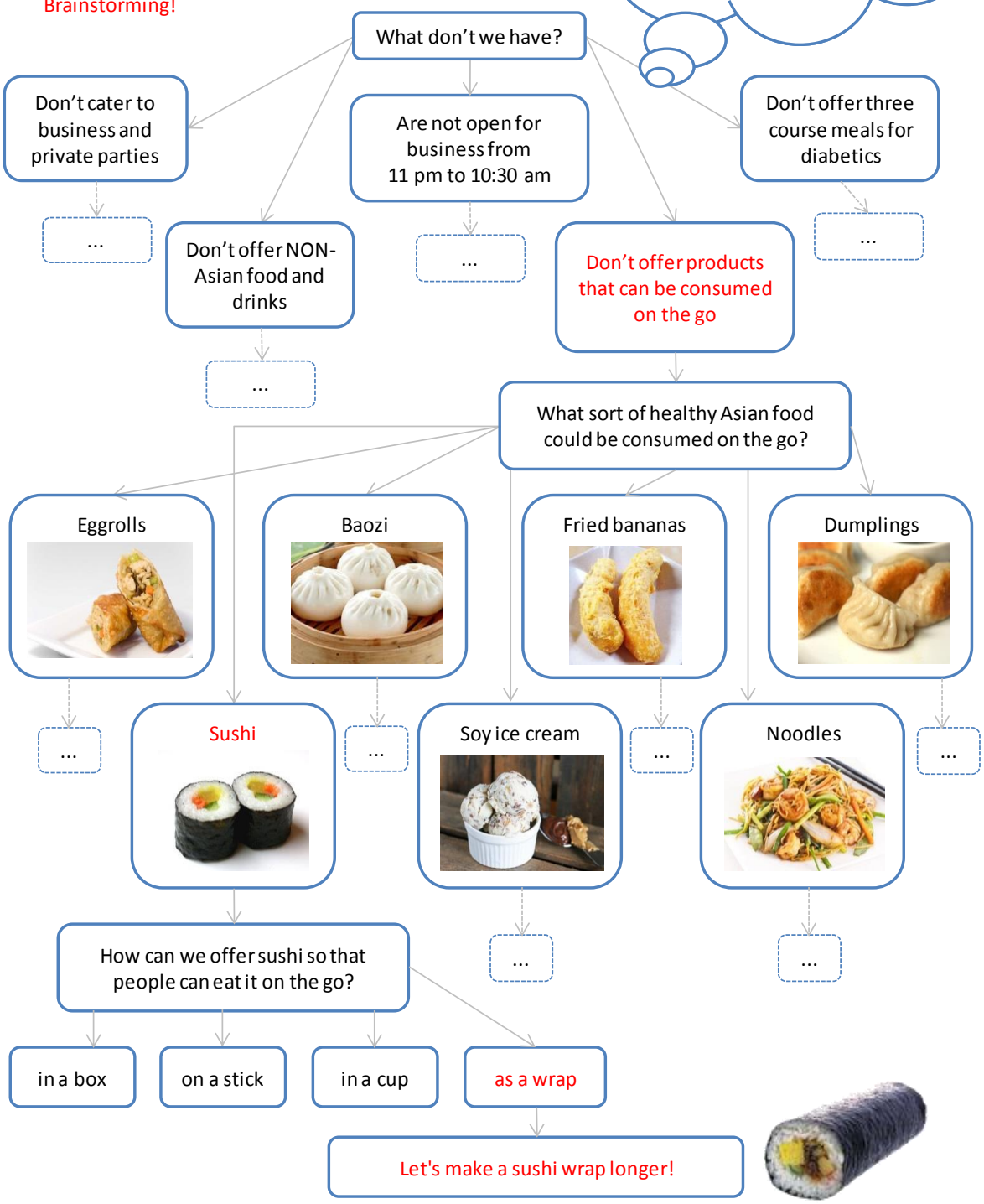
In real CPS process, you should develop every idea!

Step.4 Generate ideas

Challenging question

What new products and services can we offer?

Brainstorming!



