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Agile Development & High-Performance Ecosystems

Participatory Action Research in two Basque enterprises to make tangible the foundations of AD&HP Ecosystems

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AGILE DEVELOPMENT & HIGH-PERFORMANCE ECOSYSTEMS

Participatory Action Research in two Basque enterprises to make tangible the foundations of AD&HP ecosystems.

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EXECUTIVE SUMMARY

In the age of instability where things are complex and rapidly changing, organizational learning and its strategic management are key for gaining a competitive advantage. Individuals and organizations need to be continuously learning — and fast — that is, need to be agile and dynamic learners (Aspin et al., 2001; Matthews, 2013).

This doctoral thesis establishes how the key foundations of an Agile Development & High-Performance Ecosystem (AD&HP Ecosystem) are made tangible. An AD&HP Ecosystem is the name given to the theoretical model presented in this thesis; an Organizational Learning Structure (OLS) that contributes to the organization's competitive advantage by pursuing the agile development and high-performance of its workforce through formal and informal learning activities for individual, team, and organizational learning.

This thesis responds to the theoretical gap of "How do organizations make the transition to become a learning organization?" (Tuggle, 2016, p. 456) under the premise that "Developing a learning organization is not random chance but a deliberate intervention by leaders to establish the necessary internal conditions for the organization to operate in a learning mode." (Goh & Richards, 1997, p. 577). And it is also aligned with the premise that "building architectures that encourage, facilitate and support learning is an organizational imperative" (Watkins & Kim, 2018), presenting the OLS known as the AD&HP Ecosystem.

The research of this thesis is set in the Basque Country, which, although having been positively ranked as bottom one-third high performer [1]in the "Lifelong learning" indicator in RIS (Regional Innovation Scoreboard) (Hollanders et al., 2019b), the learning activities promoted by local authorities adhere to formal training principles and do not consider informal learning practices. This is why it was considered interesting to conduct the research in this geographical area. Within this region, two enterprises have actively participated in this research; Laboral Kutxa S.Coop. and SENER S.A.

The methodology employed was Participatory Action Research for Organizational Development following a qualitative research approach. Three intervention cycles of action and reflection were implemented in both enterprises; the purpose of the first cycle was to diagnose their current OLS; the second cycle defined the foundations of their new OLS with the active participation of various people from the organization and the third cycle initiated the creation of the newly-designed OLS.

The main approach to the intervention was "Design Thinking" and the data have mainly been gathered through semi-structured interviews and direct observation supported by a reflective journal kept by the researcher. Each organization has its particularities which

[1] It refers to the classification of RIS Score referring to the "% population aged 25-64 participating in lifelong learning" which goes from "bottom one-third low performers" to "top one-third high performers", being "bottom one-third high performers" the 3rd highest level.

led to a richer discussion of the results. The results were analyzed through explanation building, logic-model analysis, and a cross-case analysis.

The five main conclusions drawn from the findings of this thesis are as follows:

(1) The organization's culture affects the OLS, which occurs deliberately and non-deliberately.

(2) In the process of design and creation of the AD&HP Ecosystem, it is necessary to adopt an holistic approach where the users are at the center of the structure and everyone in the organization is responsible for learning.

(3) The Participatory Action Research carried out with the active participation of the enterprises has been successful for deliberately changing the design of the OLS.

(4) The theoretical model suggested in this thesis — and the process used for its creation — could help organizations to reflect on their current OLS and make improvements towards a more holistic and agile OLS.

(5) When creating a new OLS, the organization's culture will contain both detractors and supporters when it comes to changing the key aspects of the OLS.

With the purpose of making a continued contribution to the field of organizational learning and, specifically to Organizational Learning Structures, the following eight future research areas have been identified; (1) Follow-up of the two enterprises studied in this research; (2) Further research on how organizational culture and OLS are related; (3) Improving the AD&HP Ecosystem and the suggested process for its design and creation; (4) Carrying out Action Research in other enterprises to further test the AD&HP Ecosystem; (5) Developing the AD&HP Ecosystem by further research on the current trends in the L&D area; (6) Carrying out exploratory research in the Basque Country to analyze the attitude of the enterprises towards having an OLS that will support their competitiveness and business strategic needs; (7) Analyzing the AD&HP Ecosystem as a contributor to ambidexterity, and; (8) Analyzing the AD&HP Ecosystem as a contributor to organizational agility.

RESUMEN EJECUTIVO

En la era de la inestabilidad, en la que las cosas son complejas y cambian rápidamente, el aprendizaje organizativo y su gestión estratégica son fundamentales para obtener una ventaja competitiva. Las personas y las organizaciones deben estar aprendiendo continua y rápidamente, deben ser aprendices ágiles y dinámicos (Aspin et al., 2001; Matthews, 2013).

Esta tesis doctoral determina cómo se hacen tangibles los fundamentos clave de un "Ecosistema de Desarrollo Ágil y de Alto Rendimiento" (Ecosistema AD&HP). Un Ecosistema de Desarrollo Ágil y Alto Rendimiento es el nombre que se da al modelo teórico presentado en esta tesis; una Estructura de Aprendizaje Organizacional (EAO) que contribuye a la ventaja competitiva de la organización persiguiendo un desarrollo ágil y de alto rendimiento de sus trabajadores/as a través de actividades de aprendizaje formal e informal para el aprendizaje individual, de equipo y organizacional.

Esta tesis da respuesta a la brecha teórica de "¿Cómo hacen las organizaciones la transición para ser una organización de aprendizaje?" (Tuggle, 2016, p. 456) bajo la premisa de que "El desarrollo de una organización de aprendizaje no es una casualidad al azar sino una intervención deliberada de los líderes para establecer las condiciones internas necesarias para que la organización funcione en modo de aprendizaje" (Goh y Richards, 1997, pág. 577). Y alineado con la premisa de que "es un imperativo organizacional construir arquitecturas que fomenten, faciliten y apoyen el aprendizaje" (Watkins & Kim, 2018), se presenta la EAO denominada Ecosistema AD&HP.

La investigación se sitúa en el País Vasco, donde en el índice RIS (Cuadro de indicadores de innovación regional) el indicador "Aprendizaje a lo largo de la vida" ha sido clasificado positivamente valorado como "bottom one-third high performer". Pero las actividades de aprendizaje promovidas por las autoridades locales se ciñen a la formación formal y no tienen en cuenta las prácticas de aprendizaje informal. Es por ello que se ha considerado interesante llevar a cabo la investigación en este territorio. Dentro de esta región, dos empresas han participado activamente en esta investigación; Laboral Kutxa S.Coop. y SENER S.A.

La metodología utilizada fue una Investigación Acción Participativa para el Desarrollo Organizacional siguiendo un enfoque cualitativo de la investigación. En ambas empresas se han realizado tres ciclos de intervención de acción y reflexión; el primer ciclo para hacer el diagnóstico de su actual EAO; el segundo ciclo para definir las bases de su nueva EAO con la participación de diferentes personas de la organización y, el tercer ciclo para comenzar con la creación de la EAO recién diseñada.

El enfoque principal de la intervención ha sido el "Design Thinking" y los datos se han reunido principalmente mediante entrevistas semiestructuradas y observación directa, y la investigadora ha elaborado un "cuaderno de reflexión" durante todo el proceso. Cada organización tiene sus particularidades, lo que dio lugar a un debate más rico sobre los resultados. Resultados que han sido analizados a través de la construcción de explicaciones, análisis de modelos lógicos y un análisis de casos cruzados.

Estas han sido las cinco principales conclusiones de esta tesis:

(1) La cultura de la organización afecta a la EAO, a todo lo que ocurre de manera intencionada y no intencionada.

(2) En el proceso de diseño y creación del Ecosistema AD&HP es necesario un enfoque holístico donde los usuarios son el centro de la estructura y todas las personas de la organización son responsables del aprendizaje.

(3) La Investigación Acción Participativa llevada a cabo con la participación de las empresas ha sido exitosa para cambiar deliberadamente el diseño de la EAO.

(4) El modelo teórico sugerido en esta tesis y el proceso para su creación puede ser útil para que las organizaciones reflexionen sobre su actual EAO y para que cambien hacia una EAO más holístico y ágil.

(5) La cultura de la organización influye en la creación de una nueva EAO, con pros y contras.

Con el propósito de seguir contribuyendo al campo del aprendizaje organizacional y, específicamente al Aprendizaje Organizacional Estructurado se han identificado ocho áreas de investigación futuras; (1) Seguimiento de las dos empresas en esta investigación; (2) Continuar con la investigación sobre cómo se relacionan la cultura organizacional y la EAO; (3) Continuar mejorando el Ecosistema AD&HP y el proceso sugerido para su diseño y creación; (4) Llevar a cabo investigaciones de acción en otras empresas para seguir testando el ecosistema sugerido; (5) Seguir evolucionando y actualizando el ecosistema sugerido estudiando las tendencias en el área de Aprendizaje Organizacional; (6) Realizar una investigación exploratoria en el País Vasco para analizar la actitud de las empresas respecto a tener una EAO que apoye su competitividad y sus necesidades estratégicas empresariales; (7) Analizar el Ecosistema AD&HP como contribuyente a la ambidexteridad, y; (8) Analizar el Ecosistema AD&HP como contribuyente a la agilidad organizacional.

LABURPENA

Ezegonkortasunaren aroan, non gauzak konplexuak diren eta azkar aldatzen diren, erakunde-ikaskuntza eta honen kudeaketa estrategikoa funtsezkoak dira lehia-abantaila lortzeko. Pertsonek eta erakundeek etengabe eta azkar ikasi behar dute, ikastun bizkorrak eta dinamikoak izan behar dute (Aspin et al., 2001; Matthews, 2013).

Doktorego tesi honek "Garapen Bizkor eta Errendimendu Handiko Ekosistema" (AD&HP Ekosistema) izeneko Erakunde-Ikaskuntzako Egitura (EIE) baten funtsezko oinarriak nola egi bihurtu proposatzen du. Hori da tesi honetan aurkeztutako eredu teorikoak jaso duen izena; langileen garapen bizkor eta errendimendu handi baten bidez erakundearen lehiakortasun-abantailari lagundu nahi zaio. Horretarako, banakako, taldeko eta erakunde mailako ikaskuntza formal eta informal jardueretan oinarritutako bat sortuz.

Tesi honek ondorengo hutsune teorikoari erantzuten dio "Nola egiten dute erakundeek ikaskuntza-erakunde bilakatzeko?" (Tuggle, 2016, p. 456) bi premisetan oinarrituta, bata: "Ikaskuntza-erakunde bat garatzea ez da halabeharrezko kasualitatea, baizik eta liderrek nahita beharrezkoak diren barne-baldintzak ezarriz" (Goh eta Richards, 1997, 577. or.). Bestea, "ikaskuntza sustatu, erraztu eta lagunduko duten arkitekturak eraikitzea beharrezkoa da" (Watkins & Kim, 2018). Hutsune teorikoa eta bi premisa hauek kontuan izanik, AD&HP Ekosistema izeneko EIE-a proposatu da tesi honetan.

Ikerketa hau Euskal Autonomia Erkidegoan (EAEn) jorratu da, non, bi enpresa ezberdinek parte hartu duten: Laboral Kutxa S.Coop. eta Sener S.A. EAE RIS indizean (Eskualdeko Berrikuntza-Adierazleen indizean) "Bizialdi osoko ikaskuntza" adierazlea "bottom one-third High-Performer" gisa sailkatu den. Hala ere, tokiko agintariek sustatutako ikaskuntza-jarduerak prestakuntza formalera mugatzen dira, eta ez dituzte kontuan hartzen ikaskuntza informaleko praktikak. Hori dela eta, interesarritzat jo da ikerketa hau lurralde honetan burutzea.

Erabilitako metodologia Erakunde Garapenerako Partaidetza Ikerketa izan da, ikerketaren ikuspegi kualitatibo bat jarraituz. Bi enpresetan ekintzarako eta hausnarketarako hiru esku-hartze ziklo egin dira: lehen zikloa, egungo EIE-aren diagnostikoa egiteko; bigarren zikloa, EIE berriaren oinarriak diseinatzeko erakundeko hainbat pertsonaren parte-hartzearekin, eta hirugarren zikloa, diseinatu berri den EIEa eraikitzen hasteko.

Esku-hartzea "Design Thinking" tekinikak jarraituz egin da, eta datuak nagusiki elkarrizketa erdi-egituratuen eta zuzeneko behaketaren bidez bildu dira. Aldi berean, ikertzaileak "hausnarketa-kaiera" eraman du prozesu osoan zehar. Erakunde bakoitzak bere berezitasunak ditu, eta horrek emaitzei buruzko eztabaida aberatsago bat ahalbideratu du. Emaitza horiek azalpenak eraikiz, eredu logikoak aztertuz eta gurutzatutako kasu-azterketaren bitartez aztertu dira.

Hauek izan dira tesi honen bost ondorio nagusiak:

(1) Erakundearen kulturak EIEari eragiten dio, nahita eta nahigabe gertatzen den guztiak.

(2) AD&HP Ekosistema diseinatzeko eta eraikitzeko prozesuan, ikuspegi holistikoa behar da non, erabiltzaileak egituraren erdigunean dauden, eta erakundeko pertsona guztiak ikaskuntzaren arduradun diren.

(3) Enpresen parte-hartzearekin egindako partaidetzazko ikerketa hau arrakastatsua izan da beren EIEaren diseinua nahita aldatzeko.

(4) Tesi honetan iradokitako eredu teorikoa eta hura sortzeko prozesua baliagarriak izan daitezke beste erakundentzat; beraien egungo EIEari buruz hausnar dezaten eta EIE holistikoago eta arinago bat sortzeko.

(5) Erakundearen kulturak EIE berri baten sorreran eragiten du, aspektu batzu erraztuz eta beste batzuk zailduz.

Erakunde-ikaskuntzari eta, bereziki, EIEari laguntzen jarraitzeko asmoz zortzi ikerketa-hildo identifikatu dira; (1) Ikerketa honetan murgildutako bi enpresen jarraipena egitea; (2) Erakunde-kultura eta EIEa nola erlazionatzen diren gehiago ikertzea; (3) Proposatutako ekosistema eta bera eraikitzeko prozesua hobetzen jarraitzea; (4) AD&HP Ekosistema enpresa gehiagotan eraikitzea Ikerketa-Ekintza erabiliz; (5) AD&HP Ekosistema hobetzea eta eguneratzea Erakunde-Ikaskuntzako joerak aztertuz; (6) Euskal Autonomia Erkidegoan esplorazio-ikerketa bat egitea enpresek beren lehiakortasuna eta behar estrategikoak babesten dituen EIE bat izateariko duten jarrera aztertzeko; (7) AD&HP Ekosistemak erakundearen anbidexteritateari nola eragiten dion aztertzea; (8) AD&HP Ekosistemak erakundearen bizkortasunari nola eragiten dion aztertzea.

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CHAPTER 01

INTRODUCTION

1. INTRODUCTION

In the age of instability where things are complex and rapidly changing, organizational learning and its strategic management are key for gaining a competitive advantage. Individuals and organizations need to be continuously learning — and fast — that is, they need to be agile and dynamic learners (Aspin et al., 2001; Matthews, 2013).

To do so, the organization's learning set-up needs to be structured, yet flexible in order to meet the organization's needs in terms of business changes. This structure must support the agile development and high performance of the organization and its people — an Agile Development & High-Performance Ecosystem (AD&HP Ecosystem). This PhD thesis aims to "determine how the key foundations of an AD&HP Ecosystem are made tangible".

In order to give context to this research, Sections 1.1. to 1.3. present the following: first, the project is justified from two perspectives; its intellectual and practical motivations. Then, the background of the research is analyzed for the reader to grasp the contextual framework in which this research is set. And last but not least, the research objectives are then defined.

1.1. RATIONAL FOR THE RESEARCH

This sub-section describes the intellectual and practical aspects that have motivated this research. First, the intellectual motivations are presented in Sub-section 1.1.1. and the practical motivations are described in Sub-section 1.1.2.

1.1.1. INTELLECTUAL MOTIVATIONS

Over the past 20 years, the topic of learning organizations has been a part of Organization studies. Whilst it is included in the constructs of organizational theory, (Prange, 1999) multiple definitions and concepts (sometimes even confusing) surround the topic (Crossan, Lane, & White, 1999; Templeton, Lewis, & Snyder, 2002). This could be due to the fact that it has been studied from different perspectives, including behavioral, cognitive and cultural standpoints (Tsang, 1997).

Some authors have discussed whether the topic of learning organizations is still relevant or whether it is becoming obsolete (Pedler & Burgoyne, 2017; Tuggle, 2016; Watkins & Kim, 2018). It had its big "boom" back in the nineties when various authors researched the importance of organizational learning and learning organizations as a response to a changing environment (Argote, 1999; Argyris & Schön, 1978; Azmi, 2008; Cyert & March, 1992; Isaacs, 1993; Kolb, 1984; Pedler et al., 1989; Senge, 1990; Wang, 2018).

Nonetheless, Pedler & Burgoyne (2017) argue that the topic is still of interest, but it has evolved to adopt a new set of terms, including Knowledge Management, Dynamic Capability, Collective Intelligence, High Performance, Leadership, and Networking.

