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Furthering Innovative Entrepreneurial Regions of Europe

Pilot Training Programme

LEARNERS' HANDBOOK

August 2015

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This document, constituting part of a FIERE project deliverable in the context of the project's Work Package 3: 'Indicative innovative entrepreneurship skills training programme', has been prepared in accordance with specifications applicable for all FIERE Training Modules and Handbooks.

It does not intend to provide a comprehensive review of the field of creativity, innovation, analytical thinking, resourcefulness, leadership and resilience. Instead it is intended as an introduction and starting point for discussions during **Pilot Training** sessions / Workshops to be organised in the various FIERE project partner regions in Italy, Greece, Bulgaria, Ireland, Iceland and Portugal.

In preparing this **Learners' Handbook**, a variety of sources and published works have been used. We would like to also acknowledge material provided by those partners who were responsible for preparation of FIERE Training Modules – AllWeb (Greece), Institute for Postgraduate Studies at UNWE (Bulgaria) and Waterford Institute of Technology (Ireland) as well as comments circulated through personal exchanges and discussions in partners' meetings.

The FIERE Partnership

August 2015

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INTRODUCTION

The **FIERE (Furthering Innovative Entrepreneurial Regions of Europe) project** aims to support local communities and regional economies by specifically focusing on developing skills among organisations' employees to behave more entrepreneurially and innovatively within their work environment. The paradigm of *innovative entrepreneurship* lies at the intersection of entrepreneurship and innovation as it recognises the necessity of teaching innovation, entrepreneurship and creativity skills to policy makers, managers, administrators, enterprise development officers, community leaders and developers, founders of community and social enterprises, and organisers/managers of local community entities.

The FIERE partnership includes 7 partner organisations: the Tipperary County Council and the Waterford Institute of Technology from Ireland; AllWeb Solutions – a leading IT company in Greece; CESIE – a not-for-profit independent NGO from Italy; the Commercial and Industrial Association of Barcelos from Portugal; Einurd ehf – a consultancy company from Iceland; the Institute of Postgraduate Studies at the University of National and World Economy from Bulgaria. The partners are gathered around the idea to design and implement a training programme in each FIERE partner region to support employees by increasing their potential, capacity and capability to behave entrepreneurially and innovatively.

1. Training modules objectives and relevance for the FIERE project and its target groups

Through the elaboration of training content under FIERE ***Work Package (WP) 3: 'Indicative innovative entrepreneurship skills training programme'*** the FIERE project partnership seeks to develop an innovative entrepreneurship training programme (TP) that addresses skills needs of regional organisations, while, at the same time, taking into account the operational issues associated with regional training programme delivery (e.g. developing a network of mentors/facilitators to assist regional adult education learners). The process of training programme development is not confined to WP3 only. It uses the results of *WP2 'User Needs Analysis'* and *WP4 'Case Studies'* and will eventually take into account the feedback from *WP5 'Pilot Actions*' to fine tune the developed training products.

The work programme for WP3 builds on the results of the needs analysis undertaken of regional organisations in relation to innovative entrepreneurship provision and is based on the case

studies, elaborated by each project partner to support the exchange of good practices of how regional organisations in the partner countries have successfully implemented innovative entrepreneurial approaches to addressing the challenges faced by their regions. WP3 focuses on developing an indicative specification for an innovative entrepreneurship skills adult education course that identifies the following key learning modules to comprise the FIERE training programme:

- **Module 1: "*Creativity and innovation";***
- **Module 2: "*Analytical thinking and resourcefulness as ways to identify and satisfy customer / citizens' needs";***
- **Module 3: "*Leadership and resilience in order to enhance innovation and more responsive service in public and voluntary sector".***

The content of the training modules package is eventually used for the development of a Learners' Handbook. The handbook provides learning materials to assist the participants to understand the basic concepts of innovative entrepreneurship. Additionally – and potentially importantly in the context of the delivery of the adult education programme in a regional context – the training handbook also addresses the supports that may need to be put in place at a regional level to support participants to implement the skills they have acquired.

2. Training programme learning objectives

After taking the training course, elaborated under the FIERE project, comprising Modules 1, 2 & 3, participants should be able to:

1. Define the concepts of: creativity and innovation; analytical thinking and resourcefulness; leadership and resilience, as well as their role for the organisation.
2. Identify and examine the relationship between innovative entrepreneurship on one hand, and creativity, analytical thinking, resourcefulness, leadership and resilience – on the other.
3. Discuss their own reflections on the concepts of: creativity and innovation; analytical thinking and resourcefulness; leadership and resilience, including its meaning and role in their organisation.
4. Explain the significance of creativity, innovation, analytical thinking, resourcefulness, leadership and resilience for the quality of the services provided by the organisation.
5. Apply different techniques for enhancing the level of creativity, innovation, analytical thinking, resourcefulness, leadership and resilience in the organisation.

6. Illustrate how innovative entrepreneurship in the regions can be supported by organisational creativity, resourcefulness and resilience.
7. Evaluate different components of creativity / stages of problem solving / leadership styles and identify the approaches to each component/stage/style in different situations.
8. Evaluate the potential for personal creative/resourceful/leadership behaviour/opportunity in their current role.
9. Evaluate how to enhance individual creativity/resourcefulness/resilience within the workplace.
10. Identify and analyse the factors associated with innovation and entrepreneurship that determine the success at organisational and/or regional level.
11. Design innovative services that cater for the needs and expectations of customers and/or citizens.
12. Plan actions for the development of their organisations as well as for the socio-economic betterment of their regions.

3. Training module structure

The structure of the training modules agreed by project partners includes the following sections:

- ***The concept of the skills covered by the respective module*** – a short literature review on the main theoretical concepts of the skills, on which the respective training module is focused.
- ***Relevance of identified skills for regional organisations*** – a summary of the key findings from WP2 in order to justify the selection of the particular skills to be included in the respective training module.
- ***Examples of good practices*** – summaries of two/three case studies, which are most relevant for the respective training module and the skills it focuses on.
- ***Conclusions and recommendations*** – benefits for regional organisations arising from their involvement in the training course delivered using the materials elaborated under FIERE project and recommendations for most appropriate training delivery methods and approaches, to be eventually used in *WP5 'Pilot Actions'*.

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Furthering Innovative Entrepreneurial Regions of Europe

Pilot
Training
Programme

TRAINING MODULE NO. 1

Creativity and Innovation

Professor Joseph Hassid

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improving the web intelligence...
Allweb Solutions S.A.

1. Setting the scene …

The socioeconomic and institutional environment, in which all organisations operate nowadays, is characterised by a continuous search for effectiveness and efficiency (in qualitative and resources use terms).

According to many experts in the field, creativity and innovation have, in recent decades, become the "industrial religion". Both of them may be thought of as the "factor x" in any business (or, generally, economic organisation's) "growth equation", accounting for productivity growth that cannot be explained by increases in capital and labour. Furthermore, with globalised competition and rapid technological developments, the speed of change occurring within many markets and organisational environments has, in recent years, accelerated dramatically. Creativity and Innovation are often cited as the means by which organisations should respond to this change and exploit the many opportunities, which accompany or result from this change.

"Innovate or fall behind: the competitive imperative for virtually all businesses today is that simple"! This is how Leonard and Straus (1997) saw it in a Harvard Business Review article. And this view is widely shared (Peters, 1990 and Beck, 1992).

"What happens when your competitors are just as lean and competent as you and your cost-effectiveness is no longer a unique advantage?" was the crucial question asked by creativity guru, Edward De Bono (1995). Creativity is essential for any business. Let's suppose creativity is the capacity for generating novel and valued outputs. There is no obvious way through which a business can generate and maintain a competitive advantage without some such process. At present business practitioners and researchers alike are groping towards an understanding of the factors that help or hinder creativity.

One of the essential elements to organisational success is its **adaptability**, which manifests itself as people are able to introduce and accept changes through developing initiatives based on **creativity** and **innovation**. To encourage creativity, all organisations need to create a "climate" that supports and enables the creative thinking of their employees. Organisations must continuously seek to remove obstacles and barriers that might impact negatively on creativity and, at the same time, enhance the factors that promote creativity.

2. What is Creativity?

Creativity is the "art" of developing new and imaginative ideas into reality! It is expressed by the ability to perceive and interpret the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena and situations and generate solutions.

Creativity involves two closely linked processes: **thinking**, then **producing**. If a person has ideas, but does not act on them, he/she may be defined as imaginative, but not necessarily as "creative"!

Creativity is the process of bringing something new into being. Creativity requires passion and commitment. It brings to one's awareness what was previously hidden and points to new life!

Innovation, on the other hand, is defined as the implementation of a new or significantly improved product, service or process that creates value for business, government or society.

Some people may wrongly argue that creativity has nothing to do with innovation. Creativity however is an indispensable part of the innovation equation. There *is* no innovation without creativity. The key performance indicator, in both creativity and innovation, is **Value Creation**.

Defining creativity is not easy, as there are many definitions, each pointing to specific aspects of the same concept. For example, the definition offered by **Encyclopaedia Britannica** is that: "(creativity is)… the ability to produce something new through imaginative skill, whether this refers to a new solution to a problem, a new method or device, or a new artistic object or form".

3. Short literature review of creativity and of its contribution to "value creation"

3.1. Some Basic questions

Research on creativity dates back to 1960 and scholars started appreciating its contribution in enhancing efficiency, effectiveness and thus assist in upgrading business, organisations' performance, better customer service quality and competitive advantage.

Cook (1998) considered creativity as an "element of competitive advantage" for organisations – any type of organisations. The most competitive and profitable new products/services will be those that meet the customers' needs more effectively than the competitor's products or services and are therefore preferred by more customers (Mc Adam and McClelland, 2002). Innovation and creativity benefit companies beyond direct sales growth or efficiency improvements. A company or an organisation that establishes an effective creativity and innovation process is also likely to realize social benefits that arise from increased levels of team working and employee motivation.

For our purposes, the main crucial question that needs to be answered is: **Can creativity be learned?** Or, to put it differently: **Can we train people to become more creative?**

A study by George Land reveals that people are naturally creative although, as they grow up, they learn to be ….uncreative! **Creativity is however generally believed to be a skill that can be developed and a process that can be managed!** It begins with a foundation of knowledge, learning a discipline and mastering a way of thinking. One learns to be creative by experimenting, exploring, questioning assumptions, using imagination and proceeding with a meaningful synthesis of collected information. Learning to be creative is akin to learning a sport. It requires practice to develop the right muscles and a supportive environment in which to flourish.