Step.5 Select ideas

Criteria assessment of each idea
Scale from 0 to 5 with 5 indicating the best match

No	Criteria	Ideas						
	The new product:	Eggrolls	Baozi	Fried bananas	Dumplings	Sushi wraps	Soy ice cream	Noodles
1	Novel to the market							
2	Healthy							
3	Tasty							
4	Every day fresh							
5	Easy to eat							
6	Has high acceptance rate							
7	Can be offered with various ingredients							
8	Can be offered both cold and outside the premises							
9	Can be produced with existing assests							
10	Does not require hiring additional staff members							
11	Additional points (explain)							
	Total score:							

Step.6 Take action

Implement action plan:

0. Initiating project
1. Planning:
   scope, quality, quantity, procurement, time, personnel, resources, cost, communications
2. Marketing strategy implementation
3. Personnel training
4. Opening new product line
5. Business as usual

Step.7 Evaluate results

Monthly results evaluation:
scope, quality, quantity, procurement, time, personnel, resources, cost, communications

Can your company apply Creative problem solving approach? Can you apply this approach to your projects or work tasks? If yes, go through the seven steps and fill in the table below.

Step.1 Provide a vision	
Invent your future! What do you want to achieve?	
Step.2 Analyse a situation	
What might your customers / clients want, but don't have?	
Step.3 Define a problem	
State your problem as a challenging question!	
Step.4 Generate ideas	
What ideas could solve your problem?	
Step.5 Select ideas	
Will you make prototypes? Which criteria will you use to evaluate your ideas?	
Step.6 Take action	
What actions will you need to undertake to implement your ideas?	
Step.7 Evaluate results	
How will you evaluate the results?	

CREATIVE PROBLEM SOLVING: PARTICIPANTS

Creative problem solving is a complicated process, in which team members should take on three major roles. Let us introduce you the 3G Model:

Guru: A leader, who provides a vision, defines strategic goals, sets up policies and expectations. He is the one who initiates the creative problem solving process, when he communicates the need to achieve the goals. He supports the process by allocating necessary resources to solve the problem. He fosters creativity by instilling the others with the sense of curiosity, collaboration, and trust. Guru usually controls the entire process, however his major role is in Step 1 when the vision is formulated and transmitted to the employees, in Step 5 when the ideas are selected, and in Step 7 when the results are evaluated. Usually, a company owner, an executive director or a team leader plays the role of a Guru.

Genius: A creative individual, who examines reality, asks challenging questions, generates ideas, explores problem-solving possibilities, and carries out experiments to see if the ideas can turn into creative solutions. Geniuses take part in steps 3, 4 and 5 of the creative problem solving process. You may ask where you can find geniuses. They are everywhere in your organization! Every one of your employees is endowed with creative potential; they just need to engage in that kind of behaviour.

Guide: A person, who facilitates the creative problem solving process. He supports it by gathering necessary information, arranging team meetings, providing guidance and helping overcome difficulties. Guides are usually good networkers; they know a lot about people around them (their talents, knowledge, skills, experience) and help them maximize their creative potential. When ideas are selected, they develop action plans and ensure they are implemented. They are involved in the entire process, except, probably, the first step which is defined by the Guru. It is more likely that managers (or representatives of R&D department if you have it) will play the role of a Guide.

Going through the creative problem solving process, you need people engaging in all three roles. You need Gurus, Geniuses, and Guides to work together as a team to succeed in this process.

Your problem solving team should be diverse in terms of creative potential of its members (creative level, creative style) and in terms of perspective which they can offer. It should include people from different departments and hierarchical levels of your company; and it also may include outside partners. Senior managers are more aware of the current trends in your industry. Middle managers are often on the crossroad of information flows in your company. First line managers and front-line workers know the processes (manufacturing or service) from the inside. Outside partners, like your customers or clients, can share their vision on your product or service. They all can provide unique ideas from their perspective for solving your problem.

However, it is not enough to gather a team and assign the roles. You should encourage creativity through favourable organizational culture and climate and by setting up a creative workplace environment.

For more details about these issues refer to Module 3 “Creating a culture of innovation”, Module 4 “Maintaining a culture of innovation”, and Module 6 “Creative workplace management”.

III. Conclusion

So, what does it mean "to apply creativity to works tasks?" It simply means approaching your tasks from a creative perspective: observing the reality, finding opportunities, setting goals and striving to achieve them.

Remember that everyone is creative. Creativity can be applied to any field of work and to any work task. Sometimes application of creativity is direct, and sometimes it is indirect. Sometimes it means working on specific development processes, and in other cases it means approaching every-day tasks in a creative way.