In the current context, described in Sub-section 1.2. of this first chapter, the challenge is to embrace the focus on identifying evidence-based practices that enable an

organization to learn more effectively rather than relying on prescriptions or simple steps for creating a learning organization (Watkins & Kim, 2018).

Furthermore, Tuggle (2016) recently analyzed the journal "The Learning Organization", (the third top journal according to citation impact), in the field of knowledge management/intellectual capital. He aimed to identify the existing gaps in the last 20 published issues in search of new lines of investigation worth pursuing. From this analysis he identified five main gaps in learning organization research (Tuggle, 2016, p. 456):

- How do organizations make the transition to become a learning organization?
- Where in an organization are its learning processes centered?
- What are the benefits and costs to being a learning organization?
- What are the critical contextual factors affecting learning organizations?
- When should one (and when should one not) seek to create a learning organization?

This thesis aims to contribute to the first gap, that is, How do organizations make the transition towards becoming a learning organization, either unintentionally or deliberately? He questions whether such a transition is led by a project champion, a crisis situation, or a formal strategic planning process that acknowledges the importance of being a learning organization (Tuggle, 2016).

This thesis aims to contribute to that knowledge gap by adopting the following premise: "Developing a learning organization is not random chance but a deliberate intervention by leaders to establish the necessary internal conditions for the organization to operate in a learning mode." (Goh & Richards, 1997, p. 577).

Furthermore, scholars in the learning organization field tend to accumulate evidence of what works to create organizations with a higher capacity to learn (Watkins & Dirani, 2013), but do not actually prescribe simple steps that must be followed in order to become a learning organization (Garvin, 1993). With this intervention, a set of steps for improving an organization's learning structure is suggested.

Within that scope and under another premise; "building architectures that encourage, facilitate and support learning is an organizational imperative" (Watkins & Kim, 2018), this thesis has focused on analyzing how the key foundations of a specific Organizational Learning Structure (see Section 2.2.) are made tangible.

1.1.2. PRACTICAL MOTIVATIONS

There is a need to be a learning organization perhaps now more than ever before (further explained in Sub-section 1.2.). We are in an age of instability where things are complex and rapidly changing. In order to deal with such a situation, both individuals and organizations need to be continuously learning — and rapidly — that is, they need to be agile and dynamic learners (Aspin et al., 2001; Matthews, 2013). Whilst in the past, once something had been learned one could relax, this is no longer the case since that knowledge is likely to become obsolete very quickly (Hagel III et al., 2010).

One way in which the organization can act is by building the appropriate organizational learning structure, putting in place the practices, activities, and processes that are needed to become a Learning Organization (Loermans, 2002a; Lytras & Sicilia, 2005; Yeo, 2005). The structure has a direct impact on the learning process as this is what defines how knowledge is integrated into work and interpreted within the organization (Nicolini & Meznar, 1995).

Aligned with this idea, the work in this thesis has contributed to the progress made by two Basque enterprises who deliberately wanted to improve their current organziational learning structure; Laboral Kutxa S.Coop. and SENER S.A. In particular, the foundations of their new organizational learning structure were co-defined, after which the creation of a new structure began. The methodological approach was Participatory Action Research, which allowed us to address the needs of both enterprises whilst creating knowledge to fill the gaps identified in the literature[2].

1.2. RELEVANCE OF THE RESEARCH

Gaining a long-term competitive advantage has become more difficult than ever before. In these circumstances, the capacity for organizational learning has been considered a strategic asset for securing a sustainable competitive advantage, as it is difficult for competitors to copy (Azmi, 2008). As long as thirty years ago, Senge had already declared that "In the long run, the only sustainable source of competitive advantage is your organization's ability to learn faster than its competition. No outside force can take the momentum of that advantage away from you." (Senge, 1990).

Many years ago, one of the very first authors to discuss the notion of learning as part of organizational culture was Barney (1986). He stated that although complex, it contributes to the competitive advantage of the enterprise and is therefore worth having. Furthermore, Azmi (2008) claims that it is important to support learning as a critical contributor to an enterprise's competitive advantage, since this, in turn, helps to improve an organization's performance and effectiveness. In short, this supports the ongoing development and innovation of an organization (Argote, 1999; Cyert & March, 1992; Wang, 2018; Pedler, Burgoyne, & Boydell, 1989).

Given that the future is so unpredictable, to become a learning organization it is necessary to continuously observe what is happening in the market and the changes that are occurring. In this regard, the learning and development of people is a chief concern, including the development of leaders and succession planning, managing and delivering training programs, and creating career plans and challenging job opportunities (Schwartz, 2010).

According to a study carried out by Bersin from Deloitte (2010) having a strong learning culture can improve employee productivity by 37% whilst it is 32% more likely that the enterprise will be first in the market and with a 17% higher chance of becoming leaders in their market segment.

[2] Consult the previous sub-section: "Relevance of the research: Intellectual motivations".

From a managerial perspective, when an organization carries out a strategic reflection on its business followed by strategic planning, it is then time to unveil the strategy. In such a moment of rolling out the defined strategic plan, there is a need to identify the required resources and skills, some of which may be lacking within the organization. According to Matthews (2013), "The more skilled and knowledgeable the workforce and, crucially, the more capable they are of applying what they know, the greater the value of products and services produced and the more profitable the organization."

There are three ways in which these skills can be acquired: by internalizing them (by hiring or developing from within the company), cooperating with an external agent, or subcontracting. In these three scenarios, a learning organization can take advantage of the situation and extract and create knowledge from them.

In a learning organization there are specific mechanisms for individual learning, for sharing the existing knowledge and for taking advantage of people's knowledge to make business decisions and implement changes (Argyris, 1999; Garvin et al., 2008; Marquardt, 2011; Senge, 1990; Smerek, 2018).

For the organizational learning structures to be useful and support learning in the organization, they need to be aligned with the needs of the business. They need to support those business needs and, in turn, the learning needs should arise from there. Otherwise, the learning activity gets put aside, becomes disconnected from the business and fails to contribute to the enterprise's objectives in the way that it should (March, 1991; Paine, 2019b; Smerek, 2018). Having learning practices in place allows for identifying and covering the gap between desired and current performance. Moreover, it can contribute to the development of new business ideas or innovative solutions with the participation of employees (Edmondson & Singer, 2008), whilst it can also prepare employees for future roles that respond to the needs of the business.

With the aim of responding to the demands of an age of instability, learning practices should be agile, and so the learning set-up should be structured, yet flexible in order to address ongoing learning needs (Pedler et al., 1989, 1991). To do so, it is necessary for the participants to play an active role in the learning practices and to have sufficient autonomy to make decisions. Employees need to be supported, guided and directed if they are to learn efficiently (Argyris & Schon, 1981; Loermans, 2002b; Matthews, 2013; Pedler et al., 1989).

Moreover, learning becomes part of work and not just something to be done when the workload gets lighter or people have "free time" at work. What is more, in the development of people, there is a tendency towards being person-centered and not position-centered, and this will fluctuate as the enterprise's needs evolve. Thus, the focus is directed towards the person and his/her knowledge and skills as it is likely that he/she will have to change positions more often than not (Marquardt, 2011; Smerek, 2018).

Nowadays, organizational learning needs to work on the development of both individuals and teams, and this focal point allows for more agility (Laloux, 2014; Nerur et al., 2005; Shafiee & Shafiee, 2019). The importance of sharing comes from the need

to work as a team; the people that comprise the organization need to have a common vision as the complex environment requires complex responses that demand a mix of knowledge and skills that is difficult to find in just one person — and thus a team is needed (Shafiee & Shafiee, 2019).

In order for an organization to work towards being a learning organization with the aforementioned characteristics, then it is not only the learning practices occurring in the workplace that need to evolve, but also the activity of the Learning and Development (L&D) team (Matthews, 2013; Paine, 2019b; Smerek, 2018). More than ever before, there is a need for coordination with business leaders, that is, the L&D team can be a great support to them and vice versa. (Senge, 1990; Watkins & Marsick, 1999).

For the L&D team to play a strategic role, it needs to show results, that is, demonstrate that the learning strategy and structure they are working on really have an impact on the business and is worth developing. These impacts should be assessed to evaluate the success of the learning strategy and structure in place (Gottfredson & Mosher, 2010; Smerek, 2018).

Within this framework, this thesis aims to contribute towards both science and the organizations in need by analyzing a deliberate process designed to change the current Organizational Learning Structure of two enterprises (Laboral Kutxa S.Coop. and SENER S.A.). In particular, we designed a process aimed at addressing their need for agile development and the high-performance of their workforce, that is, an "Agile Development & High-Performance Ecosystem" (AD&HP Ecosystem).

1.3. RESEARCH OBJECTIVES

Within the context described previously, and encouraged by the intellectual and practical motivations explained in the previous sections, the main objectives of this doctoral thesis are as follows:

General Objective: To determine how the key foundations of an AD&HP Ecosystem is made tangible in two big size Basque enterprises.

For achieving this general objective, four specific objectives have been set:

Specific Objective no.1: To develop a theoretical AD&HP Ecosystem and define its foundations.

Specific Objective no.2: To compare and evaluate how the foundations of the AD&HP Ecosystem are inter-connected and influence each other.

Specific Objective no.3: To assess how the organizational culture affects making tangible the foundations of an AD&HP Ecosystem.

Specific Objective no.4: To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem.

CHAPTER 02

LITERATURE REVIEW

2. LITERATURE REVIEW

The literature gap that is being covered in this thesis – to determine how the key foundations of an AD&HP Ecosystem are made tangible — requires research into the existing literature in the field of organizational learning. This was the starting point for the literature review presented in this chapter (Figure 1). Within this topic, different theories and perspectives were found and those that are most relevant were explored in greater depth.

Within the topic of organizational leaning, further attention has been paid to the structures for supporting organizational learning, or organizational learning structures. The structure for supporting organizational learning has a direct impact on the learning process, since this is what defines how knowledge is integrated into work and interpreted in the organization (Nicolini & Meznar, 1995).

The same idea is supported by Martínez-León & Martínez-García (2011), when they state that a learning structure affects learning and an organization's ability to adapt, improve and innovate according to the environment. It affects how resources are exchanged and how communication occurs among the members of the organization and with external agents (Chen et al., 2007).

All the literature reviewed has led to the creation of the theoretical model of this thesis (Section 2.4., Figure 3) which, at the same time, sets the framework for a flexible yet structured OLS (Organizational Learning Structure) that supports a holistic Organizational Learning Strategy that helps the organization to gain a competitive advantage. This OLS has been named as Agile Development & High-Performance Ecosystem (AD&HP Ecosystem).

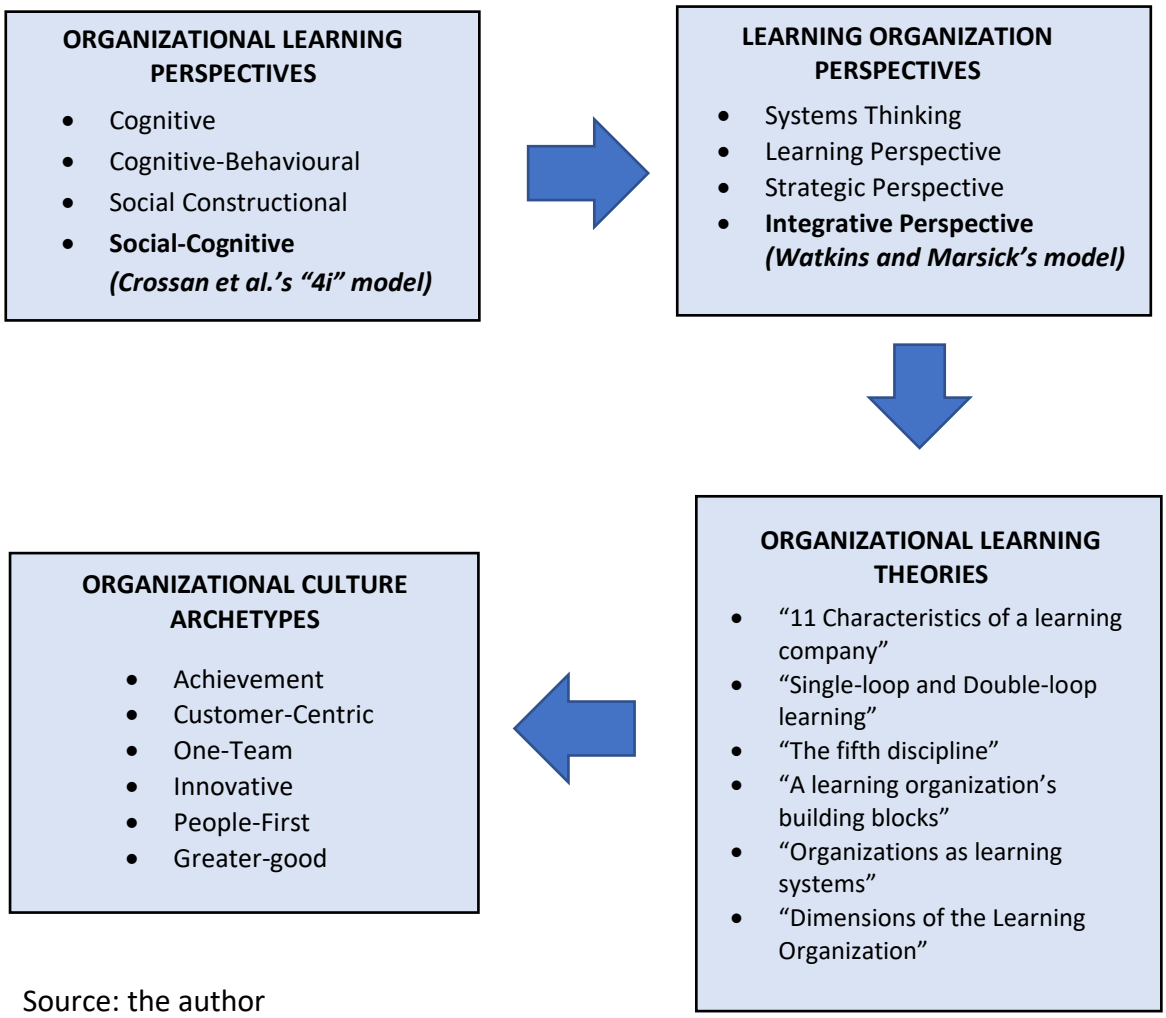
In Figure 1 can be seen how multiple theories from different fields have contributed to the creation of the theoretical model. From the "Organizational Learning Perspectives" this thesis is based on the social-cognitive perspective, the "4i" model (Crossan et al., 1999), prompting the idea that an AD&HP Ecosystem needs to have three levels of learning and should contribute to the exploration and exploitation of the business.

The "Learning Organization Perspectives", particularly the integrative perspective in which this thesis is set, shows the importance of having building blocks to sustain the Ecosystem.

For a further understanding of what the key aspects of the AD&HP Ecosystem should be, the works of a variety of key authors in the field of "organizational learning" were explored. From these readings, and after comparing all those theories, the key aspects of the AD&HP Ecosystem were selected and inter-connected in the framework (section 2.4.).

Last but not least, during the meta-learning of the data gathered in this research, one of the findings to emerge was the influence of the organization's culture on the OLS. This is why the organizational culture literature was searched, which revealed how the AD&HP Ecosystem should be integrated and aligned with the organization's culture.

Figure 1: Literature review, main theories



Source: the author

In the following sections, from 2.1 to 2.3. a deep analysis is presented of the four theoretical blocks that constitute the literature review of this thesis. After this, Section 2.4. presents the theoretical model that has been created from this literature review, which addresses the key foundations of an OLS that is expected to support agile development and high performance in the organization.

2.1. LEARNING ORGANIZATION AND ORGANIZATIONAL LEARNING: RESEARCH PERSPECTIVES

Before delving into the topic, it is necessary to understand the difference between "organizational learning" and "learning organization" because some scholars use the terms interchangeably (Werner, 2017). While a learning organization is a type of organization, a direction to work towards, organizational learning refers to the practices,

activities and processes set in place to become a learning organization (Loermans, 2002a; Lytras & Sicilia, 2005; Yeo, 2005).

There are numerous definitions and constructs when talking about **Learning Organizations (LO)**. Yang, Watkins, & Marsick (2004) have classified those definitions into four categories: Systems Thinking, Learning Perspective, Strategic Perspective, and the Integrative Perspective.

From a ***Systemic Thinking***, perspective Senge (1990) defines a Learning Organization as an organization that has an adaptive and generative capacity to create alternative futures. To do so, he considers that the organization should have five disciplines: mental models, team learning, shared vision, personal mastery and system thinking. Nevertheless, there have not been found observable characteristics that those organizations have.

From the ***Learning Perspective***, Pedler et al. (1991) hold the view that the LO is "…an organization that facilitates the learning of all of its members and continuously transforms itself in order to meet its strategic goals" (Pedler et al., 1991, p. 1). They have identified 11 areas that enable an organization to be a learning organization: having a learning approach to strategy, carrying out participative policymaking, informing, having formative accounting and control, encouraging an internal exchange, rewarding flexibility, enabling structures, having boundary workers as environmental scanners, ensuring intercompany learning, setting a learning climate, and supporting self-development for everyone.