Studies have attempted to uncover the so-called **"Innovators' DNA", that is what determines one's** ability to generate innovative ideas. This is not merely a function of the mind, but it also depends on a number of key behaviours that optimise one's brain for discovery. Five such key behaviours may be singled out for analysis and consideration:

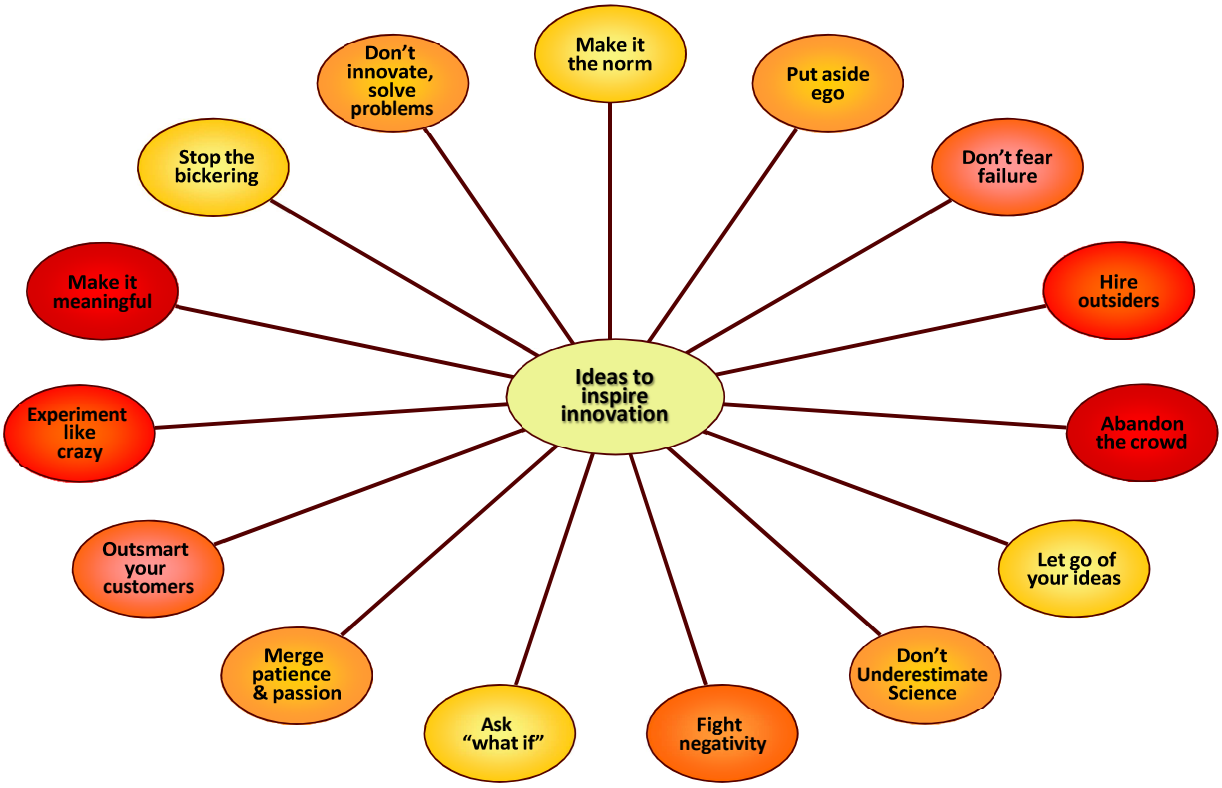
1. **Associating:** drawing connections between questions, problems, or ideas from seemingly unrelated fields
2. **Questioning:** posing queries that challenge common wisdom

3. **Observing:** scrutinizing the behaviour of customers, suppliers, and competitors to identify new ways of doing things
4. **Networking:** meeting people with different ideas and perspectives
5. **Experimenting:** constructing interactive experiences and provoking unorthodox responses to see what insights emerge.

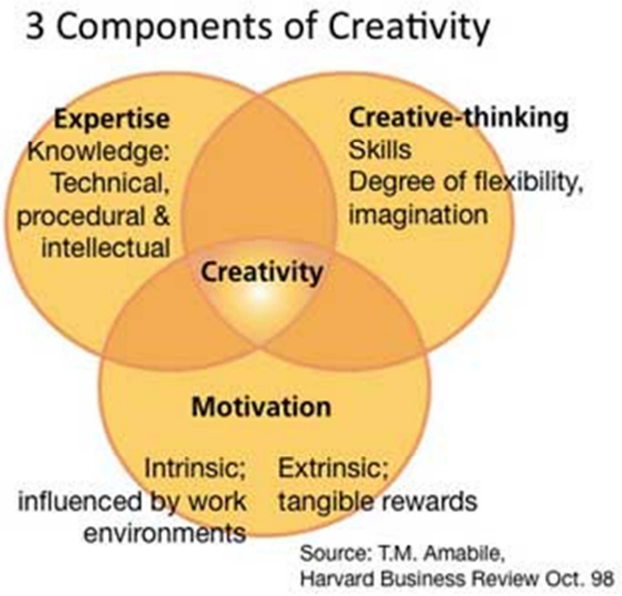
Another equally crucial question is: "what are the components of creativity". Research highlights a number of common environmental factors which support creative behaviour in the individual. These include:

- Reinforcement (different people suggesting similar ideas)
- Goals and aspirations
- Extended Effort (creating ideas based on other people's suggestion)
- Freedom & Autonomy
- Sense of security

Harvard Business Review authors (2002) interviewed 16 innovation leaders from across different sectors and different parts of the world and asked them what was the one thing they did that most inspired innovation in their organisations. The following diagram illustrates their responses and provides some useful ideas for consideration:



A summary answer to the crucial question put earlier is also shown in the chart below. The three main components indicated (**"Expertise", "Creative thinking" and "Motivation"**) may be interpreted and analysed in various ways. What is important however is that "creativity" per se, emerges at the "common area of intersection" of all these key components. **For creativity to emerge and develop, all three components have to exist, operate and interact!**



It is generally accepted that Creativity, in all types of organisations, is, as mentioned, **a skill that can be developed and a process that can be managed. As already argued, this** process begins with a foundation of knowledge, learning a discipline and mastering a certain way of thinking. **One learns to be creative by experimenting, exploring, questioning assumptions, using imagination and blending information.**

Another crucial question that also needs an answer is: "***If creativity can be taught, how is this done?"***

In 1956 Louis R. Mobley argued that, **"any effective creativity training programme, should be built around six basic principles":**

First: "Traditional" teaching methodologies like reading, lecturing, testing and memorisation, is worse than useless"! Most education focuses on providing *answers* in a linear "step by step" way. Mobley realized that asking radically different *questions* in a "non-linear" way is **the key to creativity**!

Second: Becoming creative is an *unlearning,* rather than a *learning* process! The goal of a creativity augmenting programme should not be to add more assumptions, but to upend existing ones and should be designed as a "mind blowing experience". Participants should be pulled out of their comfort zone – often in embarrassing, frustrating, even infuriating ways. Providing a *humbling* experience, especially for hot shot individuals with egos to match, has its risks, but it may set in motion the processes that will generate more creativity.

Third: We don't *learn* to be creative. Instead we must *become* "creative people"! The example offered is that: "A Marine recruit doesn't learn to be a Marine by reading some Manuals. He becomes a Marine by undergoing the rigors of boot camp. Like a caterpillar becoming a butterfly, he is *transformed* into a Marine".

Fourth: The fastest way to become creative is to mingle and interact with other creative people! Despite the fact that some training programmes may start in an unsystematic and unstructured environment, most of the benefits result through "peer to peer interaction" which frequently takes place in informal ways.

Fifth: Creativity is highly correlated with self-knowledge! It is impossible to overcome biases if we don't know they are there.

Sixth and perhaps most important: Programme participants must be given "permission to be wrong"! Every great idea grows from considering – even in some informal manner - large numbers of "bad" ones! The single biggest reason why most people never live up to their creative potential is from fear of making a fool out of themselves. The principle to be applied here is that **"there are no bad or wrong ideas, only building blocks for even better ones"!**

3.2. Organisational creativity

Organisational creativity is not the simple aggregate of all members' independent Creativity. It is instead a function of creativity of individuals as group members within an organisational setting, which is relevant to their collective strategy and goal (Woodman, Sawyer and Griffin, 1993). Organisational creativity is defined as: ***"the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system"***, or it could, alternatively, be understood as: ***"The creation of a valuable, useful new product, service,***

idea, procedure or process by individuals working within a complex social organization". (Mumford, 2011)

3.2.1. Structure and Systems of a Creative Organisation

To structure an organisation for group creativity, Amabile (1998) advocates for matching people to the right tasks and projects and giving them freedom around work process. On the other hand, one is warned that a common way managers or organisations end up killing creativity is by bringing together homogeneous teams. This may be seen as efficient and helpful to high morale, but "everyone comes to the table with a similar mindset. They will most probably also leave with the same"! On the contrary, a mutually supportive group with a diversity of perspectives and backgrounds is much more relevant for a team seeking to generate creative ideas. Of course, diversity per se is not sufficient! A team needs at least three more common qualities: (a) the members must share exhilaration over their common goal, (b) they must be willing to assist each other through difficult periods and problems and (c) every member must recognize the unique knowledge and perspective other partners bring to the group.

Employees will be most creative when the organisational structure and systems support people to feel motivated, primarily by the interest, satisfaction and challenge of the work itself. This type of internal structure, if properly established and efficiently operational, can make a big difference in fostering creativity. Training is particularly important for setting up work groups in which people, despite the fact that they are not homogenous in terms of their backgrounds, will stimulate and learn from each other. Assignments to projects can make a big difference, too. To encourage creativity, people need work that they are going to find appropriately challenging - not so far out of their skill range that they just can't do anything, but certainly something that is going to get them to operate at the top of their skill level, allowing them to really stretch and grow. That level of challenge is very important for intrinsic motivation!

Finally, the overall organisation atmosphere needs be open to creativity, from the highest levels! A collaborative atmosphere where people are continuously sharing ideas and helping each other with their work, rather than competing with each other, is necessary. Whatever reward systems are in place should recognise creative work. Recognising the value of creativity in that way sends a powerful message of support - and helps people stay passionate about their work, whatever this may be!

3.2.2. Resources and skills

Resources and skills are the basic tools an organisation has at its disposal to function properly and complete its business. These include, for example, the people, capital, machines, equipment and materials that an organisation has acquired for use in its operations. Resources and technology can impact the feelings and attitudes of people in organisations by either enhancing or inhibiting appropriate creative behaviours. (Issaksen et al, 2000). A lack of key resources can often frustrate and provide barriers to creative thinking and limit initiative. Access to and efficient use of resources can be a powerful stimulus for creativity and change.