Appling creativity to work tasks can hardly be imposed by management. It is sooner the inner desire of every employee to improve his/her own and the company's overall performance. Motivation and attitude to creativity and innovation is essential. Be ready to take risks, don't be afraid of failure, continue to experiment and turn failure into success. Instil the same attitude into your colleagues and involve all of them into the process of innovation.

Design Thinking and Creative Problem Solving are effective instruments for solving any kind of problems or work tasks. They can be used as methodologies underlying innovation process in the organization. They imply a sequence of phases, stages or steps which give intention to creativity and innovation, bring structure to the search of creative ideas, and help to proceed to idea implementation. They help to understand the challenges, develop the way to meet them, and implement the decision.

Creative Problem Solving and Design Thinking can be applied to work task on any level: organizational, departmental, project, and individual. These processes work equally well both for individuals and for teams. When colleagues work together on a certain problem, they should assure that their team has its "Guru," "Geniuses," and "Guides," and the roles match their creative level, style and potential. When one person wants to apply creativity to his work tasks, he/she should just follow the stages: from understanding the problem trough generating ideas to implementing solutions.

IV. Additional reading

Rod Judkins. (2015). The Art of Creative Thinking.	*The book reveals how we can transform ourselves, our businesses and our society through a deeper understanding of human creativity. It shows the examples of successful creative thinkers from every walk of life, throughout history, and inspires readers to think more confidently and creatively.*
Frans Johansson. (2004). The Medici Effect. Breakthrough Insights at the	*The book provides a new and fascinating perspective on how new innovations can best be found and developed. It is filled*

Intersection of Ideas, Concepts & Cultures.	*with interesting stories and engaging examples; it offers practical strategies a reader can use to develop novel ideas.*
IDEO: Design Kit: The Field Guide to Human-Centered Design *URL: https://www.ideo.com/work/human-centered-design-toolkit/*	*This resource suggests a detailed step-by-step process for understanding how design can be used for solving problems. The process is human cantered.*
Liedtka. J. & Ogilvie, T. (2011). Designing for Growth. A design thinking tool kit for managers.	*The publication provides a clear guide for non-designers about how to apply Design Thinking in companies for solving different issues.*
Gelb, Michael J. (1998). How to Think like Leonardo da Vinci.	*The book helps readers uncover hidden abilities, sharpen senses, and liberate unique intelligence – by following the example of the greatest genius of all time, Leonardo da Vinci. It introduces Seven Da Vincian principles which are the essential elements of Genius.*

V. Self-test questions / Quiz

Question 1: **Why is it important to apply creativity to work tasks?** You can choose one or more answers.		Comments to answers
Answer 1	It enables team work.	Creativity does enable team work, but it is not applied for that purpose.
Answer 2	It can make the company more customer-oriented and improve its image.	Creativity in work tasks assists in detecting customer needs and opportunities, and in finding new solutions to their problems. This improves the company's image.
Answer 3	Applying innovation to work tasks is more important than applying creativity.	Both are important, but innovation cannot be reached without applying creativity first. Moreover, creativity can be applied to routine tasks as well.
Answer 4	It enables the use of cutting-edge tools in work tasks.	This may be true too, but it is not the reason to apply creativity in work tasks.
Answer 5	It can assist in detecting development issues and make internal processes more effective.	Creativity can be applied to routine and non-routine tasks, e.g. research and innovation. Creativity helps to see things in a new light, thus, detecting development issues and improving internal processes.
Correct answer(s)	2, 5	

Question 2: **What is true about creativity at workplace?** You can choose one or more answers.		Comments to answers
Answer 1	Creativity can be applied only to strategic tasks under the management guidance.	It is not so. Creativity can be applied to any kind of tasks on any level (strategic company-wide or individual).
Answer 2	Indirect or secondary application of creativity to work tasks occurs when routine tasks are rationalized and performed in a more efficient manner.	Correct.
Answer 3	Creativity is not limited to the sectors or fields of expertise.	Correct. Creativity can be applied to work tasks in different sectors.
Answer 4	Creativity at workplace is more individual than group process.	Creativity may be applied by individuals to personal work tasks, and by teams to bigger projects. However, creativity always benefits from idea sharing and collaboration. Thus, it is incorrect to say that creativity is more individual than

		group process.
Answer 5	Applying creativity to work tasks may empower employees and improve their well-being.	Correct. Application of creativity to work tasks implies more space for experimentation and self-realizations. Employees are more likely to feel empowered in such a situation.
Correct answer(s)	2, 3, 5	

Question 3:
What kind of attitude to implementing work tasks defines Design Thinking?
Choose the correct word or word combination in each alternative.

