

FENIX

ORAM FRAMEWORK

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Contributors

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Introduction

The FENIX project

FENIX is an ERASMUS+ KA2 project with an implementation period of 24 months, between 03/01/2022 - 03/01/2024. The project is being conducted by a consortium of FIVE (5) partners from four (4) European countries: Spain, Portugal, Romania and Greece.

The COVID19 pandemic showed that resilience is key to tackle unpredictable negative events. Europe enterprises are trying to bounce back from the negative impacts caused by the multiple lockdowns, confinement restrictions, loss of productivity, just to name a few factors. To survive this economic, health and social crisis, enterprises must display organisational resilience, supported by adaptive management systems. With the rise of global warming, the probability of another pandemic, major migration patterns (and others), it's a case of knowing how to deal with the next crisis (not IF there will be a next crisis). Nevertheless, organisations face adversities daily and the way they respond to such adversities can make the organisation fragile (if acting rigidly) or flexible (if acting through a set of skills that promote the efficiency and growth of the organisation) (Sutcliffe & Vogus, 2003).

Organisational resilience is the ability of organisations to face adversity in such a way that generates a response that allows the bouncing back and activation of coping mechanisms, the achievement of a healthy/positive adaptation, plus the development of new capabilities and the expansion of skills that allow the exploration of opportunities and the construction of skills to deal with future adversities (Coutu, 2002). This is achieved by two components:

- a) the individual resilience of the organisation workforce (when used collectively) and
- b) the systemic resilience of the organization processes (system capacity) (Irigaray, Paiva, & Goldschmidt, 2017).

FENIX aims to contribute to fostering the resilience of European enterprises and their workers, through the development of an innovative gamified training experience, a

guideline to support the implementation of systemic Resilience practices within enterprises and an online crash course on Adaptive Management.

Target group

The Target groups addressed are, as illustrated in figure 1:

WORKFORCE:

Gamification: Target Groups: Microbusinesses, SMEs and Corporations' workforce; Entrepreneurs; Unemployed people looking to upskill; Adults aiming at improving their Resilience competency; Innovation hubs; Businesses accelerators and incubators.

ORGANIZATIONS:

1: Guideline for the implementation of Systemic Resilience practices within enterprises (PR4): Target Groups: Microbusinesses, SMEs, Corporations, Other organisations (such as ONGs, federations, associations), Entrepreneurs, Businesses accelerators and incubators.

2: Adaptive Management Crash Course (PR3): Target Groups: workers on management and executive level, other workers wishing to upskill, unemployed people looking to upskill

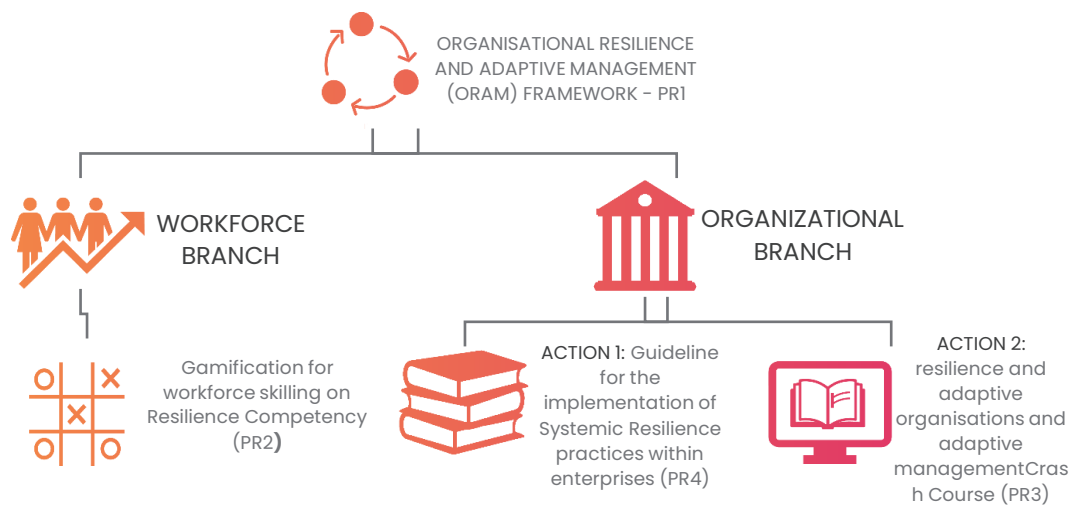


Figure 1: FENIX project: Relations between project results. Own Elaboration

This document

In this document we propose the Organizational Resilience and Adaptive Management (ORAM) Framework including the necessary learning outcomes for the:

- Gamification for the workforce
- Guideline for the implementation of Systemic Resilience practices within enterprises for organisations
- Adaptative Management Crash Course for organisations

It is divided onto 3 chapters:

1. the Organizational Resilience and Adaptive Management (ORAM) Framework proposed by the FENIX partnership
2. Chapter 2 presents the gamification for workforce skilling on the resilience competency: an introduction about resilience plus the EQF level proposed and the intended learning outcomes in the frame of the gamified training for the workforce
3. For organisations chapter 3 presents the Guideline for the implementation of Systemic Resilience practices within enterprises plus the EQF level proposed and the intended learning outcomes in the frame of the Adaptative Management Crash Course.

1. The ORAM Framework

Resilience originates from the Latin word *recilio* (Kotliarenco, Caceres, & Fontecilla, 1997) which is interpreted as jumping backwards or jumping back. The term resilience has been mentioned for some years and was originally known in studies carried out in physics, when it was verified that materials that have been subjected to deformations or changes have the ability to return to being the same, recovering all their properties and original conditions, after being subjected to high pressures (Hollnagel, 2006). For example, if we have two balls, one made of paper and the other made of rubber, and we activate in them the pressure of fifty kilos of weight, the two balls will deform. When the pressure is removed, the paper ball does not return to its original shape, instead the rubber ball almost instantly returns to its original shape. Scientifically it is shown that the rubber ball has different factors that can be chemical, density, etc., that affect the resilience of the bodies (Fink, Wayne, & Carroll, 1981).

If we focus on **organizational resilience**, this is considered as the capacity generated by an institution to face changes that appear as events that produce sudden crises (López, 2009). In organizational resilience, several stages are identified: 1) the prevention of negative events, which cause crises and make companies vulnerable; 2) prepare to prevent negative results from worsening over time; 3) having the structure so that after emerging victorious, overcoming the crisis, having the power to recover from the negative consequences left by these events, applying in a dynamic, but flexible way, actions that aim to recover their strengths and efficiency after the crisis (Nemeth, Hollnagel, & Dekker, 2009).

It is important that companies are prepared to face a crisis, and not wait for them to show up to take defensive action. Resilience is important as it enables individuals to develop mechanisms to protect themselves in potentially overwhelming and stressful situations. It also helps us to maintain a balance in our work life and during challenging and stressful times.

A resilient workforce is able to find new levels of engagement and empowerment. Resilient teams thrive on and respond confidently to personal and professional challenges while maintaining optimum performance and delivering enhanced productivity.

Adaptive management, also known as adaptive resource management or adaptive environmental assessment and management, is a structured, iterative process of decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously meets one or more resource management objectives and, either passively or actively, accrues information needed to improve future management. Adaptive management is a tool which should be used not only to change a system, but also to learn about the system (Holling, 1978).

Because adaptive management is based on a learning process, it improves long-run management outcomes. The challenge in using the adaptive management approach lies in finding the correct balance between gaining knowledge to improve management in the future and achieving the best short-term outcome based on current knowledge (Allan & Starkey, 2009).

The FENIX results will be built upon the Organizational Resilience and Adaptive Management (ORAM) Framework that builds upon 3 main ingredients:

1. RESILIENT WORKFORCE (serious game)
2. SYSTEMIC RESILIENT ORGANISATIONS (Guidelines)
3. ADAPTIVE MANAGEMENT UPSKILLING (Crash course)

Figure 2 illustrates the ORAM Framework proposed.