Amabile (1998) also states that time and money are also resources of major importance that can either kill or encourage organisational creativity. Managers therefore need to manage these resources with great thoughtfulness. It is advisable that, while it is the duty of managers to determine the funding, staffing, and other resources that a team legitimately needs to complete a project, they must understand where the threshold of sufficiency is. This constitutes a balanced point upon which creativity does not improve when more resources are added, but restricted when less resource is put in.

The work of an organisation requires people to have an appropriate mix of skills, knowledge and capabilities to perform the work efficiently and effectively. The work undertaken determines, to a large extent, the selection of who needs to work on what jobs – since each job is composed of some range of tasks. The demands made by these jobs influence the behaviours required by the organisation to accomplish its purpose and, in turn, affects the "internal environment and climate". Individuals' skills and abilities are the capabilities and knowledge held by individuals within the organisation. They determine the level of talent available to the organisation to meet work requirements. If a workplace is filled with highly qualified people with sufficient talent to contribute to the organisation's objectives, the climate will be positively affected. If creativity is concerned with the generation of ideas while team and organisational creativity is concerned with both the generation of ideas and the implementation of these ideas, this could make creative people an essential element of organisational creativity process and, ultimately, determine success prospects for a whole series of other functions!

This short overview of the vast literature on creativity, presented here, attempted to identify some common patterns and themes regarding factors that may enhance organisational creativity and provide answers to key questions, of particular reference to **"training for creativity"**. Although

the dimensions – organisational climate, organisational culture, organisational structure and systems, leadership and resources and skills – may be explored in much greater depth, it is important to acknowledge that they are somewhat overlapping and the boundaries between them are not always clear.

In fact, **it is the sum of the whole, rather than the individual parts, that enhance organisations' creativity! Each dimension, on its own, cannot support creativity. Organisations are complex social, political and technical systems and no simplistic formula for becoming more creative can be applied**.

Organisational creativity is linked to a risky balance of complexity, compromise and choice. The "creative organisation" needs to be flexible while controlling risk, but, at the same time, it must be willing and able to provide the freedom to search for the 'new', through learning and experimentation. There is evidence that supports the view that an environment conducive to creativity is critical and is linked both to the culture, the climate, and the physical aspects of the environment. There is a systems view of creativity which suggests that most, if not all, creative outcomes are generated in environments where creativity, as a "culture" is, in various ways, encouraged and rewarded.

4. Creativity in Public Administration – is it relevant?

Marshall Dimock (1986, p. 3), a well know author on creativity and organisations' management, argues that ***"Creativity is one of the hallmarks of leadership and is a central component in the science and, most particularly, the art of public administration"*** and also that ***"Creativity is perhaps the most important concept in public administration"***.

One of the biggest challenges that both public and private organisations face and will have to face in the future, is the accelerating pace and complexity of regional, national and international societies and economies, operating as interconnected systems. In order to cope with such complexity, the single most important attribute and skill of leaders will be Creativity. The very notion of Creativity suggests potentials for innovation and originality, that is, ***"…the ability to see old problems in novel ways and to devise new ways of thinking, analyzing and acting".***

Creativity is critical to organisational success, as it helps people and organisations to respond to **new Challenges** and **Opportunities for Change**. How can we foster creativity in ourselves and others? How can we manage people in public organisations in a manner that enhances and encourages their creativity in ways and forms which are consistent with public values and accountability?

4.1. Why Do We Need Creativity in Public Organisations?

It is also important to ask some fundamental questions, such as:

(a) What are the consequences of creativity for public organisations?

(b) Why should public servants strive to be creative and to support the creativity of others?

(c) How do individuals respond to opportunities to be creative in the workplace?

The answers to these questions may provide insights about both the nature of creativity and of its importance for public service.

For public organisations to be effective, they must craft and facilitate creative responses to increasingly complex societal problems and citizens' needs and demands. Organisations and individuals who work in them must innovate and change, as community needs and demands shift. Meeting these challenges requires the full use of all available human and mental resources. Among the most important of those resources is Creativity - the capacity to think of old problems in new ways, to change our perspectives and create novel and useful approaches to making

organisations work better and serve citizens' needs – both existing and emerging ones. Failure to do so is wasteful to individuals and organisations and is inconsistent with the values of public service. It is incumbent on all of us, then, to use our imaginations and expertise as we work to achieve public goals. Creativity is directly and positively linked to organisational effectiveness and to improvements in quality and productivity. It increases the quality of solutions to organisational problems, helps to stimulate innovation, revitalises motivation, and promotes team performance (Raudsepp, 1978). Creativity helps organisations respond to challenges, demands and opportunities for change.

There are other benefits as well. There is evidence that the opportunity to be creative is important for employee motivation and retention. Employees and potential employees strongly value the chance to use their creativity. For example, one of the findings of a survey conducted among business executives in early 2000s was that the top-ranked qualities desired in a job were committed co-workers, creativity, responsibility and the ability to work independently (R.B. Denhardt et.al, 2013). It was also been found that managers who are creative and have opportunities to use their creativity on the job, are less likely to want to leave their organisations (Cameron M. Ford, 1995). It has even been demonstrated that innovation and creativity can reduce workplace stress. Helping people to become more innovative and creative **"not only makes the work environment less stressful but also leads to the introduction of procedures which enhance productivity and quality of work"** (Bunce & West, 1996, p. 210).

Creativity allows public organisations to be responsive and to develop new and better ways of serving citizens and using resources wisely. The opportunity to be creative can help to motivate people, keep them interested in and committed to their work, and reduce stress. So, creativity is not just something for "creative types" or a matter of a "flight of fancy" whenever people happen to have some extra time. It is a rather critical component of managing organisational behaviour and achieving public service goals.

Creativity is more than a flash of insight. Instead it can be thought of as a process with five identifiable steps or stages: (1) preparation, (2) concentration, (3) incubation, (4) illumination, and (5) verification (Boone & Hollingsworth, 1990). The characteristics and the content of these stages are not elaborated in this document but interesting material may be found in many studies and reports.

4.2. Impediments to Creativity

There are also of course a number of impediments or barriers to creativity (M.A. Runco, 2014) which need also to be considered. Removing these barriers can be the first step in fostering creativity in ourselves and others. The most commonly projected ones are the following:

- Defining the initial problem incorrectly or in a deficient manner
- Judging too quickly alternative views expressed and ideas proposed
- Stopping at the first “acceptable” idea, without considering alternatives
- Lack of support from superiors and/or co-workers
- Hostility to sharing knowledge.

5. FIERE Project: Regional Organisations' Skills Needs Survey – References to Creativity and related skills

5.1. Introductory remarks

According to the FIERE project Work Plan, a Needs Analysis Survey on users' entrepreneurship skills was carried out by all partners. The aim of the FIERE Skill Needs Analysis survey was to gain a level of understanding of the entrepreneurial skills and behaviours of employees from public, private, community & enterprise and voluntary sectors. Partners interviewed 450 respondents from 223 regional public, private, community & enterprise and voluntary organisations in all six partner regions to find out their current level of entrepreneurship skills training and their needs for additional training needed in order to perform, more effectively, their tasks. Of all organisations included in the survey, the public sector registered the highest at 39%, followed by the private sector at 38% and the community & enterprise sector at 14% and finally a small sample of voluntary organisations. According to the composite Europe-wide report, "resourcefulness", "resilience" and "analytical thinking" were the most common skills cited as important for the organisation, the individual employee and as important skills to be trained in.

The results of this survey have been used to develop an entrepreneurial skills training programme aimed at increasing the capacity and capability of individual employees to behave, think and act more entrepreneurially.

In February 2015, partners met in Sofia (Bulgaria) for the project's 3rd Partnership meeting. During the meeting, based on the findings of the User Needs Analysis survey, partners defined the content of the entrepreneurial skills training programme and discussed possible ways for delivering it in each country, starting in June 2015

It was decided that the training programme would be focused on three main skills, or groups of skills, which, directly or indirectly, were identified as those that the survey participants seemed to consider as "priority skills". Three Training modules were formed accordingly:

- **Module 1: Creativity and innovation.** Module 1 takes into consideration the three most cited skills from the survey (resourcefulness, resilience and analytical thinking) and aims to explore those skills with public and voluntary sector employees in a deeper context through the development of creativity and innovativeness thinking and skills.

- **Module 2: Resilience and leadership.** The aim of module 2 is to enhance the level of analytical thinking for employees within the public and voluntary sectors; however the module will also include instruction on resourcefulness which is identified as a key for both the organisation and the individual employee in delivering the most effective service to the customer or citizen.

- **Module 3: Analytical thinking and resourcefulness.** The aim of module 3 is to enhance the resilience of employees in the public and voluntary sectors. However, in reviewing literature on resilience it was noted that resilience as a skill is often aligned with leadership and vice versa and therefore leadership and resilience were combined to deliver a specific focus on those skills within the context of innovative behaviour of employees in the public and voluntary sectors.

5.2. Key Survey findings on the importance of "Creativity and Innovation".

Creativity and Innovation skills were explicitly regarded as "priorities" by many survey respondents. Frequency of responses varied, according to the region being surveyed, the type of organisation respondents were working for and even according to certain of their demographic characteristics.

The following indicative findings are worth mentioning:

- In **Bulgaria**, Creativity and Innovation skills are considered "important to perform their role" by respondents in both the public and the private sector organisations surveyed.
- In **Greece**, many respondents, independently of the surveyed organisation's sector, made specific reference to the importance of Creativity and Innovation
- In **Iceland**, all respondents from private sector organisations indicated that such skills are "required" by their employers.
- In **Ireland**, most of the respondents working in Public sector or Community organisations, indicated that these skills are important to perform their role and that they should be trained accordingly. Overall, independently of sector, they are considered to be "priority skills".
- In **Portugal**, all respondents for public and Community and Enterprise sectors indicated that Creativity and Innovation skills are required by their employers.
- Similar views were expressed by respondents to the Survey undertaken in **Italy**. In the private sector such skills are "required by the organisations" and more training is needed and similar

were the views expressed, as to the specific skills importance by respondents in public sector organisations.

Detailed presentation and analysis of survey results, by region and overall, may be found in the corresponding FIERE Survey Reports.

6. FIERE Project – Summaries of selected Good Practices

6.1. Introductory remarks

The aim of the FIERE Case studies is to prepare and disseminate good practice case studies. Good Practices demonstrate how selected regional organisations in various countries, implemented "innovative" and "entrepreneurial" ways for improving their performance.