	Correct answer(s)
Word pair 1: Prepared to fail / not prepared to fail	Prepared to fail
Word pair 2: Tactical / strategic	Strategic
Word pair 3: Observation / internal view and insight	Observation
Word pair 4: Sharing ideas / Limited sharing of ideas	Sharing ideas
Word pair 5: Ideal solution / continuous improvement	Continuous improvement

Question 4:
Put the stages of Creative Problem Solving (CPS) in the correct order.

CPS	*CPS: correct order*
1. Taking action	1. Providing a vision
2. Generating ideas	2. Gathering information
3. Gathering information	3. Defining a problem
4. Evaluating results	4. Generating ideas
5. Selecting ideas	5. Selecting ideas
6. Defining a problem	6. Taking action
7. Providing a vision	7. Evaluating results

Question 5:
Match the roles in CPS process and their main functions.

Role	*Function*	*Role*	*Function: correct order*
1. Guru	1. Facilitates CPS process by arranging team meetings, providing guidance and helping overcome difficulties.	1. Guru	1. Provides a vision, defines strategic goals, sets up policies and expectations, initiates CPS process.

2. Genius	2. Provides a vision, defines strategic goals, sets up policies and expectations, initiates CPS process.	2. Genius	2. Examines reality, asks challenging questions, generates ideas, explores problem-solving possibilities, and carries out experiments.
3. Guide	3. Examines reality, asks challenging questions, generates ideas, explores problem-solving possibilities, and carries out experiments.	3. Guide	3. Facilitates CPS process by arranging team meetings, providing guidance and helping overcome difficulties.

VI. Glossary

Term	Definition
T-shaped person / thinking	A T-shaped person, also called a generalist specialist, is a person who has a deep knowledge in a certain field of expertise, and an ability to collaborate across disciplines, to apply his knowledge to other areas of expertise. The terms "T-shaped thinking" or "T-shaped professionals" may also be used. Morten T. Hansen. IDEO CEO Tim Brown: T-Shaped Stars: The Backbone of IDEO's Collaborative Culture**.** An Interview with IDEO CEO Tim Brown. Chief Executive. URL: http://chiefexecutive.net/ideo-ceo-tim-brown-t-shaped-stars-the-backbone-of-ideoae%E2%84%A2s-collaborative-culture/
Design thinking	Design Thinking is based on a designers' way of thinking and processing work. It can be applied to any areas of expertise. Designers' thinking style or Design approach includes solution-orientation, holistic view to problems, risk taking, and empathy. Cross, Nigel. (2011). Design Thinking: Understanding how designers think and work. Berg/Bloomsbury
Prototype	Prototype is the first version of the model from which the other forms are derived or developed. In Design thinking it is the first model built for testing a selected idea (seeing its functionality, checking other characteristics, etc.). Merriam-Webster Dictionary. URL: http://www.merriam-webster.com/dictionary/prototype
Concept	Concept is an idea of what something is or how it works. A concept can be abstract and is often verbally and/or visually described. Merriam-Webster Dictionary. URL: http://www.merriam-webster.com/dictionary/concept
Customer	Customer orientation is an activity where customers' internal and external