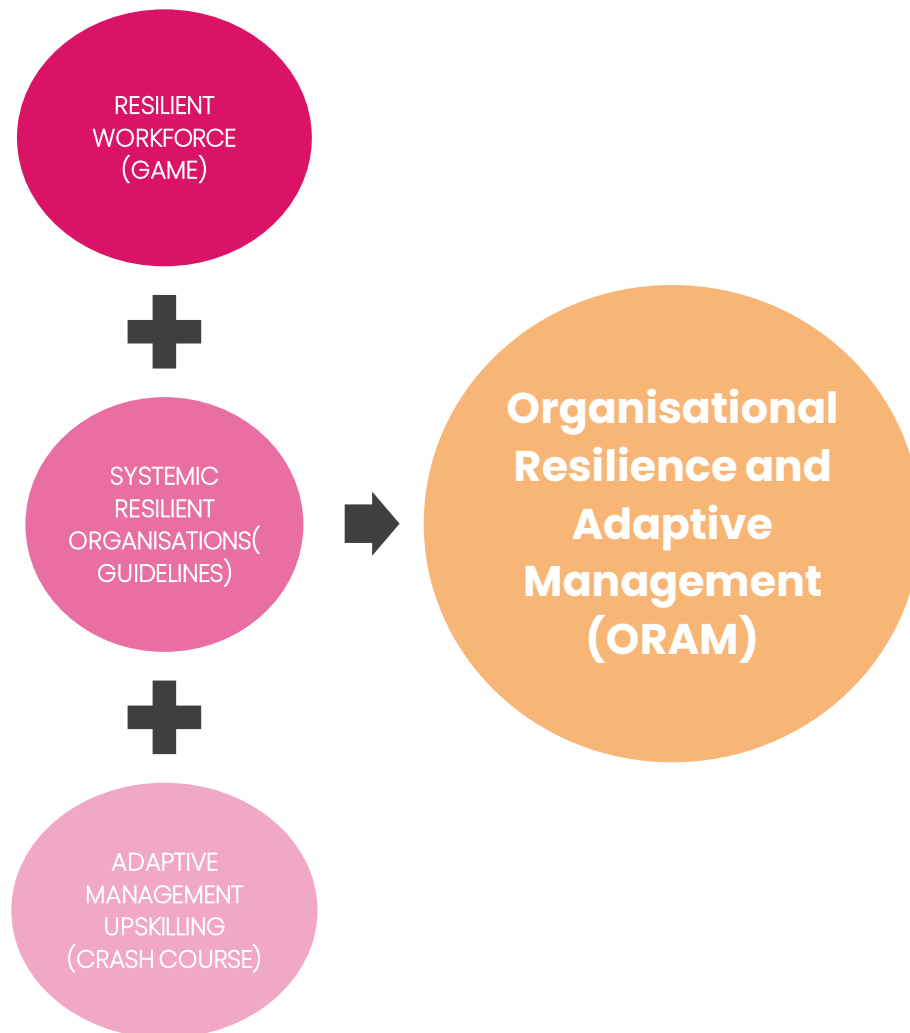


Figure 2: FENIX project: ORAM FRAMEWORK. Own Elaboration

Figure 2 shows the 3 main components considered, that is the need to upskill the workforce via a **specific serious game** to learn about resilience, how to build resilient capacities, managing emotions and building resilient values, plus the **guidelines on systemic resilient organizations** including the definition of systemic resilience, the different leadership models and the different recommendations for building resilience in organizations.

This is complemented by the **adaptive management crash course** that will focus on 9 competence Units:

1. Adaptative management overview
2. Adaptative management in enterprises
3. Monitoring and evaluation (M&E) methodologies designed to deal with complexity
4. Business data collection & analysis
5. Characterization of system uncertainty
6. Embracing risk and uncertainty
7. Iterative decision-making
8. Tactical and Strategical adaption
9. Organizational Learning (feedback mechanisms)

As illustrated in figure 3:

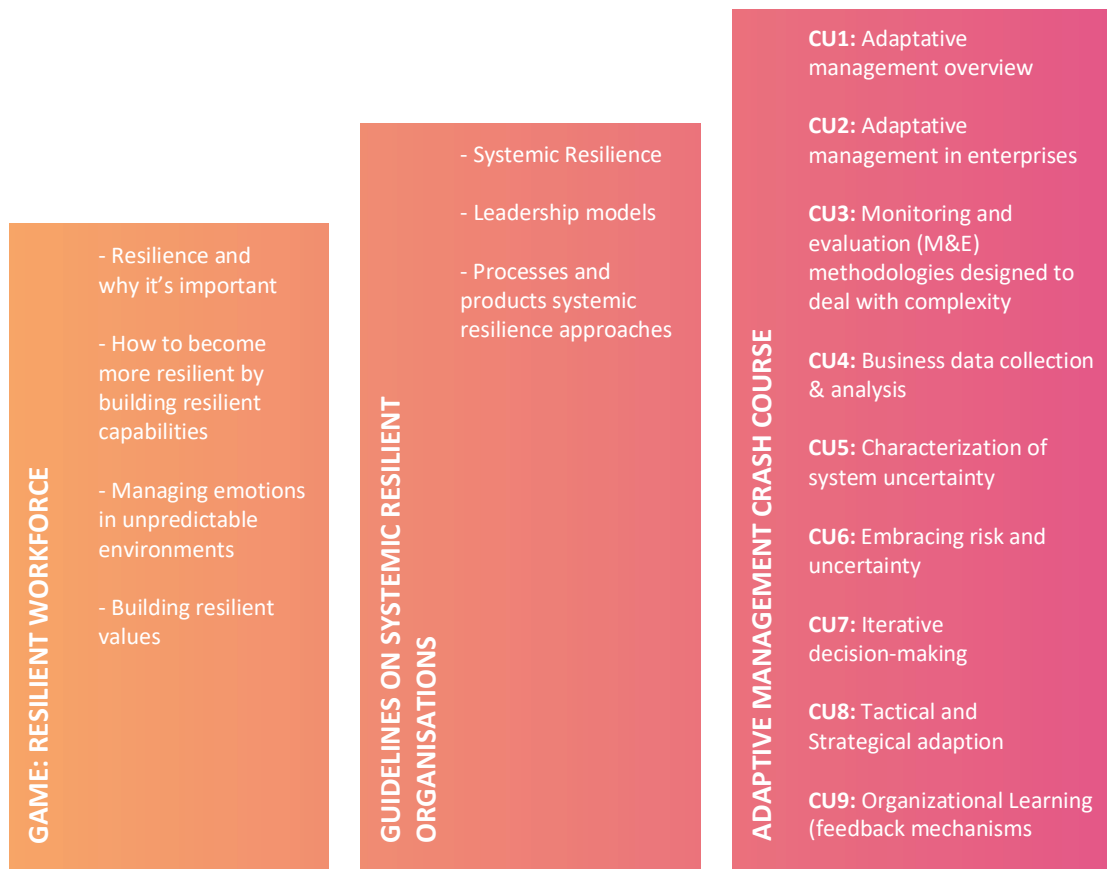


Figure 3: Contents of the ORAM framework components. Own Elaboration

2. Workforce Branch: Gamification for workforce skilling on Resilience

This chapter presents an introduction about resilience plus the EQF level proposed and the intended learning outcomes in the frame of the gamified training for the workforce aimed at strengthening their resilience competence to be used collectively in supporting the enterprise.

The target groups of this training are microbusinesses, SMEs, and Corporations' workforce; entrepreneurs; unemployed people looking to upskill; adults aiming at improving their resilience competency; Innovation hubs; businesses accelerators and incubators.

We propose EQF level 3 for the training as shown in table 1:

Table 1: Proposal: EQF level 3

	Knowledge	Skills	Responsibility and autonomy
EQF level 3	Knowledge of facts, principles, processes and general concepts in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	<ul style="list-style-type: none"> • Take responsibility for completion of tasks in work or study. • Adapt own behavior to circumstances in solving problems

Resilience Competency is the ability to cope with stress and obstacles, as well as bounce back from misfortune, is referred to as resilience.

To ensure good resilience skills, six different resilience competencies should be employed and cultivated. Challenges in your life can be solved more easily and difficulties will occur less frequently if you are aware of and use certain resilience qualities. Self-awareness, self-control, optimism, character strengths, mental agility, and connection are among them.

The pandemic crisis also demonstrated to business leaders the genuine value of resilience management. They realized how important their crisis contingency plans were in getting them through the catastrophe. Though the scale of the epidemic and its cascading impacts were not anticipated, the processes and procedures in place proved to be effective (or ineffective) in the face of extreme circumstances.