Following an identification and appraisal process by the partnership, the seven (7) Case Studies selected from the FIERE partner regions are:

1. The case of **Austurbrú – the case of an amalgamation of regional support institution in East Iceland**.
2. The case of **ICY – Innovation centre for young people in the town of Gotse Delchev, located in the South-Western part of Bulgaria**.
3. The case of **Libera Terra (literally "Freed Land") a not for profit social cooperative founded 2001 in the "Alto Belice Corleonese" region in Sicily, Italy**.
4. The case of **"Improve my city" an initiative by the Municipality of Thermi, situated in the east side of the Prefecture of Thessaloniki (Greece)**.
5. The case study of **the merger of the former North and South Tipperary County Councils into Tipperary County Council (TCC), Ireland**.
6. The case of **In.Cubo – Incubator of Innovative Business Initiatives created by ACIBTM - Association for the Incubation Center of Technological Base of Minho, Portugal**.
7. The case study of **Waterford Institute of Technology's (WIT) 'ArcLabs Research & Innovation Centre'** as a model for supporting a regional ecosystem of open innovation also in Ireland.

The case studies, appropriately organised, will constitute a significant element of the training programme to be delivered within the FIERE project.

As already mentioned, the training programme, in which these Case Studies' material will be exploited, consists of 3 modules:

1. **Module 1: Creativity and Innovation**
2. **Module 2: Analytical thinking and resourcefulness as ways to identify and satisfy customer / citizens' needs**
3. **Module 3: Leadership and resilience in order to enhance innovation and more responsive service in public and voluntary sector**

Although case studies can apply to more than one training module the selection was made so that preferably two case studies could apply to each module. For **Module 1**, to which we have been referring in previous sections, the most relevant cases are those of **Austurbrú** and **Tipperary County Council,** as they both demonstrate creative and innovative approaches to enhance and develop services in regions through amalgamation of regional support institutions. Summaries of these two Case studies are presented below, while their full text may be found in the **FIERE Case Studies Handbook.**

6.2. Summary of Case Study 1: Austurbrú

Austurbru ses. is a support organisation in East Iceland founded on the 8th of May 2012. The name refers to a bridge in the east which is meant to convey the understanding of the whole of the eastern part of Iceland as one territory. The landmass Austurbrú services stretches from the village Djúpivogur in the south to Vopnafjörður in the north. Eight different municipalities form the hinterland for Austurbrú and the total number of inhabitants in this territory is only just over 10.000.[1]

Austurbrú ses as a project was an ambitious amalgamation of the management of SSA and four existing entities owned by the municipalities in the east of Iceland. The formal preparation work for Austurbrú started in 2008 and came to fruition in May 2012 with the formation of Austurbrú. An extensive level of professional work was put into the preparation by more than one steering committee. The development of the process went from collaboration of independent entities partly or wholly owned by the municipalities that formed the SSA to an formal entity that would provide an umbrella over the existing structure to enhance efficiency and reduce cost and finally to a merger of the existing structures into one entity, Austurbrú.

The goals set out in the beginning look more like a mission statement rather than achievable, measurable goals and therefore it is difficult to measure the success of the project. However, the financial goals were not achieved; in fact the cost of operation increased by about 23% instead of being reduced as was supposed.

Training of personnel was not high on the agenda as it was seen as more a formal structure being put over an existing operation. This resulted in a less coherent organisation than was anticipated

[1] See SSA website: http://www.ssa.is/index.php?option=com_content&view=article&id=15&Itemid=32&lang=is

and a very high turnover in the post of Managing Director of Austurbrú affected the coherence of the new entity.

The implementation process was not carried out in detail (at least there is no evidence of that) even though a lot of work was put in by the steering committees in analysing what was needed in the implementation process.

The project failed to reduce cost but it seems that it delivered the services it was supposed to even if the lack of measureable goals in the beginning and then a comparison study afterwards prevents us from making a judgement on that. The merger of the existing entities into one did not go as planned and Austurbrú ses has now a new organisational chart and new management that is meant to improve its status, that process is still on-going and too soon to tell if it will work. What made the project fail was the lack of preparation of the personnel that were supposed to take the project forward and a lack of a sense of togetherness in Austurbrú ses among board members, stakeholders and employees.

As mentioned above the training of personnel in order to implement the new order was lacking. An extensive involvement of personnel and the new MD from an early stage would have enhanced the viability of the project.

The lessons to be learned from the project is that it is paramount that a common understanding between the owners/stakeholders and the people on the ground is necessary to bring the project to success. Even if the analysis and preparation among the stakeholders in the beginning was extensive the lack of training of personnel and involvement from early on in the process did have negative effects on the project.

There were innovative steps involved in the process in the way that it was trying to bring a number of different entities into one large organisation that would be able to serve the community better than small individual organisations.

Austurbrú ses is an interesting project for the FIERE project because of what made it fail. It underlines the importance of keeping the people on the ground involved in the process of change in order to make it happen. Ambitious projects will not succeed without the commitment of the people meant to carry them out.

6.3. Summary of Case Study 2: The merger of North and South Tipperary County Councils

This case study reviews the merger of the former North and South Tipperary County Councils into Tipperary County Council (TCC) which took place in June 2014. It is extracted from a more detailed review carried out in late 2014 by the Institute of Public Administration at the request of the management of the unified TCC.

County Tipperary, Ireland's largest inland county, has a population of 158,754 and covers an area of 4,282 km². Tipperary had been administered as two separate local government units since 1838 when the county was split for the purposes of Grand Juries, established by the English parliament, which then governed the island of Ireland.

In July 2011 the Irish Government announced the establishment of a unified county council in Tipperary, with effect from the 2014 local government elections, to replace the existing North and South Tipperary County Councils. The merger was to be part of a wider local government reform initiative.

The general objective of the merger project was to deliver the merger effectively and on time, maintain delivery of services across the county and to maximise resource deployment and savings.

The management process put in place to undertake the amalgamation project utilized the resources of the existing councils and allocated them to best advantage in terms of their input to task completion. The merger was managed by a joint management team (JMT) comprising the management teams of the two councils. A project support team was established and supported the implementation group and coordinated the actions agreed by the JMT. The support team comprised a project co-ordinator at director level, appointed to work on the project full-time, the two HR managers and two senior staff from corporate services. Management sub-groups were also established on a function by function basis (e.g. IT, finance, roads) in order to progress issues such as the merger of policies, procedures and protocols.

The government announced further local government reforms in October 2012. As a result, the merger project became a far bigger and more complex one. Whereas previously it had encompassed the merger of the two local authorities and the incorporation of the Library Committee, it now also involved the dissolution of the county's seven urban councils and incorporation of their staff and functions into the new council.

The project took place over two inter-related phases – (1) a planning phase and (2) an implementation phase. The planning phase encompassed the period from July 2011 through to the acceptance in July 2012 by the Minister of the merger implementation plan. The plan detailed the approach to be taken in delivering on the terms of reference prescribed by government. The objective of the implementation group was to produce a comprehensive implementation plan that set out the steps required to ensure that the merger would happen on schedule.

The implementation phase then ran to the official merger date of 3 June 2014. It encompassed a focus on the merger of systems and procedures. Overall, there were 128 mini merger 'projects' ranging from the integration of major systems like pay-roll, financial management and planning, through to minor processes such as parking fines. The approach adopted was that a project team was put in place drawn from the section with responsibility for the system or procedure.

Innovative features of the project include a new service model for delivery of services; introduction of customer service desks; development of a new public-facing website; energy-saving/carbon-reduction improvements in building facilities; and risk management planning.

Given the scale of the project, the number of stakeholders involved, and the wider challenges arising from reform of the overall public service, the merger was managed very effectively. The administrative, legal, financial and political merger was achieved on time and within budget. Savings of €6.1m per year were to be achieved over an extended period. By February 2015, savings were already in excess of €3m. The costs of the merger including one-off expenditure on IT harmonisation, office improvements and corporate branding amounted to €1.7m, lower than the anticipated figure.

Communication with stakeholders – staff, elected representatives, trade-unions and other local organisations – represented an important aspect of the merger.

Social inclusion was a significant priority that guided the merger of the two councils. Marginalised communities, and the marginalised within communities, now have the opportunity to participate in local decision making and to influence and shape local decisions through new structures developed as part of the merger process.

The consolidation phase encompasses the period from legal merger (June 2014). This is focused on moving past the technical merger to building a new organisational culture. Removing divisions and

developing a new culture around a shared understanding of the aims of the new organisation is fundamental to any merger. The first step in this process has been the development of a new corporate plan for the period 2015-2019, which sets out a clear vision for the whole county.

The merger of two large local authorities had not occurred in Ireland prior to 2014. Learning from the experience has been identified as a key outcome that will provide guidance to other public service organisations engaged in similar reorganisations in Ireland and across the wider E.U.

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TRAINING MODULE NO. 2

Analytical Thinking and Resourcefulness as Ways to Identify and Satisfy Customer / Citizens' Needs

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1. The concept of Analytical thinking and Resourcefulness

The present section contains a short literature review on the main concepts of the skills, on which Training Module No 2 is focused, namely *analytical thinking* and *resourcefulness*. The aim is to enhance the level of analytical thinking for employees within the public and voluntary sectors, whereas including instruction on resourcefulness which is identified as a key for both the organisation and the individual employee in delivering the most effective service to the customer or citizen.

1.1. Analytical thinking

Analytical thinking often referred to as 'critical' thinking can be defined as the process of determining the authenticity, accuracy or value of something; characterised by the ability to seek reasons and alternatives, perceive the total situation, and change one's view based on evidence (Wegerif, 2002). Analytical thinking gives one the ability to solve problems quickly and effectively. It involves a methodical step-by-step approach to thinking that allows people to break down complex problems into single and manageable components in order to solve them.