orientation	needs are listened and taken into account. The idea is to provide service, systems and goods to customers that meet their needs and make them satisfied. Business Dictionary. URL: http://www.businessdictionary.com/definition/consumer-orientation.html
Creative thinking	Creative thinking is a cognitive capacity which shows the way a person thinks about a problem. Creative thinking does not follow any systematic patterns. It goes back and forth with steps that at first seem to lead nowhere, but can later be used to find a solution. Sanchez, A., Ruiz M. (Eds.). (2008). Competence-based Learning: A Proposal for the Assessment of Generic Competences. University of Deusto.
Problem solving	Problem solving is a logical process that implies discovering, analysing, and solving problems. It may serve as a methodological instrument which defines the process a person goes through in finding a solution. Sanchez, A., Ruiz M. (Eds.). (2008). Competence-based Learning: A Proposal for the Assessment of Generic Competences. University of Deusto.
Creative problem solving	Creative problem solving (CPS) is a well-defined process that can help to proceed from problem definition to implementing solutions. CPS includes the following steps: 1. Providing a vision; 2. Gathering information; 3. Defining a problem; 4. Generating ideas; 5. Selecting ideas; 6. Taking action; 7. Evaluating results. Koberg, D., Bagnall J. (2003). The Universal Traveler: A Soft-Systems Guide to Creativity, Problem-Solving, and the Process of Reaching Goals. Crisp Publications. CA: Menlo Park. The basics of Creative Problem Solving – CPS. InnovationTools.com. URL: http://www.innovationmanagement.se/imtool-articles/the-basics-of-creative-problem-solving-cps/
Vision	A vision is a big and compelling picture showing what a person or a company strives to achieve and inspiring them to get there. Hyatt, M. (2012) Why Vision Is More Important Than Strategy. URL: http://michaelhyatt.com/why-vision-is-more-important-than-strategy.html

VII. Bibliography

1.	Morten T. Hansen. *IDEO CEO Tim Brown: T-Shaped Stars: The Backbone of IDEO's Collaborative Culture. An Interview with IDEO CEO Tim Brown*. Chief Executive. URL: http://chiefexecutive.net/ideo-ceo-tim-brown-t-shaped-stars-the-backbone-of-ideoae%E2%84%A2s-collaborative-culture/
2.	Cross, N. (2011). *Design Thinking: Understanding how designers think and work.* Berg/Bloomsbury
3.	Brown, T. (2008). Design thinking. *Harvard Business Review*, June 2008. URL: https://hbr.org/2008/06/design-thinking
4.	Kolko, J. (2015). Design Thinking Comes of Age. *Harvard Business Review*, September 2015. URL: https://hbr.org/2015/09/design-thinking-comes-of-age?cm_sp=Article-_-Links-_-Top%20of%20Page%20Recirculation
5.	Sanchez, A., Ruiz M. (Eds.). (2008). *Competence-based Learning: A Proposal for the Assessment of Generic Competences*. University of Deusto.
6.	An 8 step process that asks "How might we" from problem finding to action. *Basadur Applied Creativity*. URL: http://www.basadur.com/howwedoit/An8StepProcess/tabid/82/Default.aspx
7.	Morriss, L. (2011). *Innovation Master Plan: the CEO's Guide to Innovation*. Innovation Academy.
8.	Koberg, D., Bagnall J. (2003). *The Universal Traveller: A Soft-Systems Guide to Creativity, Problem-Solving, and the Process of Reaching Goals*. Crisp Publications. CA: Menlo Park.
9.	*Steps in a Design Thinking Process. The K12 Lab Wiki. Stanford. URL: https://dschool.stanford.edu/groups/k12/wiki/17cff/Steps_in_a_Design_Thinking_Process.html*
10.	Hyatt, M. (2012). *Why Vision Is More Important Than Strategy*. URL: http://michaelhyatt.com/why-vision-is-more-important-than-strategy.html
11.	Hill, R. *The Simplex Process: A Robust Creative Problem-Solving Process*. URL: http://www.mindtools.com/pages/article/newCT_10.htm
12.	Root Cause Analysis. *ThinkReliability*. URL: http://www.mindtools.com/pages/article/newTMC_03.htm
13.	Five Ws and How. *Mycoted: Creativity & Innovation, Science & Technology*. URL: http://www.mycoted.com/Five_Ws_and_H
14.	The basics of Creative Problem Solving – CPS. *InnovationTools.com*. URL: http://www.innovationmanagement.se/imtool-articles/the-basics-of-creative-problem-solving-cps/
15.	Rebernik, M. & Bradač, B. *Idea evaluation methods and techniques: Creative Trainer, Module 4*. URL: http://www.creative-trainer.eu/fileadmin/template/download/module_idea_evaluation_final.pdf
16.	Smith, C. *Action Plans: Small Scale Planning*. URL: http://www.mindtools.com/pages/article/newHTE_04.htm
17.	Implementation Checklists. *Mycoted: Creativity & Innovation, Science & Technology*. URL: http://www.mycoted.com/Implementation_Checklists