After this training experience, trainees will be more motivated, capable of dealing with change, and less prone to burnout. It also benefits beneficiaries' overall health, as workplace resilience and wellbeing are strongly linked. Self-reflection, time, and practice are all necessary components of developing resilience. Team leaders and managers, on the other hand, can help an individual develop by giving the appropriate tools and training. Facilitating resilience from the top increases organizational resilience, making it a company-wide culture. This reassures and motivates employees to devote time to professional development.

Table 2: Proposed learning Outcomes of the gamified training for workforce.

LEARNING OUTCOMES		
Upon completion of gamified training experience, the learner will be able to:		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
Factual knowledge in: <ul style="list-style-type: none"> resilience and why it's important how to become more resilient by building resilient capabilities managing emotions in unpredictable environments building resilient values 	<ul style="list-style-type: none"> Use simple resilience techniques in their everyday working routine Change issues dealing with their working routine Manage hard emotions Deal with change in working environment 	<ul style="list-style-type: none"> Formulate simple resilience strategies Organize efficiently their working routine evaluate their coping strategies for hard emotions prepare themselves for change – to a certain level

In the FENIX GAMIFIED TRAINING EXPERIENCE (FGTE) participants will:

- Develop an awareness of their stressors and emotional responses at work
- Enhance their ability to self-regulate stress and emotions
- Learn and apply verbal and non-verbal communication techniques in stressful and emotional situations
- Learn and apply emotional intelligence skills to better recognize and manage stress
- Enhance their skills to develop a resilient and emotionally healthy culture in the workplace.

3. Organizational Branch

This chapter presents an overview of the guideline for the implementation of Systemic Resilience practices within enterprises and the EQF level proposed and the intended learning outcomes in the frame of the Adaptive Management Crash Course.

3.1 Action 1: Guideline for the implementation of Systemic Resilience practices within enterprises (PR4)

The target groups of this guidelines are microbusinesses, SMEs, Corporations, Other organizations (such as ONGs, federations, associations), Entrepreneurs, Businesses accelerators and incubators.

We hereby have included some key definition to frame the guidelines.

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SYSTEMIC RESILIENCE

The ability of actors in a complex system to effectively respond and recover from shock and surprise (Walker and Salt, 2012; Ungar, 2018).

LEADERSHIP MODELS

Autocratic leadership

Top-down approach for decision-making within an organization. It's a more conservative command-and-control approach. Use should be limited to urgent matters.

Authoritative leadership

Instead of just issuing orders, leaders using this model take the time to explain their thinking. Authoritative leaders give autonomy to people on how common goals should be achieved.

Pacesetter leadership

Is focused on performance and achieving goals. This type of leaders expect excellence from their team and themselves and can be seen jumping in to make sure goals are met. This style is ideal to make things go forward but can be stressful to the team members in the long run.

Democratic leadership

Its a model that values the participation of the team members to share their views and chose how they want to get things done.

Coaching leadership

In this type of leadership, leaders give team-members directions to help them achieve their best results and achieve their full potential. These leaders are focused in bringing out the best in their teams.

Affiliative leadership

Also known as Collaborative Leadership, is based on forming agreements and establishing cooperative relationships between team members.

Laissez-faire leadership

The opposite of the Autocratic leadership, this kind of leader provides their teams with the resources and tools they need to succeed but they remain generally uninvolved in the day-to-day work.

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PROCESSES AND PRODUCTS SYSTEMIC RESILIENCE APPROACHES

Recovery and adaptation in the aftermath of disruptions is a requirement for interconnected 21st Century economic, industrial, social, and health-based systems, and resilience is an increasingly crucial part of strategies to avoid systemic collapse.

Based on OECD reports and the resilience literature, specific recommendations for building resilience in organisations, to contain epidemics and other systemic threats include:

- Design systems, including infrastructure, supply chains, and economic, financial and public health systems, to be resilient, i.e. recoverable and adaptable.