The scholars with a ***Strategic Perspective*** support the idea that being a learning organization requires an understanding of which strategic internal drivers are needed to build the capability for learning. Garvin (1993) stated that a learning organization is "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights" (Garvin, 1993, p. 80)

From the ***Integrative Perspective***, Watkins & Marsick (1993, 1996) define a learning organization as "one that learns continuously and transforms itself. ... Learning is a continuous, strategically used process—integrated with and running parallel to work" (Watkins & Marsick, 1996, p. 4). Their learning organization model integrates two main constituents of an organization — the people and the structure. This model includes seven interrelated dimensions that are applied at individual, team and organizational learning levels, that is, the dimensions of the Learning Organization.

This thesis is aligned with the Integrative Perspective of a Learning Organization. Furthermore, in the theoretical model of the this thesis are included the main constituents of Watkins & Marsick's (1993, 1996) models — people and structure, a structure that supports the individual, team/group and organizational levels of learning.

Aligned with the Integrative Perspective, the focus of this thesis is based on the organizational learning approach, that is, establishing the foundations of an OLS that is able to support a particular organizational learning strategy.

The topic of **Organizational Learning (OL)** was first studied back in 1963 by Cyert & March (1963) who examined the topic from the ***Behavioral Perspective*** of the organization. They considered organizational learning as the means by which an organization is adapted (based on experience) to the changes going on in the environment. In the behavioral theories of organizations, these were considered as something more than just simple transactions or production functions.

Throughout the years, many other learning theories have been developed in the field of organizational learning which have emerged from cognitive and behavioral perspectives (Table 1). The former focuses on what organizational learning is and how it occurs, whereas the latter studies how organizations actually learn.

Nevertheless, in more recent years researchers have taken adopted new perspectives, including the Social-Constructive and Social-Cognitive Perspective (Hariharan & Vivekanand, 2018). This occurred in the 90s' when Crossan, Lane, & White, (1999) suggested the "4i" model — Intuiting, Interpreting, Integrating, and Institutionalizing.

Table 1: Organizational Learning research perspectives

ORGANIZATIONAL LEARNING RESEARCH PERSPECTIVES	THE PERSPECTIVE
Cognitive	Learning requires individual cognitive change.
Cognitive-Behavioral	Individual Insights lead to new behavior and new behavior leads to new insights, that is, a change in cognition.
Social-Constructive	There is a continuous social activity and communication among individuals. This implies a behavioral change although it is not always visible.
Social-Cognitive	There are individual cognitive and behavioral changes that are affected by social interactions.

Source: the author, adapted from Hariharan & Vivekanand (2018)

The researchers who work with a purely ***Cognitive Perspective*** of organizational learning argue that organizational learning is about growing new insights by reviewing the existing assumptions, causal maps, and interpretive schemas within the organization (Friedlander, 1983; Huber, 1991; Kim, 1993a).

From this perspective, organizational learning includes the idea that the individuals of the organization experience changes in their cognition. Furthermore, it involves human information processing based on the acquisition, formation, storing, manipulation, discarding, and implementation of information (Akgun et al., 2003).

Huber (1991) – an author working from a purely cognitive perspective of organizational learning - argues that an organization learns when "any of its units acquires knowledge that it recognizes as potentially useful to the organization" (Huber, 1991, p. 89).

According to Fiol & Lyles (1985) – some of the authors that adopt the same perspective – the difference between cognition and behavior is the fact that cognitive change is actual learning, whereas behavioral change is adaptation. And, a change in behavior does not always imply a change in cognition (Friedlander, 1983). Nevertheless, for a change to be considered as organizational learning, it is necessary that individual learning includes both cognitive and behavioral change (Inkpen & Crossan, 1995).

Researchers working from a ***Cognitive-Behavioral Perspective*** believe that learning consists of those insights that guide behavior or those behaviors that lead to new insights (Argyris, 1977; Cangelosi & Dill, 1965; Crossan et al., 1999; Garvin, 2003). Unlike the purely cognitive perspective, both cognitive and behavioral aspects are central to this approach.

According to Simon (1991), individuals act on behalf of the organization and as they learn they change their cognition, resulting in a change in individual and organizational behaviors. Nevertheless, for these behaviors to be long-lasting it is required that the individual learning does not occur in a forced way, but convinced (Inkpen & Crossan, 1995).

The ***Social Constructional Perspective*** of organizational learning considers that learning in an organization is an integral part of an employee's everyday life at the organization and the work that takes place therein (Nicolini & Meznar, 1995).

According to Edmonstone (2017), organizational learning is a way to increase the ability of various parts of the organization to communicate with each other. For Brown & Dugid (1991) this involves the continuous social activity between the individuals of the organization in the workplace. Furthermore, organizational learning does not always result in a visible behavioral change (Cook & Yanow, 1993).

These last two aspects are the main differences when compared with the cognitive and cognitive-behavioral perspectives.

Researchers working from a ***Social-Cognitive Perspective*** of organizational learning include the cognition and behavior of individuals, and the social interactions among them. This approach can be a regarded as a hybrid of the previously described perspectives.

According to this perspective, individual cognitive change is affected by interactions with other individuals and the environment, including the organization's routines, norms, and culture (Akgun et al., 2003). This approach takes into account the individuals' interpretation and construction of their social environment (Gioia & Sims, 1986; Weiner et al., 1983). Furthermore, this perspective analyzes the process through which the information is acquired, stored, transmitted and used for creating intellectual products (Larson & Christensen, 1993).

This doctoral thesis is aligned with the social-cognitive perspective, which, in comparison with the other three perspectives, includes a holistic approach towards organizational learning that includes cognition, behavior, and social interaction.

This approach was chosen because the fact that the current complex and rapidly-changing environment is competitive requires a holistic approach towards learning and, an organization that develops its organizational learning strategy following this perspective will obtain a more holistic and complete strategy. Furthermore, this school of thought is aligned with the focus of the two enterprises in which action research was conducted with the aim of improving the social, cognitive and behavioral aspects of their current organizational learning structure.

Specifically, this research is based on Crossan et al.'s (1999) “4i” framework, which follows that perspective of organizational learning.

Crossan et al. (1999) developed a model that is primarily concerned with the organization’s strategic renewal. These authors support the suggestion of March (1991) regarding the strategic renewal of an organization, that is, the need to explore and learn new ways, as well as exploit and take advantage of what they have already learned. This entails the challenge of managing both activities of exploring and exploiting, which is a key requirement in organizational learning (Crossan et al., 1999).

They support the idea proposed by Duncan & Weiss (1979) that a renewal strategy affects and includes the whole organization — not just certain groups or individuals, and it should be taken into consideration that the organization operates in an environment, or a system, and is not isolated from what occurs outside its boundaries. The main contribution of these authors is the 4I model and the feed-forward and feedback concepts for supporting the exploration and exploitation of learning.

The 4I model consists of the social and psychological processes that occur at the three levels of learning: individual, group and organizational. Individuals intuit a new knowledge; groups intuit and interpret the new knowledge, and the organization interprets and institutionalizes the new knowledge.

Intuiting is about an individual recognizing new possibilities or patterns. Interpreting consists of redefining and developing intuitive insights, which is much stronger when it is carried out by communicating and having conversations with others.

Institutionalizing begins when the interpretations of a group or various groups in the organization are integrated into their way of working under a shared understanding. Those changes that are successful are implemented informally at first, but they eventually lead to the establishment of formal rules, procedures, or routines that become embedded into the workflow and become institutionalized. They become part of “how things are done” in the organization. The 4I-s makes the connection between the three levels of learning (individual, group, and organizational).

The feed-forward and feedback concepts for supporting the exploration and exploitation of learning support the idea of organizational learning as a dynamic process.

This requires working on the assimilation of new learning and the exploitation of the knowledge that has already been learned.

Feedforward is about sharing the individual knowledge with others by making their ideas and actions flow within the group at an organizational level, whereas the individuals and groups get feedback from the organization about what has already been learned. This affects how the individuals and groups will act from now on.

This theory is, to a certain extent related to Argyris & Schon's (1978, 1981) ***Single-Loop and Double-Loop Learning*** (Table 2). For Argyris & Schon (1978, 1981), organizational learning is a process of detecting errors and correcting them by changing organizational theories curently in use. Learning is considered to be a change in the collective mind of the organization through dialogue and inquiry.

Argyris & Schon (1981), however, argue that there can be no organizational learning without individual learning, although having individual learning does not ensure organizational learning. Moreover, individuals should be encouraged to be responsible for their own professional development.

Furthermore, it is necessary for individuals to transfer their knowledge to the organization's memory in the form of, procedures, rules, shared mental models, and culture. For this to happen within an organization, the organizational climate needs to be one that encourages change.

Table 2: Crossan's "4i" model and Argyris Single and Double loop learning

CROSSAN'S "4I" MODEL	ARGYRIS' SINGLE AND DOUBLE LOOP LEARNING
Exploitation of learning: this concerns taking advantage of the knowledge that has already been learned. Individuals and groups get feedback from the organization about what has already been learned.	**Single loop learning**: This is focused on incremental learning and includes reflecting on mistakes on order to correct errors and focus on continuous improvement.
Exploration of learning: this concerns the assimilation of new learning. It implies sharing individual knowledge with others by making their ideas and actions flow within the group and at an organizational level.	**Double-loop learning**: This seeks to find the real cause of a situation, even if this requires looking into organizational assumptions and goals. Further, it encourages cognitive and behavioral change.

Source: the author, adapted from Crossan et al. (1999) and Argyris & Schon (1981).

The main contribution of Argyris & Schon (1978, 1981) is the "Single-loop and Double-loop learning" as learning levels, which is related to Crossan et al.'s (1999) exploitation and exploration of learning. **Single-loop learning** is considered to be a form of adaptive learning, the more basic form of learning that occurs by reflecting on the organization's assumptions about itself and the environment (Prahalad & Bettis, 1986). This learning is usually concerned with particular issues, involving sequential and incremental learning

focused on the organization's current activities. This entails reflecting on mistakes in order to correct errors and focus on continuous improvement.

Double-loop learning or generative learning, instead looks for the real cause of a situation, even if this requires closer scrutiny of organizational assumptions and goals. It encourages cognitive and behavioral change by examining the underlying causes of a situation, and is used when new strategies or ideas are needed (Harrison, 2000).

As an **outline of the literature review so far**, this thesis supports an integrative perspective of a learning organization where the organization "…learns continuously and transforms itself…Learning is a continuous, strategically used process—integrated with and running parallel to work" (Watkins & Marsick, 1996, p. 4).

Furthermore, concerning the organizational learning perspective, this work is sympathetic with the social cognitive perspective that seeks to achieve social cognitive and behavioral change, and is specifically aligned with Crossan et al.'s (1999) "4i" model and the feed-forward and feedback concepts.

The key aspects of Crossan et al.'s (1999) "4i" model have been included as premises of the theoretical model adopted in the work of this thesis (Section 2.4.):

- **Premise 1:** there are three integrated levels of learning: individual, team, and organizational. These types of learning are inter-connected and lead to cognition and behavioral change, and include the concepts proposed by Crossan, Lane, & White's (1999) 4I-s model: intuiting, interpreting, integrating, and institutionalizing.

- **Premise 2:** the ecosystem supports the exploration and exploitation of learning (assimilating new knowledge and taking advantage of what has already been learned), which are supported by feed-forward and feedback processes in the three levels of learning (see Premise 3, Section 2.2.).

According to the Integrative Perspective of Learning Organizations, it has been observed that both the people and the structure need to be taken into account. In Watkins & Marsick's (1996) learning organization perspective, apart from the proposal that learning takes place at three levels, they include seven interrelated dimensions that such an organization should contain.

For this reason, the following section will analyze different organizational learning theories with the aim of identifying what the building blocks of an OLS should be if it is able to support the two perspectives of this thesis within the context explained in the previous chapter (Chapter 1).

2.2. ORGANIZATIONAL LEARNING THEORIES

The previous section defined the research perspectives that form the basis for the work presented in this thesis. These perspectives provide the starting point for defining the key aspects of a flexible yet structured OLS that will holistically support the organization's competitive advantage. To move forward, it was considered of interest to analyze some of the most relevant theories about learning organizations and organizational learning in order to identify the necessary building blocks for the success of such an OLS.

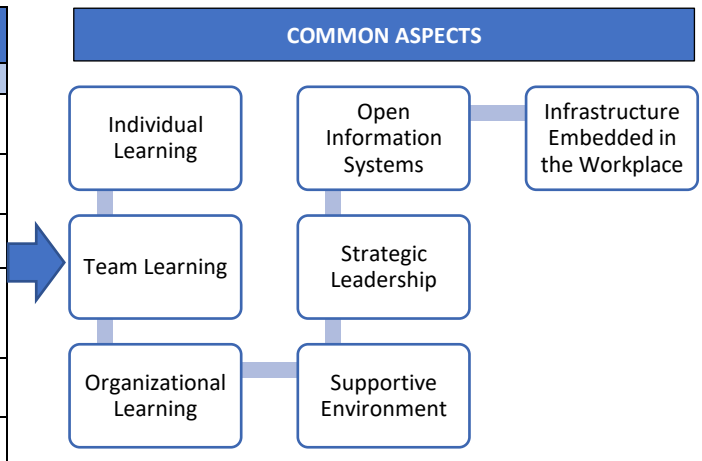
From that analysis, it has been possible to identify some concepts that are discussed in all or most of them (Figure 2); individual learning; team learning; organizational learning; open information systems; strategic leadership; supportive environment, and Infrastructure embedded in the workplace.

One of the first things that was noticed when studying these theories is the fact that there is no single definition of LOs, an observation that was also made by Garavan (1997). Cyert & March (1963) used the term "learning organization" for the first time to describe the adaptive behavior of an organization. Subsequently, Senge popularized this term by saying that a LO is "a group of people who are continually expanding their capacity to create the results they truly desire toward common goals" (Senge, 1990, 2004).

In general terms, scholars have agreed that a LO is "a process that unfolds over time and link it with knowledge acquisition and improved performance" (Garvin, 1993), but, as yet, there is no complete standard definition.

Figure 2: Learning Theories, common aspects

ORGANIZATIONAL LEARNING THEORIES	
Authors	Theory
Pedler et al., 1989, 1991	"11 Characteristics of a learning company"
Argyris, 1999; Argyris & Schon, 1978	"Single-loop and Double-loop learning"
Senge, 1990, 1994	"The fifth discipline"
Garvin, 1993; Garvin et al., 2008	"A learning organization's building blocks"
Nevis et al., 1995	"Organizations as learning systems"
Watkins & Marsick, 1993, 1996	"Dimensions of the Learning Organization" (DLOQ)



Source: the author

Delving further into LOs, according to Watkins (2016b) an organization that pursues continuous learning at three main levels — individual, team and organizational — enables the development of complex and varied responses that the current market requires. Burgoyne, Pedlar, & Boydell (1994) argue that the LO is the "…one which facilitates the learning of all of its members and continuously transforms itself". In this sense, Senge (1990) defends the idea that an organization does not learn unless its ***individuals learn***, that is, when individuals with a high level of personal mastery are in continuous learning mode and whose mental models are those based on curiosity regarding change and advancement.

Mental models are those "deeply ingrained assumptions, generalizations, or even pictures and images that influence how we understand the world and how we take action" (Senge, 1990). Each individual is first required to develop their own picture of the world to be open to the mental models of others and to improve his/her own. This facilitates change and progress.

Similarly, Argyris & Schon (1981) argue that there can be no organizational learning without individual learning, although having individual learning does not ensure organizational learning. Nevis et al. (1995) also support this idea; they consider that organizations learn through the learning of its individuals, and organizations need to be learning systems if they want to survive in a global and dynamic business market.

According to Garvin (1993), in a LO, individual development itself is pursued, which, according to Pedler et al. (1991), concerns the development of all individuals. As agreed by Nevis et al., (1995) and Senge (1990), in order a LO or OL to occur, there must be an ongoing lifelong learning mindset in the enterprise, both in its culture and its individuals. Moreover, individuals should be encouraged to be responsible for their own professional development. Pedler et al. (1991) argue that there should be self-development opportunities for all individuals, with the required resources and facilities within reach.

As previously stated, in order to develop complex and varied responses required by the current market (Watkins, 2016b) individual learning alone is not enough; there is also a need for team and organizational learning. In this sense, Pedler et al. (1991) claim that an OL requires individuals to share their learning and knowledge in a collective system.

According to Senge (1990), ***team learning*** includes the alignment and development of the teammates' capacities. It is "the process of aligning and developing the capacities of a team to create the results its members truly desire" (Senge, 1990). It enables people to grow faster than would otherwise be possible if they were engaged in the process individually, since making people interact in a group encourages greater learning than that achieved by the sum of its parts. Similarly, Watkins & Marsick (1993) stated that team learning refers to the encouragement of a "spirit of collaboration and the collaborative skills that undergird the effective use of teams" (Watkins & Marsick, 1996, p. 6), with the aim of achieving cross-unit learning.

Aligned with the work of those authors, Pedler et al. (1991) argue that individuals learn in a collective system where the new knowledge acquired by individuals is shared, having a greater impact than if it was not shared.