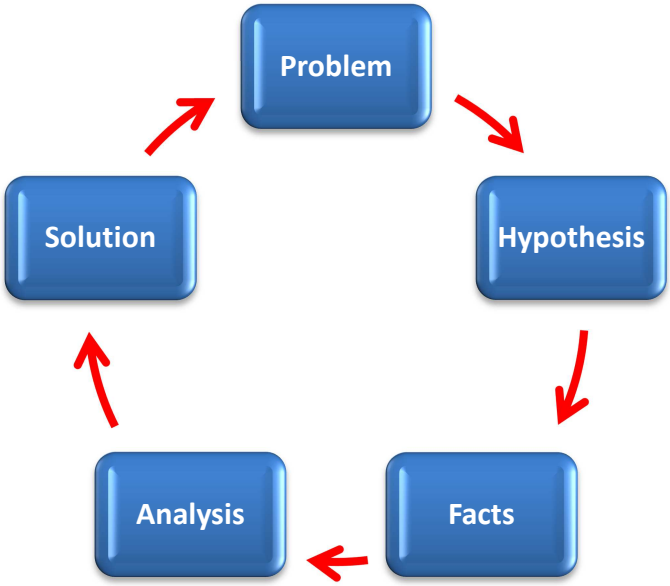
Educators have long been aware of the importance of analytical/critical thinking skills as an outcome of student learning. More recently this type of skill was identified as one of several learning and innovation skills necessary to prepare students for post-secondary education and the workforce. In addition analytical/critical thinking is reflected as a cross-disciplinary skill vital for college and employment (Lai, 2011). Despite widespread recognition of its importance, there is a notable lack of consensus regarding the definition of analytical/critical thinking.

The literature on critical thinking has roots in two primary academic disciplines: philosophy and psychology (Lewis & Smith, 1993). Sternberg (1986) has also noted a third critical thinking strand within the field of education, which is of special interest to us in light of the objectives set by the FIERE project. Those working in the field of education have actively participated in discussions about critical thinking. Benjamin Bloom and his associates are included in this category. Their taxonomy for information processing skills (1956) is one of the most widely cited sources for educational practitioners when it comes to teaching and assessing higher-order thinking skills. Bloom's taxonomy is hierarchical, with "comprehension" at the bottom and "evaluation" at the top. The three highest levels (analysis, synthesis, and evaluation) are frequently said to represent

critical thinking (Kennedy et al., 1991). The benefit of the educational approach is that it is based on years of classroom experience and observations of student learning, unlike both the philosophical and the psychological traditions (Sternberg, 1986).

1.2. Practical suggestions about how to think analytically

Analytical thinking follows the scientific approach to problem solving and as a process can be decomposed in the following stages:



Stage 1 ***Defining the Problem***

A problem is a situation that is judged as something that needs to be corrected – implies that a state of "wholeness" does not exist. It is important to make sure one is solving the right problem – it may not be the one presented by the customer. The basic concepts in defining the problem which should be taken into account are as follows:

- Most of the problems are initially identified by the customer.
- Defining the problem clearly improves focus – it drives the analytical process.
- Getting to a clearly defined problem is often discovery driven – by starting with a conceptual definition and through analysis (root cause, impact analysis, etc.) one reshapes and redefines the problem in terms of issues.

Stage 2 ***Formulating the Hypotheses***

Hypothesis is a tentative explanation for an observation that can be tested (i.e. proved or disproved) by further investigation. For formulating the hypothesis one should start at the end, figuring out the solution to the problem, i.e. "hypothesizing". It also helps to build a roadmap for approaching the problem. The basic concepts in formulating the hypothesis worth mentioning include:

- Hypotheses can be expressed as possible root causes of the problem.
- Breaking down the problem into key drivers (root causes) can help formulate hypotheses.

Stage 3 ***Collecting the Facts***

This stage is about accumulating meaningful information (has merit – not false) that is qualitative (expert opinions) or quantitative (measurable performance) to one's decisions. Gathering relevant data and information is a critical step in supporting the analyses required for proving or disproving the hypotheses. The basic concepts here which should be taken into consideration are as follows:

- Knowing where to dig.
- Knowing how to filter through information.
- Knowing how to verify by things that have happened in the past.
- Knowing how to apply the things which relate to what one is trying to solve.

Stage 4 ***Conducting the Analysis***

This is the deliberate process of breaking a problem down through the application of knowledge and various analytical techniques. Analysis of the facts is required to prove or disprove the hypotheses, whereas it provides an understanding of issues and drivers behind the problem. The basic concepts in conducting the analysis include:

- It is generally better to spend more time analyzing the data and information as opposed to collecting them. The goal is to find the clues that quickly confirm or deny a hypothesis.
- Root cause analysis, storyboarding and force field analysis are some of many analytical techniques that can be applied.

Stage 5 ***Developing the Solution***

Solutions are the final recommendations presented to the customers based on the outcomes of the hypothesis testing. Solutions are what the customers are finally seeking to get. The basic concepts in developing the solution which should be taken into account are as follows:

- It is important to ensure that the solution fits the client – solutions are useless if they cannot be implemented.
- Running an actual example through the solution is an effective way of testing the effectiveness and viability of the solution.

TIPS TO ENHANCE ANALYTICAL THINKING

Being able to think analytically is one of the most important skills any adult can possess, and like many other skills, it's surprisingly easy to learn. Several suggestions are presented below that one can use to become an analytical thinker and better understand important concepts, debates and issues.

- **Use of thought experiments to examine concepts**

Thought experiments are great logical tools for examining a situation or argument in full. While some thought experiments encourage people to reach a conclusion, some are designed to keep them guessing and are impossible to 'solve' in their entirety.

Thought experiments range from philosophical to practical. An example of a thought experiment is hypothesizing on the way one would react in a certain situation with limited options and outcomes.

- **Avoiding dependence on inverse reasoning**

Inverse reasoning is using the opposite of a true statement to answer a question or hypothetical situation. For example, an original statement might be: *"If you add salt to the meal, the taste of the meal will change."*

This statement is completely logical and accurate. After all, if one adds salt to a meal, its taste does change. However, the inverse statement – *"If you do not add salt to the meal, its taste will not change."* – isn't logical or accurate.

This is because there are many ways to modify the taste of a meal. Adding sugar, for example, would modify its taste. Inverse reasoning can be an effective logical tool in certain situations, but it's a dangerous logical fallacy when relied on.

Inverse statements are just one type of logical fallacy. Others include arguing that a certain outcome is true because it can't be disproven and assuming a conclusion to an argument before one has finished explaining it.

- **Checking facts by using a variety of sources**

Facts, figures and statistics can be manipulated and modified to show just about any opinion or trend. From selection biases to deliberate manipulation, the myriad ways in which facts can be twisted makes it essential that one can check them for accuracy.

One of the most important aspects of analytical thinking is being able to break down the way in which facts and figures are collected. From opinion polls to graphs based on public data, many numbers aren't as accurate as they originally appear to be.

For example, a poll about a controversial social issue can easily be slanted in one direction or another by choosing a biased audience. A poll on the question "Should bicycle lanes be built on all streets?" will get a different answer from an audience of bicyclists, for example, than it would from an audience of drivers.

When people encounter an argument that relies strongly on facts and figures, they should look into the source of these statistics and how they were collected. A revealing factor may be found in the data collection or questions used to interview respondents that shows bias or manipulation.

- **Debating ideas to improve one's understanding**

If people think that their ideas are bulletproof they should test the strength of their argument by debating against someone with the opposite viewpoint. Exposing oneself to opposing opinions and arguments is the best way to spot flaws in one's logic.

When people study a topic in depth and acquire a certain viewpoint, it's easy to ignore evidence that runs contrary to their opinion. Even with deliberate study, it's hard to understanding both sides of an argument as well as people understand their own.

It is thus useful to expose oneself to new information, interesting statistics and persuasive evidence against one's argument by engaging in regular debate with people who hold different views. It might not be easy, but it's a great way to make one's ability to think logically and spot analytical errors far more effective.

1.3. Resourcefulness

Entrepreneurial resourcefulness refers to the ability to self-regulate and direct one's behaviour to successfully cope with difficult, stressful and challenging situations (Meichenbaum, 1977). Entrepreneurial resourcefulness comprises of three generic competencies – cognitive, affective and action-oriented (Kanungo & Misra, 1992). The competencies refer to the mental capabilities that help successful adaptation to the difficulties posed by the external environment. Entrepreneurial behaviour is the constellation of functions, activities and actions involved in the perception of opportunities and the creation of organisations. Entrepreneurial behaviour is a function of entrepreneurial resourcefulness. Sasi and Sendil (2000) argue that by positing that entrepreneurial resourcefulness influences entrepreneurial behaviour, the predictive power can be enhanced. Being resourceful is the key to becoming a successful entrepreneur. Resourcefulness offers the field of entrepreneurship a rich construct that combines not only the creative use of financial resources, but also numerous non-financial resources that lead to firm survival and firm performance. Resourcefulness includes innovation, initiative, creativity, dedication, vision and optimism. Min (1999) includes creativity, visionary, optimistic and innovator in the top ten attributes that entrepreneurs share. Gartner (1990) and Saayman et al. (2008) also support the importance of innovation in entrepreneurship. Drucker (2002) says that all the entrepreneurs he has ever met have 'a commitment to the systematic practice of innovation'. Levitt (2002) argued

that creativity may be 'more of a millstone than a milestone' because of the shortage of creative people in business. According to Russell and Faulkner (2004), it is through times of upheaval that entrepreneurs are often resourceful by spotting opportunities in the environment and using their creativity to bring about innovation. Thus, all the findings suggest resourcefulness as a key attribute for an entrepreneur.

1.4. Practical suggestions about how to be resourceful

In reality life doesn't always hand us solutions to go with the problems and situations we encounter. If you find yourself in a difficult situation, sometimes you have to use what you have, along with a bit of creativity and ingenuity, in order to get through it. Here are a few general suggestions.

Be prepared. You cannot anticipate everything, but you can anticipate many things, and the more you can prepare ahead of time, the more resources you will have to draw upon when faced with a problem. Also find ways to curb future problems if you can. Prevention is better than cure.

Assess the situation. When a challenging situation comes in your way, try to clarify and define the problem as best as you can. Finding a solution to the problem is better than worrying. This can be learned by training your mind each time you start worrying.

Assess what is available to you. Being resourceful is, above all, about clever, creative use of resources. Do not forget that resources are not all objects. Do you have access to, or could you obtain, any of the following: people, communications, information, money, time?

Work backwards. Take stock of what you have available, then consider how you can apply it to the problem.

Break the rules. Use things in unconventional ways or go against conventional wisdom or societal norms, if it will help. Be prepared to take responsibility, redress wrongs, or explain yourself if you do overstep your bounds.

Be creative. Think of unconventional possibilities as well as obvious or practical ones. You might find inspiration for a workable solution in one of them.

Experiment. Trial and error might take awhile, but if you have no experience with a particular situation, it is a very good way to begin. At the very least, you will learn what does not work.

Use the situation to your advantage, if you can. If you missed an opportunity try to engage in anything meaningful until a similar opportunity comes your way again.

Improvise. Do not box yourself into thinking that only a permanent solution will do. Use what you have at hand to arrive at a temporary solution.