- Develop methods for quantifying resilience so that trade-offs between a system's efficiency and resilience can be made explicit and guide investments.
- Control system complexity to minimise cascading failures resulting from unexpected disruption by decoupling unnecessary connections across infrastructure and make necessary connections controllable and visible.
- Manage system topology by designing appropriate connection and communications across interconnected infrastructure.
- Add resources and redundancies in system-crucial components to ensure functionality.
- Develop real-time decision support tools integrating data and automating selection of management alternatives based on explicit policy trade-offs in real time.

A multi-step procedure to identify, analyze, and govern systemic risks, as well as better prepare affected systems for such risks by mitigating possible threats and transitioning the system towards one of resiliency-by-design was designed by the International Risk Governance Centre's Guidelines for the Governance of Systemic Risks (IRGC 2018) and can be used complementary:

- Explore the system, define its boundaries and dynamics.
- Develop scenarios considering possible ongoing and future transitions.
- Determine goals and the level of tolerability for risk and uncertainty.
- Co-develop management strategies dealing with each scenario.
- Address unanticipated barriers and sudden critical shifts.
- Decide, test and implement strategies.
- Monitor, learn from, review and adapt.

3.2 Action 2: Adaptative Management Crash Course (PR3)

The target groups of this training are workers on management and executive level, other workers wishing to upskill, unemployed people looking to upskill.

We propose EQF level 4 for the training as shown in table 1:

Table 3: Proposal: EQF level 4

	Knowledge	Skills	Responsibility and autonomy
EQF level 4	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	<ul style="list-style-type: none"> • Exercise self-management within the guidelines of work or study contexts that are usually predictable but are subject to change; • Supervise the routine work of others, • Taking some responsibility for the evaluation and improvement of work or study activities

The “Adaptive management crash course” will be designed for asynchronous mobile learning (mLearning) and will be a course with a short duration. The crash course will correspond to the Learning Outcomes developed in this Framework.

The aim and objectives of the training experience is to support learners to improve management practices incrementally by implementing plans in ways that maximize opportunities to learn from experience.

The following competence units are developed:

CU1: Adaptative management overview

CU2: Adaptative management in enterprises

CU3: Monitoring and evaluation (M&E) methodologies designed to deal with complexity

CU4: Business data collection & analysis

CU5: Characterization of system uncertainty

CU6: Embracing risk and uncertainty

CU7: Iterative decision-making

CU8: Tactical and Strategical adaption

CU9: Organizational Learning (feedback mechanisms)

CUI – Adaptive management overview		
LEARNING OUTCOMES		
Upon completion of gamified training experience, the learner will be able to:		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in: What Adaptive management is and what it involves (steps and short guidelines).</p>	<p>Define Adaptive management as key approach to decision making that emphasizes accountability and explicitness</p> <p>Identify the steps to apply adaptive management</p> <p>Adopt the mindset to use the elements of adaptive management to use in different projects</p>	<p>Exercise an Adaptive management approach within the guidelines that emphasize accountability and explicitness</p> <p>Apply the six main steps involved in Adaptive management: 1) problem assessment, 2) design, 3) implementation, 4) monitoring, 5) evaluation, and 6) adjustment.</p>

CU2 Adaptative management in enterprises		
LEARNING OUTCOMES		
	Upon completion of gamified training experience, the learner will be able to:	
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>Adaptive management in companies to better deal with risk and uncertainty: application guidelines. What is an Adaptive Enterprise (or adaptive organization)</p>	<p>Describe Adaptive management approaches in companies to better deal better with risk and uncertainty</p> <p>Identify Adaptive Enterprise when comparing to enterprises that are less adaptive</p> <p>Recognize the advantages of Adaptive Enterprise over enterprises that are less adaptive</p>	<p>Apply adaptative management approaches to better deal with risk and uncertainty within the company</p> <p>Organize and supervise the work of enterprise staff to implement Adaptive management approaches within the company.</p>

CU3 Monitoring and evaluation (M&E) methodologies designed to deal with complexity		
LEARNING OUTCOMES		
	Upon completion of gamified training experience, the learner will be able to:	
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
Theoretical/Factual knowledge in: Complexity assessment Coping strategies Time management Prioritizing process	Solve – to an extent – issues referring to complexity of their working routing Design simple coping strategies Prepare their working time schedule in an efficient way Prioritize efficiently their everyday task list.	Develop an efficient working time – framework Choose the right coping strategies Organize better their everyday working routine.