And the learning that is shared is not just that generated within the organization, since Pedler et al. (1991) argue that individuals with external contacts can gather information from the outside and bring the knowledge into the enterprise by sharing it with colleagues. And they also share information and learn with key external agents, such as customers or suppliers. For Garvin et al. (2008), sharing should occur among individuals, groups, and across the whole organization, vertically and horizontally, with internal and external people.

Nonetheless, beyond individual and team learning, for ***organizational learning,*** Argyris & Schon (1981) argue that it is necessary for individuals to transfer their knowledge to the organization's memory in the form of, procedures, rules, shared mental models and culture. Senge (1990) emphasizes the idea that the ability to learn as an organization is vital for its survival and maintenance of a competitive advantage. Further, he claims that organizational learning occurs when "…new and expansive patterns of thinking are nurtured, where collective aspiration is set free, where people continually expand their capacity to create the results they truly desire, and where people are continually learning how to learn together" (Senge, 1990).

Another key aspect of LOs was presented by Garvin in 1993. He suggested five building blocks of a learning organization which, were subsequently updated by Garvin et al. (2008). One of these is to have a ***supportive environment***. Having a supportive learning environment includes psychological safety, appreciation of differences, openness to new ideas, and time for reflection. Employees cannot fear learning, or making mistakes, whilst asking naive questions cannot be a reason to marginalize or punish. Differences should be embraced since this encourages fresh thinking and motivation; opening up to new ideas is required for innovation, and this in turn requires risk-taking and exploration of the uncertain (Garvin et al., 2008).

Moreover, reflecting is highly necessary for diagnosing problems in processes and learning from experience, but overloaded or highly stressed employees cannot take advantage of learning from experience. An environment should encourage reflection, if there is the time and space to do so (Garvin et al., 2008).

As claimed by Pedler et al. (1989), a learning environment should support the creation of a community of learners, ensuring that individual learning enriches the organization as a whole. This is strongly linked to what the organization's culture enables, and in this case it should facilitate a learning climate that encourages experimentation, learning, and development from both successes and failures (Pedler et al., 1991).

As shown by Garvin et al.'s (2008) third building block, a ***leaders' behavior*** profoundly influences the behavior of their team. In a LO, a leader should actively ask questions and listen to employees, which encourages learning. They should show (with his/her behavior) the importance of diagnosing problems and transferring knowledge, ideas and opinions and should encourage employees to take unexpected approaches to problems.

According to Watkins & Marsick (1996), leaders should "think strategically about how to use learning to create change and to move the organization in new directions or new markets" (Watkins & Marsick, 1996, p. 7). They should, in short, become role models.

Furthermore, as far as Senge (1990) is concerned, organizational learning includes building a shared vision which is about having a "…shared picture of the future we seek to create" (Senge, 1990). It supports the idea of having a genuine, long-term, shared, vision and encourages experimentation and innovation. It encourages people to learn and excel in achieving their goals, rather than being obliged to do so by others, In this discipline, the role of the leader is critical.

In the words of Watkins & Marsick (1996) one key aspect to be developed and supported in a LO is "to cultivate a learning habit in people and in the culture so that a spirit of inquiry, initiative, and experimental thinking predominates and, last but not least, to regularly audit the knowledge capital on the organizational and progress toward eliminating barriers to learning" (Watkins & Marsick, 1996, pp. 282–283). A culture that promotes inquiry and dialogue is needed, that is, a culture where questioning, feedback and experimentation occur (Watkins & Marsick, 1996).

Last but not least, Pedler et al. (1991) stated the importance of *having* ***open information systems****, or* having the required flexible, adaptive and temporary structures to assist both individual and group learning. These are information systems where individuals can easily access information about the organization's norms, goals, and processes.

Related to this, Watkins & Marsick (1996) in their "Dimensions of the Learning Organization" argue that a LO needs to have its learning ***infrastructure embedded***, an infrastructure that encourages the creation, capture, and dissemination of knowledge — an infrastructure that supports the integration of people and structures in order to move forward through a process of continuous learning and change.

2.2. THE FOUNDATIONS OF AN AGILE DEVELOPMENT & HIGH-PERFORMANCE ECOSYSTEM

Analysis of the six theories about organizational learning in the previous section revealed those aspects that are common to all or most of those theories. This is considered positive as it highlights the key aspects of a successful organizational learning activity.

Thus, this section presents and further develops those aspects that are aligned with the social-cognitive approach of this thesis. Moreover, these are the aspects that will constitute the foundations of the AD&HP Ecosystem, the OLS in which this thesis is framed, which includes individual learning; team learning; organizational learning; formal and informal learning practices; safe and encouraging learning environment; strategic leadership and L&D's role change; user-friendly systems and resources, and an ecosystem integrated into the workflow.

First, three main levels of learning have been presented. As stated in the "4i" framework by Crossan et al., (1999) and supported by other authors (Marquardt, 2011; Revans, 1980; Watkins & Marsick, 1996) organizational learning occurs at three primary levels: individual, team, and organizational.

Individual learning requires learning opportunities and dialogue and, although in itself it does not ensure organizational learning it is necessary for the latter to occur (Argyris, 1995; Senge, 1990). Team learning, instead, requires knowledge sharing and having a common goal of continuous improvement (Garvin et al., 2008; Watkins & Marsick, 1996); whilst organization learning is concerned with embedding the new tested routines, rules, and procedures by institutionalizing them (Crossan et al., 1999).

The three levels of learning include an interaction or connection with agents from inside and outside the organization's boundaries as a source of knowledge. This includes customers, suppliers, competitors, companies in other industries and those with whom the enterprise has a collaborative or ally relationship (Garvin, 1993; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

Some authors consider this connection with external agents to be a fourth level, that is, inter-organizational learning (Nonaka, 1991; Nonaka & Takeuchi, 1995). In this thesis, however, this fourth level has been included as an aspect that is transversal to the other three levels as it is considered to be a natural part of them.

2.2.1. INDIVIDUAL LEARNING, INTUITING AND INTERPRETING

When talking about individual learning within an organization, reference is made to personal mastery, to having a ***lifelong learning mindset*** (Nevis et al., 1995; Senge, 1990). The aim of this is for the individual to have the opportunity to continuously learn and improve their competitiveness, to question their deepest assumptions and their everyday performance at work (Argyris & Schon, 1981; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

A lifelong learning mindset should focus on developing an individual's skills and knowledge so that they can perform better in the workplace, both currently and in the future, and in alignment with corporate strategy (Argyris & Schon, 1978, 1981; Matthews, 2013; Nevis et al., 1995). This will make them more competent in both their current and future roles, with an emphasis on ***upskilling and reskilling***.

From the cognitive perspective and according to Crossan et al.'s (1999) "4i" framework, individuals intuit and interpret new knowledge. Intuiting is a subconscious process of identifying past or future patterns which make the individual an expert (past-focused) or entrepreneur (future-focused). This is also related to Nonaka & Takeuchi's (1997) acquisition of new explicit knowledge and making it tacit when internalizing it. The internalization of knowledge occurs when the new knowledge becomes tacit for the individual.

The interpretation of new knowledge is a conscious process where the individual draws cognitive maps in knowledge domains (Huff, 1990). This process enables the individuals to explain what they know in order to make it explicit (Crossan et al., 1999).

From the behavioral perspective, individual learning is also related to performance. And although learning does not correct all performance problems, it does help to solve some of them (Gilbert, 1982a, 1982b; Rummler & Brache, 1990). Gery (1991), the first author, when talking about performance support, argued that individuals should be provided with "individualized on-line access to the full range of systems to permit job performance" (Gery, 1991, p. 21).

Furthermore, an OLS should encourage having ***self-directed learners***. The notion of self-directed learning was first introduced by Knowles (1975) when talking about andragogy, presenting it as an inherent part of adult learning. It was also talked about by Candy (1991), where self-directed learning was linked to lifelong learning — how adults learn beyond formal school for developing the required knowledge and skills for life.

Self-directed learning requires some internal motivation for learning, from curiosity to job requirement or satisfaction of accomplishment (Knowles, 1975). Furthermore, it is related to self-regulated learning (Winne, 2001) and self-determination theory (Zimmerman, 1998) which require — apart from intrinsic motivation — goal-oriented behavior and an active engagement with learning.

Moreover, engaging in self-directed learning requires the individual to be responsible for his/her own learning and professional development (Argyris & Schon, 1981; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990). A self-directed learner also needs to have autonomy and to feel connected and supported by others (Ryan & Deci, 2000). Being supported and guided will allow for avoiding over-saturation and irrelevant or non-productive learning, which is particularly important, given the considerable amount of information that is available on the Internet. This is the way to avoid inefficient approaches (Matthews, 2013).

This support and guidelines should particularly come in the form of identifying learning needs, planning and implementing learning activities, monitoring and evaluation the learning process and outcome and, strategies for meta-learning (reflecting on one's performance to identify improvable areas), (Akbulut & Cardak, 2012), as well as offering the necessary resources to actually carry out self-directed learning (Lohman, 2009).

Self-directed learning is a clear contributor to being a ***dynamic learner***, that is, to be fast, to be ready to adapt, to collaborate and to learn in a self-directed way whenever necessary (Matthews, 2013). This autonomy of such a learner makes it easier for him/her to be more agile and dynamic in their learning process.

2.2.2. TEAM LEARNING: INTERPRETING AND INTEGRATING

Team learning is about ***developing team intelligence and abilities***; it is about creating new knowledge which goes beyond sharing individual knowledge or a sum of its parts (Fiol & Lyles, 1985; Senge, 1994).

In team learning there is a collective decision to change and improve. Individuals in the team act and adapt by reflecting on the feedback they receive (Edmondson, 2003). Individuals open up to others with their ideas and experiences (positive and negative), including team members, other departments, colleagues, customers, and suppliers (Garvin, 1993; Garvin et al., 2008; Pedler et al., 1989).

Team learning facilitates more rapid individual learning and it requires conversations and collective thinking (Senge, 1990). Individuals share their knowledge with the team, take part in a collective discourse and expand their professional capacity by having a shared sense of purpose, and initiate positive conflict if there is disagreement (Mitchell & Sackney, 2000). This contributes towards a collective resolution of problems and the search for innovative solutions.

Nevertheless, ***sharing individual learning*** is also part of team learning and it contributes to cross-unit learning (Watkins & Marsick, 1993; Watkins, 2016a). Learning in organizations is often related to social interactions and experiences, working in teams, having a network among peers and having mentoring programs. These are activities that enable the transfer and co-creation of knowledge among individuals, groups and the whole organization, with internal and external agents or communities (Fuller & Unwin, 2004; Wenger, 1998). The more the knowledge flows, the higher its impact (Garvin, 1993; Garvin et al., 2008; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

From the cognitive perspective and according to Crossan et al.'s (1999) "4i" framework, team learning includes the interpretation and integration of knowledge. Interpreting in team learning is similar but different to that of individual learning. Whilst individual learning involves the conscious process of creating cognitive maps about knowledge domains, team learning is concerned with creating those cognitive maps, but for the whole group, by creating a common understanding (Crossan et al., 1999; Daft & Weick, 1984).

This common understanding leads to the integration of knowledge; it implies that the changes that have occurred in the individuals' understanding and actions become integrated and bring about changes at the group level. This requires a common understanding within the group members, which occurs by having continuous conversations and shared practices (Seely-Brown & Duguid, 1991).

It includes individuals sharing their tacit knowledge with others by socializing or externalizing it and the individual internalization of new knowledge, making it part of his/her own tacit knowledge (Nonaka, 1991, 1994; Nonaka & Takeuchi, 1997).

This aspect of knowledge sharing as part of team or team learning is strongly linked to the idea of "***Community of Practice***" (CoP). CoP is based on the idea that learning only

occurs when participating in social practices or communities of practices (Wenger, 1998). In communities of practice people come together to share their interests or profession and these can be set up formally or can evolve naturally. The aim of these is to share knowledge among the participants for developing themselves.

In the same way, what is known as "Expertise Development" is related to the knowledge sharing aspects of team learning. The process of becoming an expert requires acquiring and accumulating an amount of knowledge and skills that tends to go through the following four stages (Dreyfus & Dreyfus, 1986): novice, advanced beginner, competent proficient and expert. Ericsson (2006) showed the importance of having a deliberate and systematic practice for performance improvement and development to achieve expertise.

2.2.3. ORGANIZATIONAL LEARNING: INTEGRATING AND INSTITUTIONALIZING

According to Crossan et al.'s (1999) "4i" framework, organizational learning is about embedding the new tested routines, rules and procedures by ***institutionalizing*** them. The previous step to this is the transfer of learned knowledge to the job where individuals and teams use the newly acquired knowledge and skills to improve performance (Boud & Garrick, 1999; Craig, 1996). This transference then results in new procedures, products, structures, strategies, and systems (Argote & Miron-Spektor, 2011).

Unless these new rules and procedures are institutionalized, they do not become part of the organization itself and it will always depend on its individuals and work groups. Furthermore, the institutionalization of those rules and procedures will contribute to its competitiveness as it is ongoingly improving its exploitation and exploration activity (March, 1991; Smerek, 2018).

Another key contribution of organizational learning is ***making knowledge flow through Knowledge Management***. Various authors claim that organizations learn through individuals who act as agents to create knowledge (Argyris & Schön, 1978; Fauske et al., 2005; Kim, 1993b; Nevis et al., 1995; Edgar H. Schein, 1996; Simon, 1991).

However, this does not become organizational learning until the information is shared and stored in organizational memory in such a way that it may be transmitted, accessed and used for organizational goals (Cyert & March, 1963, 1992; Kim, 1993b). This means that the organization does not depend on any particular individual's knowledge as it becomes part of the organization's knowledge (Spender, 1996).

For this reason, one of the main aims of organizational learning practices is to identify all of the existing knowledge within and outside the enterprise in order to disseminate it among the professionals of the organization — both teams and individuals (Jensen, 2005) and to create interaction between the individuals, teams, or departments, along with external agents (Wang & Ahmed, 2003).

Argote & Ingram (2000) argued that existing knowledge is embedded in members, tasks, tools and the networks between them. Task-task involves the routines and processes of the organization; tool-tool refers to the relationship between the organization's tools and systems; member-task refers to which member performs which task; member-tool denotes which member uses which tools and systems; whilst task-tool refers to what tools are used to perform a task.

Thus, knowledge management is part of organizational learning. What is more, various authors argue that knowledge management should be integrated into an organization's learning structure (Cheng et al., 2014; Lytras & Sicilia, 2005; Marshall et al., 2003; Ramírez et al., 2011; Sampson & Zervas, 2013; Wild et al., 2002). Indeed, for an organization to be an efficient learning entity and be able to learn, work and innovate, it is necessary to coherently manage the existing knowledge and learning activities (Cheng et al., 2014).

Further, knowledge management in organizations is an area of research in its own right and some theorists (Pedler & Burgoyne, 2017) argue that it represents the evolution of the Learning Organization research area. This research has made use of Nonaka & Takeuchi's (1995) understanding of knowledge management, one of the first authors in the field, and possibly one of the most popular and widely cited authors in Knowledge Management (Nonaka, 1994; Nonaka et al., 1996, 2000; Nonaka & Takeuchi, 1995).

According to Nonaka & Takeuchi (1995), knowledge management is the group of practices for individuals to "…create, represent, share and distribute knowledge to achieve common goals" within an organization (Nonaka & Takeuchi, 1995). And, for an efficient management of knowledge they suggest the "SECI model" or "Spiral of Knowledge" which consists of socializing tacit knowledge between individuals; externalizing the tacit knowledge making it comprehensible for others; combining different sources of explicit knowledge in a systematic way; and internalizing the explicit knowledge making it meaningful for the person acquiring it, that is, managing the existing knowledge coming from the inside or outside the organization's boundaries for creating new knowledge (Nonaka & Konno, 1998).

Apart from knowledge management, according to Paine (2019a) an organization's learning strategy should be aligned with the ***organization's corporate strategy and culture***, that is, aligned with the corporate objectives, business language and the KPIs used to track progress. It needs to be aligned with an individual's knowledge and skills needed in regard to their current and future strategic role in the organization.

To do so, an organization's learning strategy should be timeless (Paine, 2019a)**.** In other words, it should offer "just in time" learning; the learning that is needed at that moment in order to fulfill the individual's expectations and needs, offering valuable learning resources for the people in need at the exact moment at which it is required.

Being aligned with the corporate strategy also requires a contribution to business activity. March (1991) holds the belief that organizational learning occurs when the effort is made to maintain an equilibrium between exploration and exploitation, or when seeking to improve performance for better exploitation of the business activity

and, through the development of future needs, supporting the exploration activity of the business (March, 1991; Smerek, 2018).

Although it is challenging to develop both exploitation and exploration in an enterprise (since exploitation usually takes up much time and attention), exploration is essential for having a long-term vision (Edmondson, 2003; Edmondson & Singer, 2008; March, 1991; Moingeon & Edmondson, 1996; Senge, 1990).

2.2.4. FORMAL AND INFORMAL LEARNING PRACTICES

Apart from the three levels of learning, another fundamental aspect of the AD&HP Ecosystem is being able to take advantage of all types of learning practices, which are commonly classified as formal and informal learning practices. This enables the organization to benefit from the contribution of all types of learning practices within individual, team, and organizational learning.