Be an opportunist. If an opportunity presents itself, do your best to take it. Do not over think.

Act quickly. Often an effective solution hinges on a speedy response. Be decisive, and once a decision is made, do not analyse too much, act.

Learn from your mistakes. If you had to scramble to correct a problem, take steps to make sure that it does not happen again. If you tried something that did not work, try it a different way next time.

Be persistent. If you go away before the problem does, then you have not solved anything. Try again, a dozen or a hundred different ways, if that is what it takes. Do not give up. Never consider not succeeding immediately as a failure – consider it practice. See the positive in every situation.

2. Relevance of identified skills for Regional Organisations

The FIERE skills needs analysis survey has been used to support the development of an entrepreneurial skills training programme which will be delivered in each FIERE partner country during 2015. More particularly, the findings of the survey served to identify the key skills to form the base for the different training modules, namely:

- Module 1: *creativity and innovation;*
- Module 2: a*nalytical thinking and resourcefulness;*
- Module 3: *leadership and resilience.*

Key Survey findings

The key FIERE Skills Needs Analysis Survey findings that can be identified to support, either directly or indirectly, the importance of the skills *analytical thinking* and *resourcefulness* for capacity building within organisations to encourage the development of their regions in an innovative and entrepreneurial manner, are as follows:

Bulgaria

- In terms of skills required by organisations, males rated resourcefulness, being resilient and results driven the highest, while females put the emphasis on resilience and analytical thinking.
- Voluntary sector males chose project management and resourcefulness as the two the most important skills.

Greece

- Among the skills required by respondents' organisations, analytical thinking and pro-activeness were highly valued.
- For role performance the two most important skills were analytical thinking and pro-activeness.

Iceland

- In terms of skills required by the organisation, public sector respondents are required to be resourceful and resilient.
- Overall, there was consensus among all respondents (both females and males) that resourcefulness was among the most valued skills.

Ireland

- Both females and males from public organisations agreed that resourcefulness is the most important skill required by their organisation. Furthermore, females solely agreed that being analytical is highly important.
- Overall, there was consensus among all respondents (both females and males) that the following skills were the most valued: project management, employee resourcefulness, problem solving and being proactive.

Italy

- According to all respondents, innovation/creativity and employee resourcefulness are considered to be the most important skills within their respective organisations.
- For the male interviewees in the public sector, the most important skills employees should be trained in are: leadership, resourcefulness, goal seeking and problem-solving.
- In their current roles within their organisations, most respondents stated they needed to be passionate about their work, resilient, proactive, analytical and decision-makers.

Portugal

- Overall the most important skills for respondents' organisations were resourcefulness and resilience.

For more detailed information on the findings of the respective surveys conducted by each FIERE partner in their region, comprehensive individual country reports can be found on the FIERE website[2].

[2] http://www.fiereproject.eu/index.php/reports/

3. FIERE project contribution – examples of Good Practices

This section presents summaries of case studies, which are most relevant for the respective current training module and the skills it focuses on, namely *analytical thinking* and *resourcefulness*.

The case studies identified and developed by project partners to be used for the purposes of Training Module No 2 'Analytical thinking and resourcefulness as ways to identify and satisfy customer/ citizens' needs are as follows:

- The case of "**Improve my city"** (provided by Allweb, Greece).
- The case study of **ArcLabs Research & Innovation Centre: Creating an Ecosystem of Open Innovation** (provided by WIT, Ireland).

3.1. Summary of Case Study 1: "Improve my city"

The "Improve My City" Good Practice refers to an "innovative and entrepreneurial" initiative developed and implemented by the Municipality of Thermi, situated in the east side of the Prefecture of Thessaloniki (region of Central Macedonia); at a distance of fifteen (15) km from the metropolitan centre of Thessaloniki. The Municipality of Thermi consists of fourteen (14) local communities and it occupies an area of approximately 386 km^2.

The Improve my City service enables the citizens of the Municipality of Thermi to report existing and/or developing local problems such as potholes, illegal trash dumping, faulty street lights, destroyed tiles on sidewalks, and illegal advertising boards. The submitted issues are displayed on the city's map. Users may add photos and comments. Moreover, they can suggest solutions for improving the environment of their neighbourhood.

The "problems" that the Municipality was facing were rather severe:

- Poor communication with citizens,
- Negative sentiments against the Municipality,
- Perpetuation of problems and
- Deterioration of local environment.

Through an organised Plan of newly designed interventions, largely based on The Municipality's staff creativity and use of technology, it was attempted to improve the situation and remedy the

"problems". In short, the main "innovative" solution devised and implemented was the creation of a fully interactive Data Base for citizens' reporting of problems, monitoring of action taken by Municipal services and real time feedback to citizens.

In general, the implementation process is considered to be successful! Since 2011, when the new Service started operating, more than 1000 citizens' reports have been received and the reported "problems" were, in most cases, successfully resolved.

The Application has been widely publicized and several local authorities across the country, as well as organisations from other European and non-European countries, have contacted the Municipality and inquired on transfer and adoption possibilities.

Problems that had to be overcome related to understandable and expected internal "resistance to change", mainly attributed to some of the operators' reluctance to undertake additional tasks that they were not familiar with. On the other hand, the main factor which allowed overcoming such hurdles was the "political will" demonstrated by the Municipality's Mayor to proceed and implement the "Improve my City" project.

It has to be noted however that availability of earmarked EC funding for the project and the element of transferable transnational technical expertise and assistance, were also important factors mitigating "risks" and inhibitions. "Political will", by itself, might not have been sufficient, if scarce resources had to be diverted from other uses. Similar comments may be made with regard to the time schedule applied for the project as a whole.

3.2. Summary of Case Study 2: ArcLabs Research & Innovation Centre

The ArcLabs Research & Innovation Centre case study explored the role key individuals played in the establishment of ArcLabs Research & Innovation Centre and its progression towards becoming an ecosystem of open innovation. The core concept of innovation in the ArcLabs model is the dynamics created by the co-location of academics and researchers within the Telecommunication Software Systems Group (TSSG) and the Centre for Enterprise Development and Regional Economy (CEDRE), engineers (in TSSG) and entrepreneurs (in CEDRE) and startups in the incubation centre. The purpose of the case study is to illustrate how individuals with a complimentary vision and focus on the development of the region's economy can support

economic development through enhancing the research and innovative absorptive capacity of a region.

The goal of the ArcLabs Research & Innovation Centre is to provide entrepreneurs (with high growth potential) and early-stage ventures with the support required to achieve success in national and international markets. ArcLabs aims to accelerate business growth by providing business advisory services, mentoring and access to the R&D resources of Waterford Institute of Technology. WIT has developed a successful model for co-locating research, business incubation and entrepreneurship training through the ArcLabs model. The key to this applied approach is enabling the movement of human capital between the three elements as research generates know-how and intellectual property, and helps early-stage companies to develop technologies. Business incubation provides the physical infrastructure and advisory services for spin-outs, spin-ins and entrepreneurs. Specific entrepreneur development programmes provided in ArcLabs are a pipeline of companies that are interested in accessing research and utilising business incubation services.

Creating such an environment takes considerable time, dedication and foresight and the ArcLabs model provides a road map for small and lagging regions on how they can build open systems of innovations and develop regional specialism's and support regional economic development (O'Gorman and Donnelly, 2014). ArcLabs Research & Innovation Centre, since its establishment in 1996 has secured over extensive levels of national and European Union funding for basic and applied research and the commercialisation of research. The ArcLabs model has generated over 10 spin-out and 4 spin-in companies, and developed an extensive international network across the globe.

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TRAINING MODULE NO. 3

Leadership and Resilience to Enhance Innovation in the Public and Voluntary Sector

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1. The concept of Leadership and Resilience

The purpose of this section is to provide a brief literature review for the module Leadership and Resilience to Enhance Innovation in the Public and Voluntary Sectors. This review will look at supporting literature in the key areas of resilience, leadership and leadership as a form of resilience.

Resilience is often described as the ability to "confront stressful experiences and cope with them effectively" (Holahan, Moos and Schaefer, 1996, p33.). Resilience is often referred to as a long-term behaviour as you cannot be resilient today and not resilient tomorrow as resilience illustrates an individual's capacity to progress during times of adversity (Patterson, 2001). Furthermore, resilience is often considered the ability of an individual to "cope successfully in the face of significant change, adversity or risk" (Conrad, 2002, p37). However, resilience is more than just an individual "coping" during an unfortunate situation as resilience can refer to the ability to grow and adapt (Richardson, 2002) and the characteristic to convert challenges into opportunities (Lengnick-Hall and Beck, 2003).

Resilience is often used to describe the ability of an organisation to cope, manage and learn through difficult times and the aspect of learning is key; this is of particular importance to organisations that are involved in knowledge creation and knowledge management (Stewart and O' Donnell, 2007). Furthermore, Sutcliffe and Vogus (2003) argued that organisations can increase their effectiveness by developing the resilience of individual employees. Literature on resilience tends to evaluate or assess the strategies chosen by individuals when faced with certain challenges (Harland, Harrison, Jones and Reiter-Palmon, 2005) rather than the impact or success of those choices; however resilience is often explored in the context of leadership and leadership behaviour.

The leadership skills that are required when life or work is progressing well are very different from the leadership skills required when times are difficult (Patterson, 2001), although you can make that point about many skills or behaviours that are required within the public or voluntary sector workplace. The concept of leadership within the workplace or within a club, voluntary group or society can often be confused with the management of that club or society. Leadership and

management are distinctly two separate matters, with management referring to goals, targets and budgeting while leadership addresses decisions, direction and managing change (Kotter, 2001).

Defining leadership is a difficult task; however leadership has been described as "a process whereby an individual influences a group of individuals to achieve a common goal" (Northouse, 2010, p3). Defining or describing leadership centres on two main approaches (1) leadership as a process or influence and (2) leadership as a personality trait (Bass, 1991; Kotter, 2001; Zaccaro, 2007). In the broad sense of the term a leader brings people together but according to Bass (1991) a transformation leader is someone who can create an inspiring future, motivates and engages people toward that vision, manages delivery of that vision and builds and brings the team along with him or her through the process.

Resilience and leadership are two different skills, however Harland (et al 2005) argued that there is a connection between the skills, as developing resilience is vital for an individual's overall ability and effectiveness as a leader. Resilience is a means of using your energy more productively during adverse conditions or difficult times (Patterson, 2001) and the main leadership strengths that support resilience are:

- Positivity during difficult times
- Staying focused
- Remaining flexible in how you reach your goal
- Act rather than react
- Apply resilience conserving strategies during difficult times, this refers to maintaining and exercising resilience.