CU4 Business data collection & analysis		
LEARNING OUTCOMES		
	Upon completion of gamified training experience, the learner will be able to:	
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
Theoretical/Factual knowledge in: Business data collection techniques Data analysis methodologies	Compare and choose the right business data collection techniques Analyze business data.	Design data analysis strategy – to some extend Prepare the business plan and next steps.

CU5 Characterization of system uncertainty		
LEARNING OUTCOMES		
Upon completion of gamified training experience, the learner will be able to		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>System Uncertainty</p> <p>Multi-model inference</p>	<p>Describe the concept of System Uncertainty</p> <p>Recognize the multi-model inference approach to deal with system uncertainty</p> <p>Identify uncertainty within the processes and resources of a given company.</p>	<p>Exercise self-management within the guidelines of work contexts that are usually predictable, but are subject to change</p> <p>Supervise the routine work of team-members, taking responsibility for the evaluation and improvement of work or study activities.</p>

CU6 Embracing risk and uncertainty		
LEARNING OUTCOMES		
Upon completion of gamified training experience, the learner will be able to		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>Strategies to embrace risk and uncertainty</p>	<p>Define risk and uncertainty in the scope of managing a team</p> <p>Adopt the mindset to embrace risk, instead of just tolerate it</p> <p>Identify strategies to embrace risk and uncertainty within the scope of work.</p>	<p>Exercise self-management within the guidelines of work contexts that are usually predictable, but are subject to change</p> <p>Supervise the routine work of team-members, taking responsibility for the evaluation and improvement of work or study activities.</p>

CU7 Iterative decision-making		
LEARNING OUTCOMES		
Upon completion of gamified training experience, the learner will be able to		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>Strategies, procedures, and competencies related to observe, interpret, and intervene towards certain goals and objectives in a workplace</p>	<p>Define the main elements of decision-making processes</p> <p>Identify disrupting elements or situations related to decision-making processes</p> <p>Interpret and adopt iterative or looping processes when planning and deciding in the framework of his/her workplace activities.</p>	<p>Apply certain processes and strategies that lead to adaptative and successful decision-making</p> <p>Analyze, propose, and apply adaptative decision making processes throughout the whole organization/company.</p>

CU8 Tactical and Strategic adoption

LEARNING OUTCOMES

Upon completion of gamified training experience, the learner will be able to:		
KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>Strategies, procedures, and competencies related to strategic planning</p>	<p>Analyze critically the processes followed both individually and organizationally regarding planning and strategic approaches in the workplace</p> <p>Capacity to analyze and prioritize certain solutions to certain difficulties within the framework of adaptative competencies and skills</p> <p>Apply certain processes not so much focused on driving and leading strategic and tactical adoption but focused on nurturing strategic and tactical adoption.</p>	<p>Design and apply short, middle, and long-term strategies based on the organization needs, deficits and potentiality</p> <p>Motivate the other members of the company/organization to adopt strategic and tactical approaches when planning in short, mid and long terms.</p>

CU9 Organisational Learning (feedback mechanisms)

LEARNING OUTCOMES

Upon completion of gamified training experience, the learner will be able to:

KNOWLEDGE	SKILLS	RESPONSIBILITY AND AUTONOMY
<p>Theoretical/Factual knowledge in:</p> <p>Feedback (monitoring and evaluation) mechanisms as tools for giving and receiving feedback</p>	<p>Identify and adapt the most appropriate monitoring and evaluation mechanisms to use to support adaptive management</p> <p>Apply monitoring (short loops, focused on disbursement and process compliance) and Evaluation (long feedback loop on outputs, maybe outcomes) mechanisms to support adaptive management in the organizations' learning process.</p>	<p>Design and apply before, during and after implementation monitoring and evaluation mechanisms to support adaptive management in the organizations' learning process.</p> <p>Analyze the results to support adaptive management in the organizations' learning process.</p> <p>Support organizations learning using the evaluation results: monitoring and evaluating outcomes, re-evaluating and adjusting decisions as more information is learned.</p>

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