Although barely mentioned in the previous section (in the LO and OL theories), it was considered necessary to explore certain theories that could explain the characteristics of learning practices in organizations in order to identify the main features that should be considered when designing them. In this case, the learning practices are understood under the premises of the following three theories: situated or contextualized learning; workplace learning, and experiential learning.

Situated or contextualized learning supports the idea that learning is more effective when it occurs in a situated context. Learning within a context helps the learners to better understand the knowledge and skills and to have a clearer idea on when to use them. It is considered that the situation and cognition are interdependent; the cognitive component of learning occurs in a physical and social context where knowledge is created and implemented (Brown et al., 1989; Lave & Wenger, 1991).

In an organization, compared to school, learning occurs in a real context where the employees need to perform and adapt to both the current and forthcoming work scenarios. This connects to the next theory, that is, Workplace learning.

Workplace learning refers to learning in, for, and through the workplace (Evans et al., 2006). This concept is strongly related to organizational learning to the extent that they are both set in the organizational context where the individuals learn and develop within the workplace. While in school, learning occurs mainly through formal and planned activities, workplace learning happens mainly due to informal practices while working (Tynjälä, 2008).

Workplace learning is inevitably related to experiential learning, since learning at the workplace implies learning while working, while carrying out a task or performing a role.

Experiential learning is based on the idea that knowledge is created through learning in the transformation of experience (Dewey, 1938; Kolb, 1984). It implies that all learning occurs through experience. In this sense, Kolb (1984) suggested that experiential

learning is a cycle that includes the following four stages of learning: having an experience; making a reflective observation of the experience; making an abstract conceptualization by connecting the experience with the theory; and being engaged in active experimentation, that is, testing out the learning in new situations.

The learning practices in an AD&HP Ecosystem should be built on the basis of these three theories about learning, including both formal and informal learning activities. In 2009, Marsick, Watkins, Callahan, & Volpe (2009) argued that for the employee's development it is necessary to put in place a learning structure or architecture that includes formal, informal and incidental learning opportunities.

Formal learning activities are those that are formally planned and structured by the organization, activities that have a clear aim with pre-defined topics to be learned (Ellinger, 2005). ***Informal learning*** activities, however, are less structured (or unstructured), experiential, social, on-demand (the individuals engage with it when knowledge is needed to do their work) and naturally embedded into the workflow (Bersin, 2009).

Incidental learning is also a subset of informal learning, which is unplanned and results from a chaotic context and social interaction (Perrin & Marsick, 2012; Watkins et al., 2018). In these types of activities, individuals learn through direct experiences, training, dialogue, and observation (Salas et al., 2008).

While formal learning is situated in a classroom, informal learning refers to the learning that ubiquitously takes place outside of the classroom (Watkins, 2016b). Learning within classrooms does not fully support a continuous learning attitude. Whilst it contributes to an individual's acquisition of knowledge and skills, it does not support dialogue and inquiry and does not include embedded systems to capture and share learning (Nurmala, 2014). For this reason, it is recommended that it is combined with informal on-the-job learning practices (Skule, 2004).

When developing an OLS, in order to create greater learning opportunities it is necessary to have a common approach towards formal and informal learning that inter-connects both (Marsick et al., 2017). Nonetheless, the type of management required in each case is different.

Unlike formal learning activities, informal learning activities require that the organization relinquishes control, but it achieves an ongoing learning workflow where people naturally engage with learning for its use at work. It is a form of learning that attends to real time work problems or needs, and is only limited by the time and capacities of those engaged in that learning (Watkins, 2016b). Informal learning is not easy to track, since much of what occurs is tacit (Nonaka & Takeuchi, 1995).

Although informal learning is not controllable, the organization can create certain situations or circumstances to support it. The author Eraut (2004) suggests four types of activities for supporting social informal learning: "participation in group activities, working alongside others, tackling challenging tasks and working with clients" (Eraut, 2004, pp. 266–267). This shows how informal learning is highly influenced by the context

and the people within it (Cseh et al., 1999; Ellinger & Cseh, 2007; Eraut, 2004; Marsick et al., 2009).

2.2.5. THE FOUR BUILDING BLOCKS OF AN AD&HP ECOSYSTEM

Any OLS that wishes to support learning at three levels (individual, team and organizational) through the exploration and exploitation of the business by taking advantage of formal and informal learning practices needs to have certain building blocks that will sustain such a strategy. In the present work, this OLS is the Agile Development & High-Performance Ecosystem (AD&HP Ecosystem).

For this reason, the following sections will describe the four building blocks that sustain an AD&HP Ecosystem: having a safe and encouraging learning environment; having strategic leadership and assessment; having the OLS integrated into the workflow; and having user-friendly systems and resources.

2.2.5.1. SAFE AND ENCOURAGING LEARNING ENVIRONMENT

Within an organization, it is the responsibility of the enterprise to create a learning-friendly environment for the display of its learning strategy. In other words, there is a need for a ***safe environment*** where diversity is accepted (Hicks-Clarke & Iles, 2000) and where learning is natural and part of work that takes place under safe conditions (Neal & Griffith, 2002). Those learning environments support the creation, sharing and application of knowledge (Janz & Prasarnphanich, 2003; Slater & Narver, 1995).

This promotes inquiry, openness, and trust (Davenport & Prusak, 1998; Popper & Lipshitz, 1998; Stata, 1989) in a caring environment (Gold et al., 2001; Nonaka & Takeuchi, 1995). Moreover, it encourages individuals to share their knowledge, ideas, and opinions with colleagues, since there is a relationship built on trust and collaboration (Coopey, 1995; Gieskes, 2002; Marquardt & Reynolds, 1994; Muñoz Seca & J., 2004; Nonaka & Konno, 1998).

In an ***encouraging learning*** environment, all the people have the time and space to be engaged in active learning practices (Argyris & Schön, 1978; Kolb, 1984; London & Smither, 1999; Nevis et al., 1995; Senge, 1990), whether these are formal or informal practices.

Such an environment should help people to be open-minded and to participate in experiments and innovative approaches (Leonard-Barton, 1995; Popper & Lipshitz, 1998; Prieto, 2003; Van den Brink, 2003). But for people to take part in experiments and other uncertain learning activities, they need to feel that they are in a safe environment where they can take risks and not be severely punished for doing so (Denton, 1998; Popper & Lipshitz, 1998; Sinkula et al., 1997).

Furthermore, in an appropriate learning environment, individuals are encouraged to take responsibility for their own development and are committed to continuous improvement (Isaacs, 1993; Leavitt, 2011; Senge, 1990, 2004). They anticipate the learning needs that they may have in their job, and set themselves learning goals with the specific knowledge and skills to be acquired. They also actively take part in learning activities, ask for feedback on their goals, and keep track of their progress (London & Smither, 1999).

2.2.5.2. STRATEGIC LEADERSHIP AND KPIs

Various authors argue that having effective leadership helps to create the conditions needed to become a Learning Organization (Goh & Richards, 1997; Jerez-Gomez et al., 2005; Watkins & Marsick, 1993).

All learning activities — particularly proactive learning initiatives — need to be supported by ***effective leadership that guides learning***, that is, a leader who changes roles depending on each particular situation (Argyris & Schon, 1981; Nevis et al., 1995; Senge, 1990) and encourages learning as part of work, along with the capacity to behave differently in order to work more effectively (Paine, 2019b).

An effective leader **provides a safe space** for learning where people can take on new behaviors and realize that they are expected to engage in learning practices and **challenge** how things are usually done. Furthermore, such a leader promotes learning at the individual, team, and organizational level (Drucker, 2006). This is key for achieving a **shared vision** about the future, a long-term shared vision that encourages experimentation and innovation (Senge, 1990).

To do so, the leaders **become a role model** who become learners themselves (Ellinger, 2005; Schein & Schein, 2017; Watkins & Marsick, 1999), and in doing so they set a good example and create a psychologically safe environment for others (Schein & Schein, 2017). His/her behavior shows the importance of diagnosing problems, transferring knowledge, ideas and opinions, and taking unexpected approaches to problems (Garvin et al., 2008).

In addition, leaders have a **connecting function**, communicating with different figures within the organization and holding small meetings during the year to identify the performance needs (Paine, 2019b). They try to understand the aspects that block people's performance and how they could enable them to fulfill their full potential (Paine, 2019a).

Moreover, in a learning environment, the leader encourages certain words and expressions that are natural to the people and part of the work environment, such as Optimism, Empowerment, Collaboration, Experimentation and, the question "What did you learn today?" (Paine, 2019b). These terms "…widespread curiosity, radical questioning of what we do and how we do it, to share and collaborate, to experiment and articulate, this way, you generate ideas and new knowledge that emerge from both inside and outside." (Paine, 2019b).

Furthermore, when experimenting or learning from experience, there is a need to obtain appropriate **feedback and guidance** (Isaacs, 1993; Nevis et al., 1995; Senge, 1994; Yeganeh & Kolb, 2009). And all learning initiatives should be followed by recognition and reward (Bennett & O'Brien, 1994), since appropriate and flexible rewards create favorable conditions for becoming a learning organization (Pedler et al., 1991).

And, last but not least, the leaders are responsible for ***keeping track and assessing*** the learning management approach itself, to measure its success and learn from it in order to improve (Garvin et al., 2008). To implement this follow up, the most appropriate KPIs need to be defined depending on the desired impact.

Traditionally, learning management measuring tools have included learning curves, manufacturing progress functions, experience curves, half-life curves, or performance measures (Garvin, 1993). But the focus of this thesis is not learning *per se.* Rather, the present work is concerned with how an organization can change its OLS to one that will contribute towards improving its competitive advantage by making organizational learning a strategic business asset.

To do so, the OLS should support and contribute to the employees' agile development and high-performance, both currently and in the future. Furthermore, according to Watkins & Kim (2018) "there is a correlation between the dimensions of a learning organization and dimensions of organizational performance". It needs to support their adaptation to the upcoming changes in their role or tasks. What is more, in a recent well-known publication, Pedler & Burgoyne (2017) argued that "The emphasis on high performance in organizations has tended to diminish the learning aspects."

Thus, the aspect to be measured in this OLS is its contribution to the employees' performance and development of required knowledge and skills for future performance needs. For this reason, the KPIs should be aligned with the employees' development and performance, and it is the contribution to those aspects that should be measured.

Concerning the ***components of the leadership team*** and under the premise that learning is everyone's responsibility, the leadership team should be composed of people with different roles within the enterprise. This should include not only the training team or the Learning & Development (L&D) department but also supervisors, line managers, employees, stakeholders, and senior leaders (Matthews, 2013).

Having the **senior leaders and managers on board** with the organization's learning vision is key to creating a positive climate for learning (Paine, 2019b). For instance, Shipton, Zhou, & Mooi (2013) found that informal learning and knowledge sharing practices are more likely to occur if a senior manager considers organizational learning to be a key asset for gaining a competitive advantage.

Concerning the **L&D department's role**, this becomes **strategic**; they should not be a course creation center but should instead be in charge of ensuring that people have high-quality opportunities to learn through various learning practices and knowledge sources. Within the organization, they are the expert consultants about everything related to learning, including performance support, sharing opportunities, courses, and user-friendly online learning platforms (Matthews, 2013). And to perform these

functions successfully, it is essential that they talk business language and are aligned with the needs of the organization (Table 3), with the ability to shift from the learning paradigm to the business paradigm (Arets, 2017; Gottfredson & Mosher, 2010).

The L&D team therefore switches from being an "order taker" and creator of training courses to a "performance enabler" and, from being a "learning enabler" to being a "value creator", two new positions or roles with a much more strategic approach where the L&D is involved with the whole process of identification of learning needs, solution design and delivery as a consultant expert for the business (Arets, 2017; Arets et al., 2016).

Table 3: Shifting from a learning paradigm to a business paradigm

Learning Paradigm	Business Paradigm
Knowledge deficits	Performance and business problems
Learning analysis	Performance and business analysis
Learning goals	Performance and business goals
Formal learning	Organizational learning (including informal and social learning)
Learning is separated from work	Organisational learning is embedded in work
Talent development	Organisational Development
Aligned with HR	Aligned with the Business
Competency frameworks	Business Models
Educational roles	Performance roles
Learning expert	70:20:10 expert
Learning consultancy	Performance consultancy
Learning solutions	Business solutions
Measuring learning outcomes	Measuring business outcomes
Kirkpatrick level 1, 2, 3 and possibly 4	Business KPI's and ROI (Philips)
Learning value	Business value
Chief learning officer (CLO)	Chief performance officer (CPO)

Source: Arets (2017)

2.2.5.3. ECOSYSTEM INTEGRATED INTO THE WORKFLOW

Following Senge's (1990) systemic thinking of a learning organization, all contributions to ***learning must be integrated and blended*** in harmony, including thinking practices, training activities, performance support, team learning, knowledge banks, and so on.

In this sense, the learning structure needs to be **integrated into the workflow.** The primary goal of this is **to enhance the capability of people to improve** performance in a way that is fully aligned with the enterprise's corporate strategy, mission and vision (Matthews, 2013). To do so, it should ensure access to ***learning resources in the moment of need*** of a person or working team — resources that need to be aligned with the users' development and performance needs (Azmi, 2008; Chandler, 2018; Matthews, 2013).

Within an organization there are five moments of need that require attention: learning for the first time; expanding knowledge base; remembering and applying learned concepts; when things do not go according to plan and; when change occurs (Gottfredson & Mosher, 2010).

Having such an integration consists of offering 24/7/360 ***real-time access to the learning resources***, to usable and relevant information and knowledge, including guidelines, templates, experts in subjects, tools, colleagues, and external institutions. In short, it is about creating a **"learning-on-demand"** service (Boud & Garrick, 1999; Craig, 1996; DeNisi & Kluger, 2000; Matthews, 2013; Rosenberg, 2013; Rossett & Schafer, 2006).

This can help the performance of both individuals and teams. Although learning does not provide a solution to all performance problems, it does help to resolve some of these (Gilbert, 1982a, 1982b; Rummler & Brache, 1990). Gery (1991), the first author to talk about performance support, argued that individuals should be provided by "individualized on-line access to the full range of…systems to permit job performance" (Gery, 1991, p. 21).

Furthermore, having the learning system embedded into the workflow enables the capture and sharing of that knowledge that is transferred and co-created among individuals and teams, along with internal and external agents or communities (Fuller & Unwin, 2004; Wenger, 1998). This contributes directly to the three levels of learning: individual, team and organizational (Watkins & Marsick, 1993, 1996).

2.2.5.4. USER-FRIENLDY SYSTEMS AND RESOURCES

For the OLS to be integrated into the workflow and to offer a satisfactory user experience, it is necessary to have easy-to-use systems and valuable resources. As explained in the previous sub-section, organizational learning requires having systems in place to capture and share learning across the organization (Garvin, 1993; Jerez-Gomez et al., 2005; Slocum et al., 1994).

Nowadays, the existing social ***communication and knowledge sharing technologies*** facilitate activities of socialization in a **structured or unstructured** way, where participants can be self-managed and are able to engage in a **self-directed learning** experience (García-Peñalvo et al., 2012; McAfee, 2009; Seufert, 2012). As a consequence, they become a more **empowered team** (Garvin, 1993; Garvin et al., 2008; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

These are digital spaces where knowledge can be transferred and new knowledge can be co-created, enabling the creation of peer networks in the form of **learning communities** or Communities of Practice (García-Peñalvo et al., 2012; McAfee, 2009; Seufert, 2012). Furthermore, they enable the individuals and teams to be **connected with the external environment**, that is, with people and agents outside the organization's boundaries (Garvin, 1993; Pedler et al., 1991; Slocum et al., 1994).

Moreover, the organization needs to empower individuals and teams to learn so that the systems — apart from capturing and sharing learning — are able to support active learning practices (Edmondson, 2003; Garvin, 1993)**.**

A learning structure should be based on **high connectivity, *on-demand learning and reach-back capability***. This learning structure should be rapidly accessible, saving time

for the participant in his/her search where relevant, current and valid information is available — a structure where best practices are highlighted, and lessons learned are shared. It should be a learning structure where all organizational knowledge and resources are readily available and in which key external knowledge-contributing agents play a part. Such a space will support the professional growth of both individuals and teams (Matthews, 2013).

The ***content and information*** that flows through those systems need be ***valuable*** and attend to the learning needs of the users of the OLS. It needs to be reliable, updated, easy to use and aligned with the needs of the users. Unless the content is valuable, the learning activities that have been designed will not be successful because they will not truly attend to the users' learning needs (Matthews, 2013).

The systems that contribute to the balance between exploration and exploitation activities are required to have an OLS composed of organic and mechanistic systems (Burns & Stalker, 1961; Courtright et al., 1989). The ***organic systems*** are more flexible, agile, responsive and innovative, and will benefit the exploration process by finding new knowledge and skills. This is more aligned with informal learning practices.

The ***mechanistic systems***, however, are more structured and formal with clear rules and responsibilities with a top-down direction, and they seek to achieve a higher level of efficiency, price competitiveness, and economies of scale (Courtright et al., 1989), which work best with formal learning activities.