Some individuals can display more resilience and leadership qualities than others, however, that does not infer such skills cannot be taught or learned. Quite often individuals just do not know how to be more resilient, or how to act like a leader, and the five strengths outlined above can form a basis for individuals to think about how resilient they are and if they display any leadership type behaviour.

Adair (2009) suggested that examining leadership in the individual should begin by looking back at personal experiences and identifying facts/examples or experiences that the individual believes as necessary for successful leadership. Furthermore, Adair (2009) questions the merit of identifying certain traits or characteristics as the means in which to establishing leadership qualities and this

leads to the premise that leaders must be born and cannot be made. Adair (2009) concedes that certain fundamental qualities are required for effective leadership however, “all leadership qualities can be developed, some more than others, by practice and experience” (p10). The concept, that leadership qualities can be encouraged and developed is given further credence by Owen (2009) who undertook a study of business individuals at all levels within various organisation types and found that in the right circumstances everyone can become a leader.

The term “leadership” may be off putting to potential participants of the FIERE training programme, but the aim is not to create individual leaders, but to encourage public, voluntary and the social enterprise sector employees to think, explore and develop leadership type qualities and behaviours. The FIERE training modules will primarily use case studies as the basis for module content. In total the FIERE partners have identified seven case studies illustrating various examples of how entrepreneurial individuals can make a significant impact in the region. The case studies will be used as a tool for exploring resilience and leadership and will form the basis of discussion and course activity to enable public and voluntary sector employees enrolled on the programme to expand the resilience skills and leadership abilities.

2. Relevance of identified skills for Regional Organisations

2.1. FIERE Skills Needs Analysis Survey

The target audience for the training programme will consists of employees from the public sector, community & enterprise and voluntary sectors. The Skills Needs Analysis survey provides useful background information on the level of entrepreneurial skills and the perception and value of training for public and voluntary sector employees. Across all FIERE partners and sectors the value and benefit of an entrepreneurial skills training programme was valued very highly; Bulgaria (94%), Greece (98%), Iceland (85%), Ireland (94%), Portugal (98%) and Italy (94%). Accreditation was also of high importance but it was felt that a lack of accreditation would not dilute the value and impact of a skills training programme for organisations. The preferred chosen method of programme delivery was workshop based learning (especially for Sicilian and Irish partners) and blended learning (for Iceland, Bulgaria and Greek partners). In the case of Bulgaria, 65%, and in Ireland, 60% of respondents had past entrepreneurial experience while in Greece the 63% majority indicated that they had some entrepreneurial experience. In the case of Iceland there was a high level of entrepreneurial activity across all sectors especially in the public sector, where 56% of females and 40% of males had started their own business. In Portugal 64% of respondents had not engaged in any form of entrepreneurial activity. Empowerment of employees was strong across all sectors and genders for Ireland, Bulgaria, Iceland and Greece; this was not the case for Portugal and Italy.

2.2. Key Survey findings on the importance of "Leadership and Resilience"

The FIERE Skills Needs Survey was analysed by looking at the responses from each specific sector (i.e. public, private, voluntary and social enterprise) and by country and gender. The formulation of the three modules outlined above represents the overall results and takes into consideration sector type, role and organisational requirements. However, each country as certain specific nuances they may wish to take into consideration in terms of content and delivery. The following provides country specific information that may be useful for each of the FIERE partners;

Bulgaria

Males rated resourcefulness (94%), results driven and resilience (89%) as very important skills overall. In turn, females indicated that being analytical (97%) and resilient (94%) were also of great

importance. Interestingly, in the public sector, leadership was seen by males as quite an important skill (67%) and that it should be included in the training programme.

Greece

In terms of the Greek respondents all skills except being a leader where rated very high, 49% of respondents agreed that leadership was not essential skill to be included in the training programme and only 24% of respondents indicated that leadership is required to perform their job role.

Iceland

In the skills required by the originations for the public sector resilience (89% males, 84% females) was ranked the highest in the private sector and 80% of females indicated that their organisation required them to be a leader. In the community & enterprise sector 34% of females thought that being resilient and leadership were the least importance skill, with exception of the voluntary sector, where leadership was one of the most required skills in their organisation and also important for their role performance.

Ireland

Leadership was not considered by respondents from public sector as an essential skill to be included in the training programme (leadership valued as neutral by 21% of males and 25% of females).

Italy

For both females and males most of the listed skills are considered as very important to be trained in, with the exception of critical thinking, analytical thinking and leadership. Overall, being a leader or being a manager was not considered important for the organisation or an essential skill to be trained in. In the private sector, persistence and leadership were not considered as important skills, whereas the most important skill. However 50% of males from the private sector indicated they needed to be a leader in their roles.

Portugal

Overall the most important skills for respondents' organisation were resourcefulness (91%) and resilience (86%). However, females also indicated that their organisation required them to be resilient (98%); Males from voluntary and community & enterprise sectors indicated that their organisations required them to be a leader (88%). Interestingly leadership was a much more important skill for the organisation among females from public sector (42%) than among males (25%). Leadership was also ranked as very important skill for organisations by males from the private sector (52%).

For more detailed information on the findings of the respective surveys conducted by each FIERE partner in their region, comprehensive individual country reports can be found on the FIERE website[3].

[3] http://www.fiereproject.eu/index.php/reports/

3. Case Study Summaries for the Leadership and Resilience Module

For the module '***Leadership and Resilience in order to Enhance Innovation and a more Responsive Service in the Public and Voluntary Sector'*** the following case studies were identified by the project partners to support the delivery of the module in the FIERE training programme:

- The case of **ICY – Innovation centre for young people** in the town of Gotse Delchev, located in the South-Western part of Bulgaria.
- The case of **Libera Terra** (literally "Freed Land") a not for profit social cooperative founded 2001 in the "Alto Belice Corleonese" region in Sicily, Italy.
- The case of **In.Cubo – Incubator of Innovative Business Initiatives** created by ACIBTM - Association for the Incubation Center of Technological Base of Minho, Portugal.

This section presents summaries of case studies, which are most relevant for the leadership and resilience module. The aim of case study identification and development within WP4 of FIERE project is to prepare and disseminate good practice case studies on the provision of innovative entrepreneurship education among regional stakeholders and on how the skills acquired have been used. Furthermore, best practice case studies are used to illustrate how regional organisations and individuals have harnessed the skills covered by the present module to enhance their region's competitiveness and their ability to deliver effective services.

The case studies are also intended to be important aids for the network of adult education providers/mentors/counsellors to be established under the project in promoting awareness of the innovative entrepreneurship course and in assisting adult learners in regional community and voluntary organisations to apply examples of good practice in their own regions.

3.1. Summary Case Study 1: Innovation Centre for Young People – ICY

In 2013 Business Incubator, Gotse Delchev initiated a project entitled Innovation Centre for Young People – ICY, financed under the IPA Cross-Border Programme Bulgaria-Macedonia 2007-2013. The goals of the initiative were to facilitate the development of a pro-innovative environment in the partner regions through supporting the generation of innovative ideas by young people and turning these ideas into business and social ventures. The project addressed a number of issues in the cross-border region associated with:

1) the lack of innovative environment, supporting structures and special services to encourage young people in the region, incl. those from minority and other vulnerable groups, to develop their innovative ideas;
2) the very limited implementation of innovations in SMEs in the region of Gotse Delchev;
3) the unsatisfactory coverage of innovation in the educational system.

The outcomes of the initiative were associated with creation and development of innovative environment and services for young people, so that they were able to develop their own ideas. This was done through organisation of trainings and workshops in each of the partner regions for young people on topics such as creativity, elaboration of innovative ideas, team work, knowledge transfer and sharing of experience in the area of innovations; mentorship and innovation networks; cooperation with SMEs.

The long experience of the staff of Business Incubator 'Gotse Delchev' in supporting SMEs, entrepreneurship education and innovations in the regions proved invaluable in the process of implementation of project activities. A very positive aspect of the initiative was the fact that the youth, involved in the project, which generated innovative ideas, received the opportunity to further develop those ideas with the help of mentors and present them to company managers, potential investors and local administration.

The case study provides an example of an initiative aimed at supporting innovations and entrepreneurship among young people in the region of Gotse Delchev. The actions undertaken will prove invaluable in the process of capacity building among the management staff and the employees of the Business Incubator and facilitate their further efforts to contribute to improving the competitiveness of business entities at local level and support the development of the entire local community.

3.2. Summary Case Study 2: Libera Terra

Libera Terra is networks of social cooperatives that was established in order to socially, economically and legally boost agricultural lands that traditionally yielded profits only to criminal organisations to the detriment of society as a whole. Its main goal is to demonstrate to civil society how the re-use of confiscated goods for social purposes can generate concrete benefits to the entire territory and the local population. Since its outset, an important role has been played by civil society's motivation in requesting a law that would allow for the social use of confiscated real

estates. Moreover, important steps in the creation of the first social cooperative of the network have included the training of its members, the production of high quality products and the management system. In fact, Libera Terra has created "Libera Terra Mediterraneo" Consortium that supports its merchandising phases and a brand regulation to involve other farms in the production of goods with the "Libera Terra" brand. Today Libera Terra consists of ten social cooperatives. The entire implementation process and especially its start-up phase were difficult. However, the factors that made Libera Terra a success were the perseverance of its founders and the fact that the project was a result of good team-work, whose ideals were shared by the different actors involved.

Lessons to be learned (both positive and negative)

Libera Terra provided an economic alternative to the mafia system, based on the idea that legality is convenient and on the respect of human resources and organic kinds of farming; this ensured the respect of the environment, also because of the fact that Libera Terra's lands are public goods, and as such, need to be a positive example of social and environmental protection for citizens. This also led to a social "redemption" of citizens and the communities which have become socially and economically stronger thanks to Libera Terra's achievements. Lastly, the profit is redistributed in the community as workers and suppliers are also part of the same community in which Libera Terra works.

Innovative/entrepreneurial aspects

The main idea is that the best way to give back value and dignity to lands starting from the use of confiscated goods is to create plausible and self-sustainable entrepreneurial bodies. The main way to reach this is through quality and a path that leads towards excellence of the products, of processes, relations and management.

Conclusion (why interesting for the FIERE project?)

Because Libera Terra is a local organisation that combines entrepreneurial spirit with an ethical drive for developing a mafia-free and sound market.