2.2.6. AGILITY IN THE AD&HP ECOSYSTEM

Section 2.2. presented the foundations of the AD&HP Ecosystem. This OLS includes the term "agile", which has been consciously used to name the Ecosystem. This refers to how this OLS supports the agility of the employees at work, ensuring that they have the resources and knowledge needed to change and adapt to new performance requirements. This is expected to contribute to an organization's agility. What is more, according to Teece (2007), learning organizations, apart from having a continuous learning mindset, include learning practices that contribute to the enterprise's capacity to be agile.

Organizational agility represents a highly significant competitive advantage in a fast-changing market where disruptive technologies are becoming mainstream (Pérez-bustamante, 1999; Rigby et al., 2016). Those who are not responding rapidly enough to the market, will lose market share (Chandler, 2018). Agility is "…an emerging trend for companies about thinking on how to structure their teams to fulfill the work." (Chandler, 2018). According to Oliva, Henrique, Couto, Paulo, & Bresciani (2019) "…in the organizational context, one can understand by agility the ability to respond flexibly to changes in the environment, adjusting the offerings of products and services quickly." This is an entrepreneurial attitude that seeks to achieve a sustained competitive advantage (Baskarada & Koronios, 2018).

Moreover, this supposes incorporating change as part of business by having the ability to predict those changes coming with a ***high external focus*** (Srinidhi, 1998). This provides the ability to respond flexibly to the environment by rapidly adapting their offering and creating new products or services (Felipe et al., 2016; Oliva et al., 2019; Singh et al., 2013). It also requires "…redirecting resources, efficiently and effectively, to create, capture, and protect value in higher-income activities." (Teece et al., 2016), and demands ***rapid changes in workforce skills***, infrastructure and institutional norms (Shafiee & Shafiee, 2019).

The AD&HP Ecosystem aims to support organizational learning and its ability to adapt, improve and innovate according to the environment. To do so, the workforce of an organization needs to be surrounded by a learning ecosystem (AD&HP Ecosystem) designed to rapidly attend to their performance and development needs by gaining access to the required knowledge and acquiring the necessary skills.

Furthermore, the fact that the AD&HP Ecosystem is integrated into the workflow (this is one of its building blocks, see Section 2.2.5.3.) enables the workforce to continuously develop their skills and respond flexibly to environmental and business changes.

In fact, this Ecosystem is aligned with Crossan et al. (1999)'s "4I" model which supports the idea that Duncan & Weiss adressed in 1979); a renewal strategy affects and includes the whole organization, not just certain groups or individuals, and it should be taken into consideration that the organization operates in an environment, in a system, and is not isolated from what occurs outside the organization's boundaries (see Section 2.1.). This is aligned with the agile organizations' ability to predict external change with a high external focus (Srinidhi, 1998).

Apart from increasing improvements, agile organizations include periods of reflection and introspection, as well as the rapid incorporation of feedback and a focus on changes (Henderson-Sellers & Serour, 2005; Nerur et al., 2005). Agility is the capacity for organizations to integrate and organize their resources and knowledge (Cegarra-Navarro et al., 2015).

Agile organizations need to have a specific organizational design, including a flexible, non-complex and transparent organizational structure and governance; a ***flexible workforce*** and an agile mindset culture; ***IT tools*** and data infrastructures that are well aligned and easy to access and navigate; and processes that are prepared to change and adapt to the environment, which include ***continuous learning processes*** (Shafiee & Shafiee, 2019).

The AD&HP Ecosystem is aligned with the agile organization's design requirements. First, it supports the workforce's flexibility for continuingly and proactively upskilling and reskilling (see Section 2.2.1.); second, it is based on user-friendly systems and resources that include easy to use effective IT tools (see Section 2.2.5.4.); third, it is based on the first premise of the AD&HP (Premise 1), that there are three integrated levels of learning: individual, team and organizational. These forms of learning lead to cognitive and behavioral change, and affect each other. Further, Crossan, Lane, & White's (1999) 4I-s model includes these levels of learning, specifically intuiting, interpreting,

integrating and institutionalizing. This is completely in tune with the need for agile organizations to have continuous learning processes in place.

Baskarada & Koronios (2018) suggest that agile organizations — in addition to a specific organizational design — must have the following five dynamic capabilities (known as the "5S organizational agility framework"): sensing, searching, seizing, shifting, and shaping, of which sensing and searching are strongly related to organizational learning (Baskarada & Koronios, 2018; Teece, 2007).

Sensing is about having the ability to "detect new opportunities and threats from the external environment" (Baskarada & Koronios, 2018, p. 337). For Teece (2007), sensing is about external organizational learning and detecting new opportunities and threats from the environment.

The AD&HP Ecosystem considers learning to occur at three main levels: individual, team and organizational. The three levels include an interaction or connection with agents from inside and outside the organization's boundaries, as a source of knowledge (see Section 2.2.). These agents include customers, suppliers, competitors, companies in other industries and those with whom the enterprise has a collaborative or ally relationship (Garvin, 1993; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

Searching is about having the ability to "create new opportunities within the organization" (Baskarada & Koronios, 2018, p. 337), which is strongly related to the organization's exploitation and exploration approach. It includes challenging deep-rooted assumptions and expanding the existing mental models in the organization.

The first building block of the AD&HP Ecosystem is having a "Safe and Encouraging Learning Environment" in the organization (see Section 2.2.5.1.). It is a place that, among others, promotes inquiry, openness, and trust (Davenport & Prusak, 1998; Popper & Lipshitz, 1998; Stata, 1989) and it encourages people to be open-minded and to participate in experiments and innovative approaches (Leonard-Barton, 1995; Popper & Lipshitz, 1998; Prieto, 2003; Van den Brink, 2003). This would positively contribute to an agile organization's searching activity.

2.2.7. SUMMARIZING THE FOUNDATIONS OF AN "AGILE DEVELOPMENT & HIGH-PERFORMANCE ECOSYSTEM"

The analysis of some key theories in the field of LOs and OL and a subsequent in-depth analysis of those aspects allowed us to establish the following premises of the theoretical model:

- **Premise 3**: the people using the ecosystem and their experience in it are the main focus of the ecosystem and they are the leaders and as such, are primarily responsible for their learning journey.

- **Premise 4**: the ecosystem supports and encourages formal and informal learning activities for agile development and performance support.

- **Premise 5:** there are four building blocks in which the ecosystem is supported: having a safe and encouraging environment for the learners; having a strategic leader to support the ecosystem; integrating the ecosystem into the workflow making learning part of everyday activities; and having user-friendly systems and resources.

2.3. ORGANIZATIONAL LEARNING AND CULTURE

Among the theories and theorists analyzed in Section 2.2., Nevis et al. (1995) talked about the importance of organizational culture for organizational learning, whilst Watkins & Marsick (1996) argued that a culture that promotes inquiry and dialogue is needed — a culture where questioning, feedback, and experimentation occur.

Moreover, when analyzing the data gathered in this doctoral thesis, one of the main findings to emerge was that certain aspects of the organization's culture influenced their OLS. Some cultural aspects have an impact on the existing practices encouraged or discouraged by the OLS and thus the OLS is shaped by the organization's culture.

Organizational culture is "those patterns of behavior that are encouraged, discouraged or tolerated over time" (Taylor, 2015). This shows what is valued, essential, accepted and rewarded, which gives an idea of how to fit in. It is the "karma in the walls and halls" (Marsick & Watkins, 2009) and is developed through daily interactions among individuals and leaders (Watkins, 2016a).

This research is based on Taylor's (2015) classification of organizational cultures. This classification allows us to clearly categorize an enterprise according to its type of culture by looking for observable behaviors and attitudes. This contribution includes how to make the transition from one organizational culture to another. In this thesis, however, this process of change is not addressed; rather, this work has mainly been used for analyzing how an organization's culture affects its OLS, as well as the process by which the AD&HP Ecosystem's foundations can be made tangible.

According to her research, there are six organizational culture archetypes: achievement, customer-centric, one-team, innovative, people-first, and greater-good (Table 4). Although organizations can use different terms to describe the culture (see the column "words related to the archetype" in Table 4), all enterprises could fit into one of these six types. Yet the existence of these six archetypes does not mean that the organizations are pure entities and have just one of them; they all have relatable values.

Achievement: the achievement culture is one where individuals, teams and the organization itself are expected to deliver what they agreed to deliver. Successful performance is pursued by operating within a framework of politics and parameters. The words that best describe this type of culture are: Performance, accountability, focus, speed, delivery, meritocracy, discipline, transparency, rigor (Appendix 1).

Customer-Centric: in an organization with such a culture, all decisions are based on the customers' needs, by intimately understanding them. Everyone understands the customers and are highly empathetic with them, including how they think, what they want, how our work will have an impact on them. This includes the final and intermediate customers (distributors or partners). The words that best describe this type of culture are: External focus, service, responsiveness, reliability, and listening (Appendix 2).

One-Team: in these organizations the good of the whole organization takes preference over that of individuals or small teams. People need to put the team first rather than themselves when making a decision and people depend on others for working, both vertically and horizontally. The words that best describe this type of culture are: Collaboration, globalization, internal customer, teamwork, and without boundaries Aappendix 3).

Table 4: Taylor's six main Organizational Culture Archetypes

TAYLOR'S SIX MAIN ORGANIZATIONAL CULTURE ARCHETYPES		
	DESCRIPTION	**WORDS RELATED TO THE ARCHETYPE**
Achievement	"A culture in which individuals, teams and the organization are expected to deliver what they agree to deliver."	Performance, accountability, focus, speed, delivery, meritocracy, discipline, transparency, rigor.
Customer-Centric	"A culture where an intimate understanding of the needs of all customers forms the basis for all decisions."	External focus, service, responsiveness, reliability, listening.
One-Team	"A culture where the good of the whole is placed above that of the individual or sub-group."	Collaboration, globalization, internal customer, teamwork, without boundaries.
Innovative	"A culture which strives to do what has never been done before, to be unique and to operate at the highest standards."	Learning, entrepreneurial, agility, creativity, challenging status quo, continuous improvement, the pursuit of excellence.
People-First	"A culture in which human beings are recognized and supported for their own uniqueness."	Empowerment, delegation, development, safety, care, respect, balance, diversity, relationships, fun.
Greater-Good	"A culture where people are expected to contribute to the well-being of the broader community."	Social responsibility, environment, citizenship, meaning, community, making a difference, sustainability.

Source: the author, adapted from Taylor (2015)

Innovative: a company with an innovative culture seeks to do what has never been done before, and looks for uniqueness and work with the highest standards. They pursue ongoing improvement and excellence and have an affinity for learning and creating new things. This is how they are usually ahead of their customers' demands; they are

proactive in their offerings. The words that best describe this type of culture are: Learning, entrepreneurial, agility, creativity, challenging the status quo, continuous improvement, and the pursuit of excellence (Appendix 4).

People-First: as the name says, in this culture the people are a priority, and they are recognized and supported for their uniqueness. They consider people as human beings that have chosen to work in the organization, rather than assets belonging to an organization. They seek to gain a deep understanding of people and to develop good relationships at work by supporting, listening, appreciating, enjoying and respecting. The words that best describe this type of culture are: Empowerment, delegation, development, safety, care, respect, balance, diversity, relationships, amd fun (Appendix 5).

Greater-Good: in organizations with a "Greater-Good" culture, people aim to contribute to the well-being of the community. They go beyond their customers' needs to those of their community or even the world, including the sustainability of the planet or the needs of the underprivileged — areas where a difference can be made. The words that best describe this type of culture are: Social responsibility, environment, citizenship, meaning, community, making a difference, and sustainability (Appendix 6).

To **sum up** Section 2.3., analysis of organizational culture and some of the archetypes has enabled us to identify the differences between them, which will be used later in the Discussion chapter of this thesis (Chapter 5). This has contributed towards creating the theoretical model of this thesis, presented in the next section (Section 2.4.).

Furthermore, it has led to the establishment of the final premise of the theoretical model:

- **Premise 6**: the ecosystem is aligned with the organization's culture and maintains systemic thinking in its management, where all aspects are aligned and inter-connected.

2.4. THEORETICAL MODEL

Following the theoretical review in the previous section, this section is dedicated to describing the theoretical model of this thesis (Figure 3). Next, a narrative of this model is presented, which defines the foundations of the AD&HP Ecosystem.

The users of the Ecosystem participate in formal and informal learning activities and experience individual development and performance support. Furthermore, they actively participate in team learning practices and contribute to organizational learning. These practices and activities in turn contribute to the business exploration and exploitation that seek to achieve the agile development and high performance of the organization.

This entire ecosystem is based on four building blocks that make this experience possible: having a safe and encouraging environment; strategic leadership; ecosystem integrated into the workflow; and user-friendly systems and processes, all of which work under the premise that "learning is everyone's responsibility".

The six main premises of such a framework are as follows:

- **Premise 1**: there are three levels of learning: individual, team and organizational. These types of learning lead to cognitive and behavioral changes that affect each other. And the constructs of Crossan, Lane, & White's (1999) 4I-s model occur in these — intuiting, interpreting, integrating and institutionalizing.

- **Premise 2**: the ecosystem supports the exploration and exploitation of learning (assimilating new knowledge and taking advantage of what has already been learned). These are supported by feed-forward and feedback processes in the three levels of learning (see Premise 1).

- **Premise 3**: the people using the ecosystem and their experience in it are the main focus of the ecosystem and they are the main leaders and responsible for their learning journey.

- **Premise 4**: the ecosystem supports and encourages formal and informal learning activities for agile development and performance support.

- **Premise 5:** there are four building blocks in which the ecosystem is supported: having a safe and encouraging environment for the learners; having strategic leadership to support the ecosystem; integrating the ecosystem into the workflow, making learning part of everyday activities; and having user-friendly systems and resources.

- **Premise 6**: the ecosystem is aligned with the organization's culture and maintains systemic thinking in its management where all aspects are aligned and inter-connected.

Furthermore, this framework has been given its own name, since it has its own particularities; "**Agile Development & High-Performance Ecosystem"** which, has been carefully chosen, as explained below:

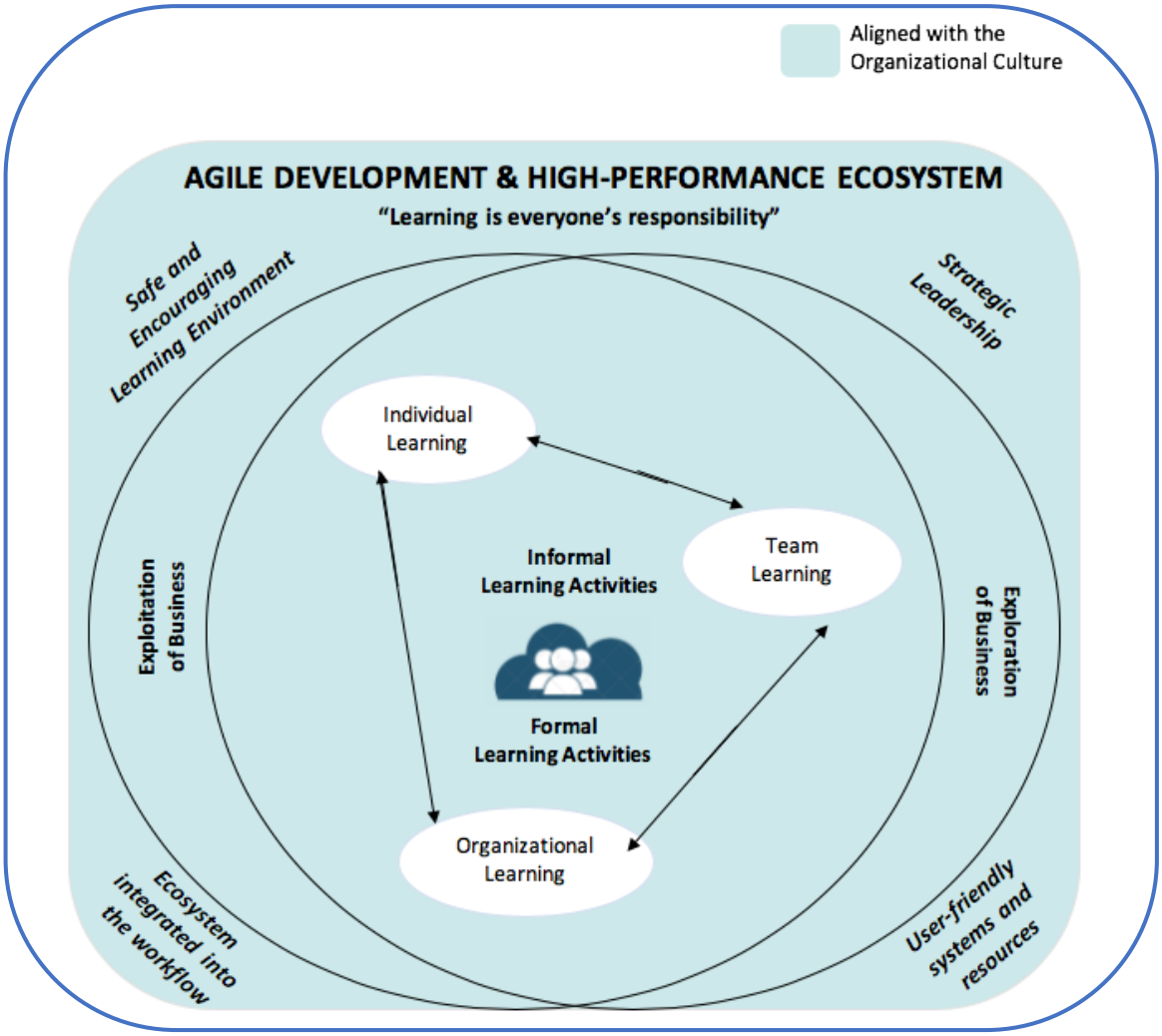
- "**Agile**": the suggested OLS supports the agility of the employees at work, providing them with the resources and knowledge needed to change and adapt to new performance requirements.

- "**Development**": this OLS seeks to achieve the continuous improvement of the organization and its employees, both individually and as a team.

- **"High-Performance"**: this main aim of the OLS is to contribute to the organization's competitive advantage. To do so, it supports the employees' current performance and prepares them for future performance needs aimed at high-performance. Ultimately, this OLS is a strategic asset for the organization's business strategy, not just a "to-do" for the HR team.

- "**Ecosystem**": this OLS integrates and connects the people with the learning structure. It is an ecosystem built within one enterprise, connecting mainly the people within, although it can bring in resources and expert people or agents from the outside. It provides the employees with the necessary resources and tools for their development and high performance by surrounding them with an ecosystem integrated into the workflow and making all the resources easily accessible in the employee's moment of need. Furthermore, apart from having such a structure, the participants of the ecosystem are inter-connected and contribute to each other's development and performance journey.

Figure 3: Theoretical Model: the foundations of an AD&HP Ecosystem



Source: the author

CHAPTER 03

METHODOLOGY

3. METHODOLOGY

This chapter describes the methodology that has been followed in this research for data gathering, processing and analyzing. The methodology was designed to fulfill the general and specific objectives[3] of the research, which are focused on analyzing and understanding how a shift in organizational approach was made in two Basque organizations by changing their organizational learning structure. A further aim was to identify the steps that should be followed for designing an organizational learning structure that will support the organizations' new approach.

Before getting into the description of the methodology used, the following section further explains the rational for choosing to use Action Research methodology, after which a description is given of the two cases under study in this research thesis.

3.1. RATIONAL FOR THE METHODOLOGICAL APPROACH

This thesis aims to address the current gap in the literature about "How organizations make the transition to being a learning organization" (Tuggle, 2016, p. 456), by following, on the one hand, the premise that "Developing a learning organization is not random chance but a deliberate intervention by leaders to establish the necessary internal conditions for the organization to operate in a learning mode."(Goh & Richards, 1997, p. 577), and, on the other hand, the premise that "building architectures that encourage, facilitate and support learning is an organizational imperative" (Watkins & Kim, 2018).

The general objective of the research is "to determine how the key foundations of an AD&HP Ecosystem is made tangible in two big size Basque enterprises". This has been done by intervening in two organizations, a process that requires an active participation and commitment from the people within the enterprise. Making a change entails action and, from the researcher's standpoint, it demands a responsive and flexible approach.

Given these circumstances, Action Research was considered the most suitable methodology. Action Research includes **action and research** and, in the context of this thesis, it aims to contribute towards solving a problem in the two organizations (where the research is carried out) through change and to obtain knowledge that could contribute to the scientific field of organizational learning (Shani & Pasmore, 1985).

Furthermore, the university in which this research has been carried out is **Mondragon University**, which engages with education, business and research, also known as the **knowledge triangle**. In a study carried out across Europe (Javorka & Giarracca, 2012), Mondragon University was one case under study due to its performance through the "Mendeberri" educational model.

[3] Check out the end of Chapter 1 of this thesis.

It has a unique university status in Europe, since it is private, non-for-profit and cooperative and part of the Mondragon Corporation (the world's largest worker cooperative). Its educational approach is atypical, since it focuses on the practical orientation of studies by balancing academic education with in-company training. This philosophy is also present in its research works; it has a **truly open innovation model** where academics, students and external partners are actively engaged, **aiming at the development of local companies**, new markets, products and services.

For these reasons, the **Action Research** approach was chosen, since this methodology responds to the requirements of this research and is suitable for addressing the research objectives, whilst being a highly coherent methodological approach that is aligned with the university's philosophy of contributing to both the scientific literature and the needs of the enterprise. In this case, the intellectual contribution will be made within the field of organizational learning and practical contributions[4] will be made to the two enterprises actively taking part in this research.

3.2. THE TWO CASES UNDER STUDY

This section introduces the enterprises under study in this research; first, Laboral Kutxa S.Coop., and second, SENER S.A.

3.2.1. LABORAL KUTXA S.COOP.

The first Action Research was carried out in Laboral Kutxa S.Coop. This is a big-size enterprise with around 2000 professionals in 2019 that work in the banking industry. In juridical terms, it is a Cooperative enterprise where most of the employees are both workers and partners of the enterprise. Thus, the level of empowerment of these people is high and, "imposing" new actions is not the way of working here; they need to be participants when implementing new changes in the workflow.

Concerning their organizational structure, they work in hierarchically organized departments and the central services are differentiated from the rest of the enterprise, which is spread mostly over the Basque Country and part of Northern Spain.

Their experience with organizational learning has evolved over the years. But this became stronger in 2008, after the economic crisis that affected the entire country. It was then that the governmental authorities of Spain came up with a law to be followed by all banking enterprises, which directly affected their organizational learning strategy since this new law required that all the employees of the enterprise had certain official knowledge certificates in order to continue with their work. This issue made them more concerned than ever about the learning and development of their people beyond training and this raised their interest in improving their current OLS.

This enterprise participated in this research due to the willingness of the HR team leader. Furthermore, it has been accepted by the CEO of HR, although she has not fully taken

[4] For further details on scientific and practical contributions see Chapter 5, Discussion.

part in the project. The particular problem to be tackled in this enterprise was **the improvement of their current organizational learning structure**. In particular, they wanted to focus on two aspects: the promotion of self-driven learning and increasing socially learned practices.

3.2.2. SENER S.A.

The second intervention was conducted in a large size enterprise that offers engineering services with an estimated 1600 employees in 2019. It is a family-based enterprise that has grown significantly in recent years with highly qualified people offering engineering services in various fields. Although the headquarters are located in the Basque Country, they have offices in another two major Spanish cities (Madrid and Barcelona) and they operate all over the world. They currently have four business units: aerospace; infrastructure and transport; renewable energies; and naval. This research has been conducted in three out of those four, in all except for the aerospace business unit, a decision that was made by the enterprise.

Importantly, their organizational structure, is based on 30 knowledge areas, all of which are related to engineering solutions. The professionals, however, are organized not only on the basis of their knowledge-area but also in terms of their role. A project-management approach is taken to the tasks, with each team in charge of a project with a high level of autonomy, although there are many processes and rules to follow.

Over the years their organizational learning strategy has evolved, and so has their OLS. Nevertheless, the fast-changing situation of the market and their industry has created the need to adapt and rethink the services they provide to their customers. Thus, their professionals have new development and performance needs. Furthermore, they wanted to make a bigger shift in their current OLS in order to better address these new needs of their people, which required some external help.

The research was conducted in this enterprise at the explicit request of the HR team leader, supported by the CEO within HR. They requested ready-to-use tools and processes that will support their work. **This enterprise saw the need to improve their OLS**, particularly in relation to three aspects: the identification of who knows what (to identify the in-house experts), to identify current successful learning practices, and to increase and improve current knowledge socialization practices.

3.3. METHODOLOGICAL APPROACH

The focus of this research is to determine how the key foundations of an AD&HP Ecosystem are made tangible. The aim of this research is not to generalize the results but to fully understand how the process took place in two organizations. For this purpose, a **qualitative research approach** was considered to be the most suitable (Baxter & Jack, 2008; Maxwell, 2013; Whittemore et al., 2001).

The methodology used was based on **Action Research** (Canterino et al., 2016; Eden & Huxham, 1996) focused on **Organization Development**. The methodology of Action Research was first cited back in 1945 by Collier (1945), although Ottosson (2003) claims that the first researchers working with Action Research were Lewin (1946), Chein (1948) and Curle (1949).

Lewin (1946) stated that research should contribute to organizations and not just be for publishing purposes, and thus action should be an unforgettable part of research. In this sense, he was the one who began to set the foundations of **Action Research for Organization Development** when he worked in the industrial setting (Burnes, 2007).

Lewin (1944) supported an enterprise during its process of change in a manufacturing plant as an external action researcher (not named that way at that time) alongside two of his associates (Marrow & French, 1945). Since then, multiple researchers have further developed and applied this methodology (Bushe & Marshak, 2009; Clark, 1972; Coghlan, 2015; Cunningham, 1993; Foster, 1972; French & Bell, 1999; Frohman, Sashkin, & Kavanagh, 1976).

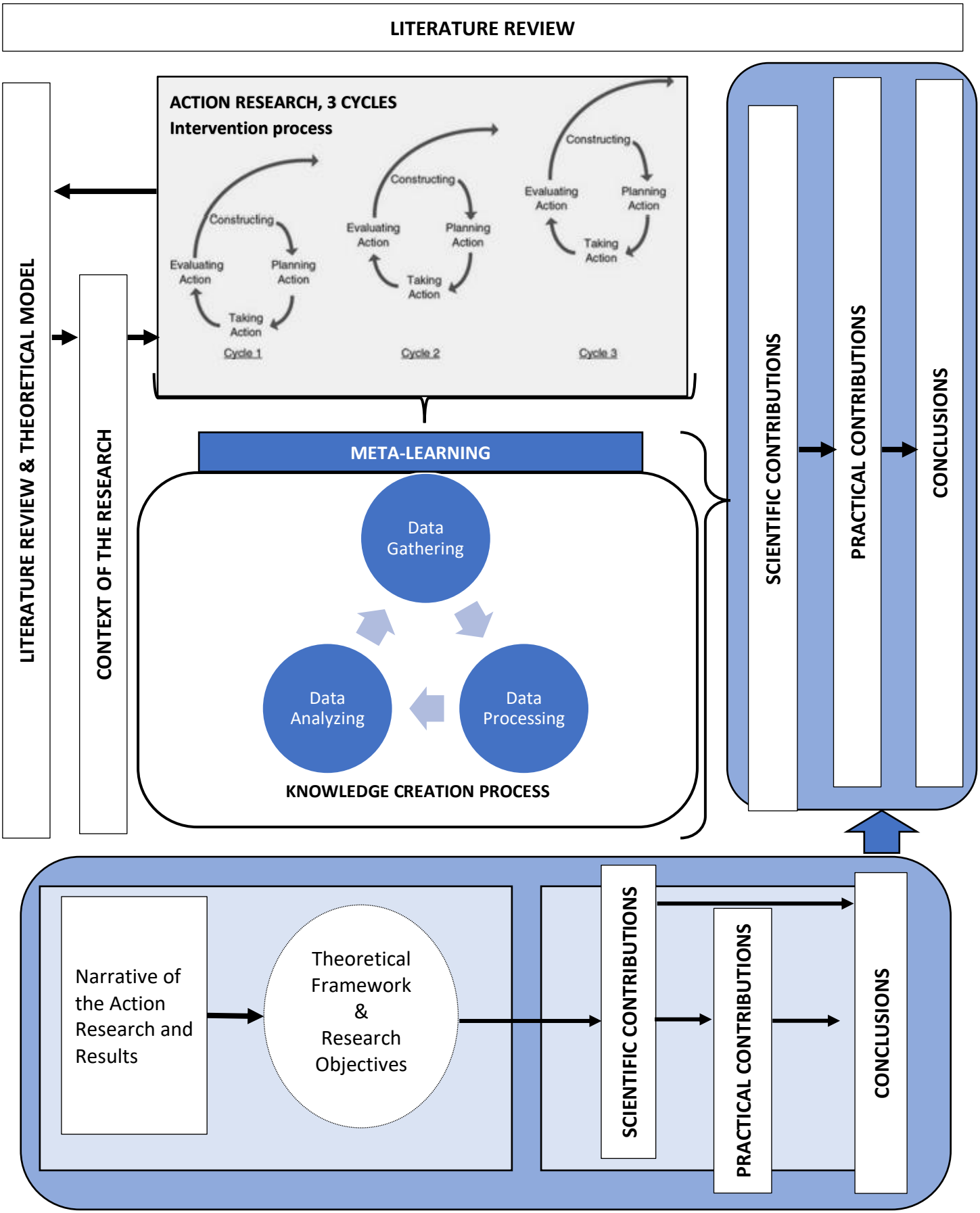
Although Action Research for Organization Development was first used in the industrial setting, it has since been employed in multiple fields of research from business and management, to nursing or health care, and even social work and community development (Coghlan & Shani, 2018; Shani & Coghlan, 2019). The research presented in this thesis was conducted in the business and management area, with the specific aim of shaping the organization's strategic approach towards the employees' development and performance.

According to Chein (1948), there are four dimensions of Action Research: Diagnostic, Empirical, Participatory and Experimental, and in this case, In this case, **Participatory Action Research** was chosen. This entails having an active and close relationship between the researchers and the organization in order to create a unique research team who have constant interaction and participation throughout the entire research process.

This is exactly the approach that was adopted in this research, that is, finding a solution to face a challenge that two organizations were dealing with through a close collaboration between the researchers and the steering-team of the organizations.

Action Research includes **action and research** and, in the context of this thesis, it was applied with the aim of helping to solve a problem in the two organizations (where the research is carried out) through change and, in the same way, to obtain knowledge that could contribute to the scientific field of organizational learning (Shani& Pasmore, 1985). In other words, to address an organizational issue and create scientific knowledge in the field of organizational learning. For this reason, two processes were implemented in parallel — the intervention process and the knowledge creation process. Figure 4 presents an overview of the methodological approach.

Figure 4: Overview of the methodological approach



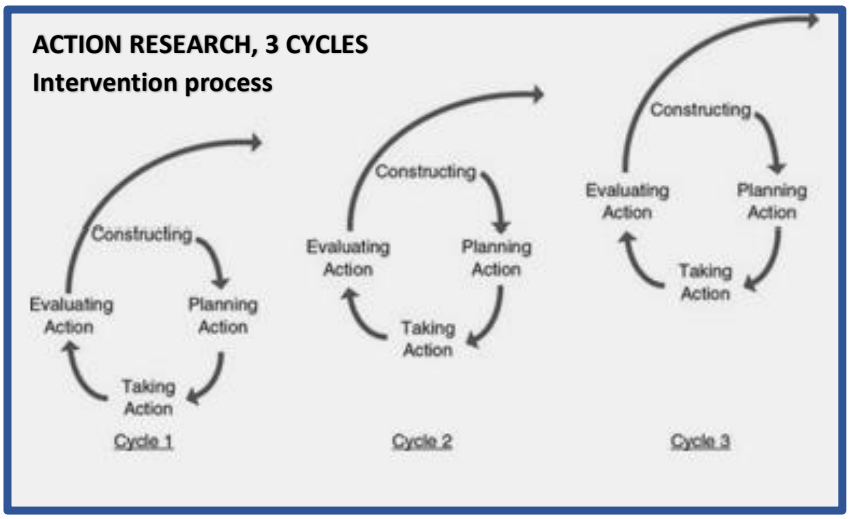
Source: the author

3.3.1. THE INTERVENTION PROCESS

The first step in Action Research is to define **the context and purpose of the research,** and in this case, these are described in Chapter 4, "Action Research; Narrative and Results" sub-section 4.1. This has enabled us to fully understand the reason why the research was conducted, to identify the organization's problem, and to establish the context in which it is set.

Acting and reflecting are key aspects of Action Research (Coghlan & Shani, 2018) and, to do so, **action and reflection cycles** are carried out (Figure 5). This enables the continuous reflection and evaluation of how the process is progressing, along with the outcomes. The number of cycles depends on each individual research project and its needs.

Figure 5: Action Research, cycles of action and reflection



Source: Coghlan & Brannick (2014, p. 11)

In this case, we carried out **three cycles in each enterprise**: the first one aimed to characterize the organization's current OLS (contributing to Specific Objective no.2 and 3). The second cycle was used to define the foundations of the new OLS (contributing to Specific Objective no.3 and 4), whilst the purpose of the third cycle was to co-create a new OLS following the new creation process (contributing to Specific Objective no.4). These cycles were implemented over a period of 12 months in each enterprise, from January 2019 to December 2019.

The number of cycles to be carried out was not decided from the very beginning by the researcher. As previously stated, in a participatory Action Research project like this, the active participation of the enterprise and its members is extremely important, and so they were also involved in this decision. A similar procedure was used in both enterprises, in which multiple meetings were held between the researchers and the enterprise to determine the evolution of the research and the next steps. This is further explained below in Figure 5.

During those meetings, cycles were not discussed, but instead the focus was placed on objectives and outputs to be achieved. In both cases, those where clear: to begin by making a diagnosis of their current OLS, followed by defining the foundations of the new OLS with the active participation of various people from the organization (the profiles of the people were different in each enterprise), after which the creation of the newly designed OLS could begin. This is how three cycles naturally evolved.