3.3. Summary Case Study 3: In.Cubo – Incubator of Innovative Business Initiatives

The In.Cubo project was successful; it started from a strong involvement with the various partners at a local level, including municipalities, inter-municipal communities, local development

associations, higher education units with the ultimate aim to intervene at all the municipal territories surrounding the region of Minho-Lima.

In.Cubo emerged to fulfill the need to qualify and attract human resources for the region, to foster the entrepreneurial capacity, to promote a business background and to strengthen the collective business function. One of the most important benefits that In.Cubo offers to the region and to its promoters is the support and monitoring of individual promoters through the intervention of a team with extensive experience and high level of skills in the entrepreneurial sector.

In.Cubo revealed widely innovative aspects such as: the coordination of the various partners to act together in the region and pursue common objectives to support entrepreneurs; the intervention in various municipal territories that comprise the region of Minho-Lima; and the important technical consensus on the evolution of the various stages of the programs, seeking to frame the projects selected with the objectives of the programs.

In.Cubo offers new generation incubation services, based on territorial and relational symbiosis synergies. It is more than just a physical infrastructure, with a specific geographic location, it is assumed as a high potential tool to create and exploit synergies and contribute actively to the revitalization of the region's economy.

Therefore, In.Cubo has great relevance for FIERE project because it is able to attract and foster a new generation of business activities and investment-oriented technologies and to contribute to the creation and operation of interfaces and networks of cooperation and innovation.

The In.Cubo focuses on entrepreneurs by providing them a physical space with reduced costs and the support of specialized teams in the business startup. It is based mainly in the community, since the communities provide the environment in which entrepreneurs can thrive and be guided to the area, intending to stimulate it economically.

This spirit that encourages innovation and networking is, without doubt, relevant to FIERE, as it is a great example of encouraging entrepreneurship in Portugal.

CONCLUDING REMARKS

Supporting entrepreneurship and innovation serves different purposes – it is a strategic instrument for encouraging economic development and boosting the competitiveness of the economy both at national and regional level, presents opportunities to different social groups for successful labour market integration, etc.

The FIERE partnership believes that regions can have a greater capacity to achieve their economic and social potential by supporting the development of entrepreneurial thinking and behaviour of employees in the public, voluntary and community and enterprise sectors. Empowering local community and voluntary organisations with innovative entrepreneurship skills can facilitate bottom-up regional development that can be in harmony with top-down regional development policies. Enhancing the innovative entrepreneurship skill sets within a region's formal and informal institutional infrastructure could have a beneficial multiplier effect within the region.

Thus the FIERE project actively supports the concept that within regional economies, public organisations, societies, clubs and not-for-profit organisations could be more entrepreneurial and innovative in the way they organise their entities and deliver services to their clients and the citizens overall. FIERE aims to support local communities and regional economies by specifically focusing on the development of entrepreneurial and innovative skills and attributes of policy makers, managers, administrators, enterprise development officers, community leaders and developers, founders of community and social enterprises, and organisers/managers of local community entities.

Innovative entrepreneurship is a concept that explores the potential for entrepreneurship and innovation as it recognises the necessity of teaching innovation, entrepreneurship and creativity skills to support a more innovative individual within the workforce. Supporting the development of innovative and entrepreneurial potential of a region requires a greater level and ability of entrepreneurial thinking and behaviour of individual employees within the public, voluntary and community and enterprise sectors. The FIERE partnership aims to support that development by providing a skills training programme.

The FIERE partnership recognises that existing innovation, entrepreneurship and creativity training has been provided to regionally-based organisations to date in a piecemeal and ad-hoc manner.

The focus of the FIERE project is on providing innovative entrepreneurship education to members of a wide range of regional organisations but with a particular focus on addressing needs of sub-regional community and voluntary organisations that are seeking to develop their locality's economic and social potential.

Thus FIERE aims to assist regional institutions in making their regions both innovative and entrepreneurial, and working with other regional stakeholders to achieve this objective. The underlying idea of the project is to support members of regional organisations and help them acquire innovative entrepreneurial skills. Another key FIERE goal is to provide innovative entrepreneurship education to policy planners and managers of regional organisations (regional authorities, chambers of commerce, clusters/networks) to enable them to develop innovative and entrepreneurial policies and programmes.

The benefits for regional organisations arising from their involvement in a training course delivered using the materials and training content elaborated under FIERE project can be outlined in the following aspects:

- Regional organisations will be provided with opportunities to enhance their abilities to plan actions and services for the socio-economic betterment of their regions, making them innovative and entrepreneurial;
- The personnel of regional, sub-regional and voluntary organisations will be granted access to innovative entrepreneurship education;
- Innovative entrepreneurship skill sets will be enhanced within regions' institutional infrastructure.
- Regional institutions will be supported in their efforts to make their regions innovative and entrepreneurial, to turn ideas into jobs;
- Regional organisations will increase their capacity to develop innovative public-private partnerships to tackle the challenges in employment, economy, climate change, etc.

In order to support the process of innovative entrepreneurship skills enhancement within regional organisations, the FIERE work programme provides for the development of a Learners' Handbook. The handbooks provide additional learning materials to assist the participants to understand the basic concepts of innovative entrepreneurship. The handbooks also contain summaries of case

studies of how regional organisations have (successfully or not) implemented innovative entrepreneurial approaches to addressing the challenges faced by their regions.

The objective for the production of a Learner's Handbook is to assist training programme participants to acquire the skills of innovative entrepreneurship and to demonstrate how and in what context these skills could be utilised for the advancement of their regions. The structure of the handbook reflects the key modules of the training programme. A key aim of the handbook is to assist learners to apply innovative entrepreneurship concepts in their organisation's activities and here best practice case studies will be used to illustrate how regional organisations have used these concepts to enhance their region's competitiveness and ability to deliver effective services.

Supporting learners at a regional level in innovative entrepreneurship skills training will require inputs from a network of regionally-based mentors. The FIERE partners plan to establish a network of mentors/counsellors in each partner country who will be tasked with providing learning supports to learners in assimilating innovative entrepreneurship skills and with providing assistance in using the innovative entrepreneurship skills that they have gained to develop innovative and entrepreneurial strategies and actions for their region.

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USEFUL WEBSITES

CREATIVITY AND INNOVATION

B Creative – EU Initiative to support creative start-ups http://www.europe-innova.eu/web/guest/innovation-in-services/kis-innovation-platform/bcreative/about

Cranfield University, Innovation and Creativity in Industry http://www.cranfield.ac.uk/SAS/competitivedesign/index.html

Cranfield University, Centre for Competitive Creative Design http://www.centrefordesign.co.uk/education-template.php

CReATE – ICT Innovations in Creative Industries http://www.lets-create.eu/

Creative D – a network programme for the creative industries in Dublin www.creatived.ie

Creative Thinking Network http://www.creativethinkingnetwork.com

Creativity Workshop LLC, Business Creativity http://www.creativityworkshop.com/business.html

Cornwall's Creative Consortium www.realideas.org

Denmark, The Center for Culture and Experience Economy http://www.cko.dk/about-ccee

ECCE Innovation – initiative to promote and develop new markets for small businesses and actors in the creative, artistic and cultural fields http://www.ecce-innovation.eu

Europa, Imagine, Create, Innovate, Create 2009 http://create2009.europa.eu/index_en.html

European Institute of Innovation and Technology http://www.eit.europa.eu/

iFactory – Cross Border Innovation Factory initiative www.noribic.com/ifactory

Innovation tools – website focused on business innovation, creativity and brainstorming http://www.innovationtools.com/

Irish Times Innovation Awards www.irishtimes.com/innovationawards

Jump! – Innovation and marketing company – helps clients figure out solutions to their challenges and inspire radical action www.jump.ie

Lean 2 Innovative Thinking offers clients hands on practical facilitation in improving the performance of their organisation. Uses the Lean Philosophy in tandem with the Creativity and Innovation fields as the primary catalysts for performance improvement www.lean2innovativethinking.com

Let's Create – Regions of Knowledge initiative for the creative industries http://www.lets-create.eu/

Mycoed - Central repository for creativity and innovation tools and techniques www.mycoted.com

One North East, Design Network North http://www.designnetworknorth.org/

Platform Ireland – broadcasting Irish Arts http://www.platformireland.ie/

Robert Gordon University, Aberdeen, Centre for Design & Innovation http://www.c4di.org.uk/

The Creativity Hub – helping people develop their creative ability, Northern Ireland based http://www.thecreativityhub.com/

The Impact Factory http://www.impactfactory.com/

The Innovation Factory (Comparator) http://www.innovationfactory.eu/

The National Digital Research Centre http://www.ndrc.ie

UK Design Council, Designing Demand http://www.designingdemand.org.uk/

Welsh Assembly Government - Flexible Support for Innovation http://fs4b.wales.gov.uk/bdotg/action/detail?site=230&r.s=m&r.l1=5001392897&r.lc=en&r.l2=5001459854&r.i=5001520393&type=RESOURCES&itemId=5001459864&r.t=CASE%20STUDIES&lang=en

Welsh Assembly Government – Project Dynamo http://www.projectdynamo.com

ANALYTICAL THINKING

Analytical Mind – Offering new paradigms to improve performance and quality of life at work http://analytical-mind.com/

Critical Thinking Web

FPSPI – Future Problem Solving Program International

http://www.fpspi.org/

http://philosophy.hku.hk/think/

Mindtools – Problem Solving

http://www.mindtools.com/pages/main/newMN_TMC.htm

Open Polytechnic – How to think critically and analytically

http://www.openpolytechnic.ac.nz/study-with-us/study-resources-for-students/assignments/how-to-think-critically-and-analytically

Oxford Economics – Analytical Tools and Models

http://www.oxfordeconomics.com/thought-leadership/delivery-formats/analytical-tools-and-models/overview

Palgrave Study Skills – Critical and Analytical Thinking Skills

http://www.palgrave.com/studentstudyskills/page/critical-and-analytical-thinking-skills/

The Critical Thinking Community

http://www.criticalthinking.org//

LEADERSHIP

Center for Creative Leadership

http://www.ccl.org/Leadership/index.aspx

International Leadership Association

http://www.ila-net.org/

Leadership Foundations

http://leadershipfoundations.org/

Leadership Learning Community

http://leadershiplearning.org/

Leadership Style Assessment Test – Your Leadership Legacy

http://www.yourleadershiplegacy.com/speaking.html

Mindtools – What is Leadership?

http://www.mindtools.com/pages/article/newLDR_41.htm

The Leadership Challenge

http://www.leadershipchallenge.com/about.aspx

University of Kent – How to Develop Leadership Skills

http://www.kent.ac.uk/careers/sk/leadership.htm