Although these cycles were the same in both enterprises, the initial scenario and the aims of the OLS were not the same, thus, the outputs inevitably differed between the two projects.

Conducting Participatory Action Research implies the **active participation** of the "owners" of the project (Chein, 1948; Dick, 2002; McNiff, 1988). In Laboral Kutxa S.Coop., the steering team was composed of two people — the leaders of the training team and the talent development team. In case of SENER S.A., this was composed of three people: a leader and a technician from the training team and an engineer who does not work in the HR department but is part of the professionals of the organization and can bring in an employee perspective.

In both cases, the steering-team actively participated in the process and their involvement was key due to their knowledge about the enterprise. There was **coordinated and collaborative work between both parties**, that is, both the steering-team and the researchers. The role of the researchers was to be immersed in the research and to act as agents of change.

Whilst the steering team was highly focused on the organization's needs, the **research team was responsible for ensuring the dual output** of resolving the organization's problem that created the need for this project and, extracting valuable knowledge to contribute to science.

In addition to the steering team, during the research cycles in both enterprises more people from the organization were actively involved; in Laboral Kutxa S.Coop. different level managers, HR technicians and business unit experts took part at different timepoints of the research process. In the case of SENER S.A. all the managers of the organization's knowledge areas actively participated, as well as the final users of the OLS being co-created. The final decision about who had to participate in the project was made by the steering-team, that is, the "owners" of the project.

Each of the cycles had four steps to be followed: constructing, action planning, taking action and evaluating action (Coghlan & Shani, 2018). In all of these steps, the researchers and steering-team from the organizations — or the "owners" of the project — have worked together:

***Construction*;** in this step the issues of the enterprise were addressed, that is, those that will motivate actions taken with the aim of addressing those issues.

***Action planning*;** this is the step in which the action to be taken is planned, an action that is expected to respond to the issues identified in the previous step in the context in which this research takes place.

Taking action: the planned action previously defined is carried out in this step. In this case, it required the involvement of key people in the organization, those who would bring in the necessary knowledge in each cycle.

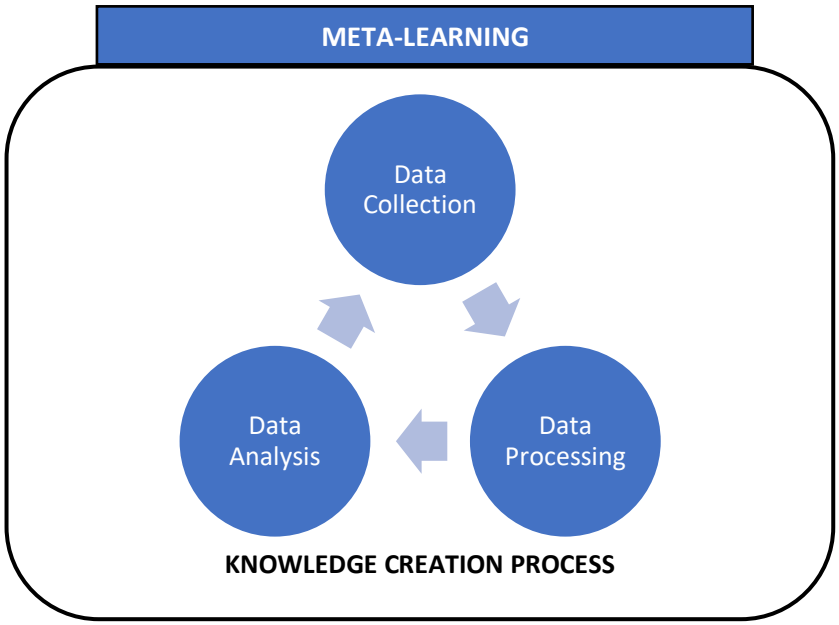
Evaluating action**:** The outcomes of the action — both intended and unintended — were examined with a view to determining whether the aims identified in the original construction cycle had been fulfilled. The taking action step and its output were analyzed by both the researchers and the organization's working team. The aim of this step was to identify the successes and failures of the process followed, in order to decide how it could be improved. Moreover, the lessons learned in this step provided the main input for the next cycle of intervention, that is, from Cycle 1 to Cycle 2, and from Cycle 2 to Cycle 3.

Further details about each of the cycles and the associated steps can be found in Chapter 4, "Action Research Narrative and Results".

3.3.2. KNOWLEDGE CREATION PROCESS

The aim of this process was to extract and create new knowledge from the intervention to contribute to the scientific field of organizational learning structures (Figure 6). In the Action Research field, this is known as "**meta-learning**", or learning from the learning (Coghlan & Shani, 2018).

Figure 6: Action Research meta-learning: knowledge creation process



Source: the author

As recommended in such methodology, **the researcher kept a reflective journal for each of the enterprises** where she has reflected on three main aspects: the content, what has happened in the cycles; the process, how the working processes used in the cycle have worked out and; the premise, questioning the underlying assumptions about what she expected to occur. The journal is **chronologically organized**, and each working session or meeting has its own space. That analysis of these data can be found in Chapter 5 "Discussion".

Keeping such a journal prompted a further search of the literature; when a new issue emerged or an unexpected output occurred, the researcher searched for literature that could help to provide an explanation or give further details. This has been an important source of input for the creation of the theoretical model[5].

Making a contribution to science requires highly precise and rigorous methods of data collection, processing, and analysis. In addition to keeping the meta-learning journal, in this thesis the **data collection** was conducted through the following sources:

Laboral Kutxa S. Coop.:

- **Cycle 1:** Fifteen individual semi-structured interviews were conducted with different level managers (Appendix 7); from the general manager of the enterprise, to a person responsible for a front-office team. These were chosen because the aim of this first cycle was to characterize their current organizational learning structure and, to do so, information was needed from people with different roles and perspectives within the enterprise. Moreover, from those managers involved with HR, we expected to gather more information about how the process of building the learning structure happened each year.

  All of the interviews were face-to-face and lasted fr around one hour. Whilst the questionnaire included 11 questions to guide the interview (Appendix 8), the aim was to obtain as much information as possible from the interviewees about the current organizational learning structure. The questions were based on the literature and the objective of the thesis.

- **Cycle 2**: Four working sessions and a closing session were organized with the entire HR team of 20 people (Appendix 9). The steering-team wanted to make this project a collaborative one, not just a project of the steering-team but one involving the whole HR department. Further, they had already indicated that they wanted to begin creating some changes to self-responsibility for learning in the HR team.

  The sessions occurred in a timeframe of two months, from February 2019 to April 2019, one session every 15 days. The time frame was chosen by the steering team so that it was adapted to the availability of the attendees.

[5] See Chapter 2 for further details on the creation of the theoretical model.

- **Cycle 3**: For cycle 3, eight working sessions were organized. There were four teams of six to eight people and each of them participated in two sessions (Appendix 10). Each group was focused on one business unit of the organization, or one knowledge area. Those knowledge areas were addressed by the strategic areas for the business for 2020, identified as areas where employees needed to learn more.

  Around half of the participants were experts in the product and the other half were direct managers of the final users of the learning structure. The number of participants allowed for gathering a variety of viewpoints in each group but, at the same time, was small enough to ensure that everyone actively took part and had his/her space to talk.

SENER S.A.:

- **Cycle 1:** A total of 27 individual semi-structured interviews were conducted with mid-level managers (Appendix 11); 27 out of the 30 were lead managers of the organization's knowledge areas who participated in identifying the learning needs of their team. These were chosen because the aim of this first cycle was to characterize their current organizational learning structure and, to do so, information was needed from those directly involved in the process of building the learning structure each year. This was decided by the organization's steering team.

  All of the interviews were face-to-face and lasted for around one hour. Whilst the questionnaire included 11 questions to guide the interview (Appendix 8), the aim was to gather as much information as possible from the interviewees about the current organizational learning structure. The questions were based on the literature and the objective of the thesis.

- **Cycle 2**: A total of three working sessions were organized. There were eight people involved, apart from the three people who were the leading group of this project in the company (Appendix 12). Seven of them came from the three main offices of the company (Bilbo, Madrid, and Barcelona) and all were in charge of the people within two main knowledge-areas. These were chosen since, strategically, the organization wanted to tackle those knowledge-areas first.

  Finally, one person from the IT team was involved, as it is necessary to gather their point of view in this project since IT tools will be key for an improved learning strategy and structure. This group was considered as influencers as they are expected to roll out all learning from the workshops across the organization, starting from their working team.

  The sessions took place over a two-week timeframe, from June 2019 to July 2019, two consecutive sessions at the end of June, followed by two final consecutive sessions two weeks later at the beginning of July. The timeframe was

chosen by the steering team so that it was suited to the availability of the attendees.

- **Cycle 3**: For cycle 3, a total of 15 people were involved, divided into two groups of seven and eight. Each of the groups was representative of a specific role within the enterprise; seven were team-managers and eight were project-managers (Appendix 13).

  They were chosen as participants by their enterprise as future users of the learning structure being created and they came from the three main national offices of the enterprise (Bilbo, Madrid, and Barcelona). The number of participants allowed for gathering a variety of viewpoints but, at the same time, it was small enough to ensure that everyone actively took part and had his/her space to talk.

  Five co-creation sessions took place with both teams for defining the foundations of their learning structure. These sessions were led by the researchers, who dynamized the activities, observed the situation, and gathered the data. Nevertheless, the leading team of the project played an important role in the sessions, being active participants in the activities.

  The sessions were held within a three-month timeframe, from October 2019 to December 2019, with an interval of approximately two weeks between each session. The timeframe was chosen by the steering team so that it was adapted to the availability of the attendees.

The activities carried out in the working sessions in both enterprises[6] were based on a **Design Thinking** approach. This is used in the research field as a source of learning and knowledge creation, considered as "the methods and processes for investigating challenges, acquiring information, analyzing knowledge, and positioning solutions in the design and planning field" (Plattner et al., 2013). It includes the use of empathy, creativity, and rationality for analyzing the context and creating innovative solutions. And, as the process itself implies, it involves reflecting on one's own challenges, for which we are creating an innovative solution, which is essentially a way of learning (Plattner et al., 2013).

A Design Thinking approach was selected because the intervention required a high level of empathy with the future users of the organizational learning structure that was being designed. Further, in the working sessions, once they had empathized with the future user, the participants needed to think about how they imagined the future organizational learning structure, for which creativity was needed.

[6] These activities completed in the working sessions are specified in Chapter 4, Action Research: narrative and outcomes.

We have followed the "Double Diamond" method (Appendix 14). This is a four-step process: to empathize, define, ideate, and prototype & test. Empathizing is about understanding the users of the design under construction. It is about understanding who they are and what they think and feel and seeing the world from their perspective. It is a step for divergence and for opening up. For this, two techniques were used in both interventions: the Empathy Map (Appendix 15) and a Day in the Life (Appendix 16). The Empathy map was primarily used to empathize with the users and identify their pains and gains at work, whereas a Day in the Life was used to write down the activities of a typical user (for whom the Empathy map was drawn) in a regular day at work in order to identify the main performance difficulties, the current learning habits, and the moments in the day that offer potentially new learning opportunities.

The next step involves defining, that is, defining the actual problem faced by the users, for whom this design thinking approach is aimed. After empathizing with the users and the insights obtained from there, this is the point to converge and articulate the problem or gap to be covered. To do so, in these interventions no specific techniques were used, although the following question was set to discuss the issue: What knowledge and skills do the people we have empathized with need in order to achieve high performance?

The third step was then carried out, that is, the ideation. Once the problem had been addressed, it was time to think about possible solutions. To do so, we carried out a brainstorming activity where all ideas were welcomed and none were discarded, which was a diverging step. Aligned with this approach, in both enterprises Lego Serious Play was used; the idea of bringing in a game was to continue with that creativity and, in this case, to build a common idea regarding the new design. This technique turned out to be highly successful.

Last but not least, the fourth step was prototype and testing. This involves taking the ideas from the previous step, choosing those that can work the best, and then creating a prototype for testing with a group of users. In our interventions, this was not implemented; when the participants created a design in the working sessions, it was suggested that they test it as a prototype with other colleagues outside of the working session (the users) but they did not feel comfortable with it. In both enterprises, the participants did not want to share much with non-participating colleagues until we had a final design. They argued that they would receive many questions that they were not prepared to answer since the project was not yet finished.

Once the data had been gathered in each of the cycles, processes were put into place for analysis. For this reason, a **data processing system, which was the same in both enterprises** was kept. This system is described in Appendix 17 and 18.

In regard to **data analysis**, all the results were analyzed with an **explanation building approach.** The aim was to develop ideas for further study by presuming how the organizational learning structure affects how learning occurs in the two enterprises (Yin, 2018, p. 179).

A **logic-model analysis** was then used for analyzing the current organizational learning structure process and the learning scenario that this creates in the enterprise (this was carried out in both enterprises), (Yin, 2018, p. 186). Furthermore, a new process was suggested and this was also analyzed with a logic-model approach. This analysis is expected to contribute to how each step of the organizational learning structure creation process highly influences the outcome structure.

Finally, and taking advantage of the fact that there are two cases, a **cross-case analysis** was conducted. A cross-case analysis with a case-based approach (Byrne, 2009; Ragin & Becker, 1992) was used to "retain the integrity of the entire case and then to compare or synthesize any within-case patterns across the cases" (Yin, 2018, p. 196).

The process used to obtain the initial and final results is detailed at the beginning of Chapter 5 — the Discussion.

3.3.3. THEORETICAL SAMPLE

This work in this thesis focused on conducting Action Research in a theoretical sample. A theoretical sample is chosen when the researcher needs to understand a concept or topic in depth, for which the sample is chosen based on the fulfillment of certain criteria that will aid this understanding (Hernández Sampieri et al., 2014). Further, the theoretical sample aims to include those cases that will provide a greater opportunity for learning, and an active attitude from the case owner and the case-participants in the process of achieving the research objectives (Villareal Larrinaga & Landeta Rodríguez, 2010).

In this case, the theoretical sample defined by searching for an organization that fulfills the following criteria:

- **Criterion no.1:** To show a willingness to participate in Action Research where the aim of the intervention is not just to solve their problem but to create knowledge that will contribute to science.

- **Criterion no.2:** To show a positive attitude towards Action Research that aims to fulfill the objectives of this work.

- **Criterion no.3:** To have a deliberate intention to change their current organizational learning approach by designing a new organizational learning structure.

Two, as opposed to one, enterprises were chosen because they meet the criteria outlined above; Laboral Kutxa S.Coop. and SENER S.A.

Both enterprises have shown an interest in the topic under study and thus wanted to carry out a project in their organization to improve their current learning structure.

It has been considered that working with two enterprises may enable a cross-case analysis with further findings and conclusions. In the section on “Research Settings” these enterprises are fully described, as well as their contexts.

By working with these two enterprises, this thesis expects to contribute to Tuggle's (2016) scientific request of carrying out further research about how organizations make the transition to being a learning organization. This work was conducted under the premise that “Developing a learning organization is not random chance but a deliberate intervention by leaders to establish the necessary internal conditions for the organization to operate in a learning mode.” (Goh & Richards, 1997, p. 577).

3.3.4. BUILDING THE THEORETICAL MODEL

This section is considered important because the chosen methodology has certain requirements when building the theoretical model.

The methodology that has been used in this research — Action Research — is composed of cyclical processes that include construction, action planning, taking action and evaluating action. All of this is followed by a parallel meta-learning that facilitates learning from the process. This characteristic of the methodology requires an ongoing process of data collection, interpretation and literature searches (Eden & Huxham, 1996). This is how the theoretical model of this thesis has been constructed.

The literature review began in the field of Learning Organizations and Organizational Learning by reading the work of the theorists within this field, which, along with the needs of the two enterprises, helped to define the orientation of the interventions. Moreover, as the research and interventions proceeded, and based on the outputs of each cycle and the results of the meta-learning, the topic of Organizational Culture was researched in the literature and included in the theoretical model.

In addition to the methodology, a further source of information has contributed to the search within more knowledge areas that may be useful for the intervention, that is, the researcher’s attendance at international conferences.

Attendance at these conferences (strongly linked to the topic under study) has allowed for the identification of new concepts or ideas that are of interest for further research and review in the scientific literature. As shown in Table 5, the main ideas or concepts of interest that were extracted from the existing literature are as follows: Building an ecosystem around the learner with the necessary resources and people; Considering Organizational Learning as a strategic approach with observable learning habits in the workplace; The importance of the Learner Experience, and; Integrating the learning resources and activities into the workflow for development and performance support.

Table 5: Key concepts and ideas extracted from conferences

CONFERENCE	AUTHOR, SPEAKER	KEY CONCEPT OR IDEA
I Corporate University Day (Madrid, 2016)	Steve Foreman & Marc Rosenberg	Building an ecosystem around the learners with the necessary resources and people.
CIEDO Congress (Barcelona, 2018)	Juan Freire	Considering Organizational Learning as a strategic approach with observable learning habits in the workplace.
OEB Conference (Berlin, 2018)	Elliott Masie	The importance of the Learner Experience.
Learning & Technologies (London, 2020)	Bob Mosher & Conrad Gottfredsons	Integrating the learning resources and activities into the workflow for development and performance support.

Source: the author

CHAPTER 04

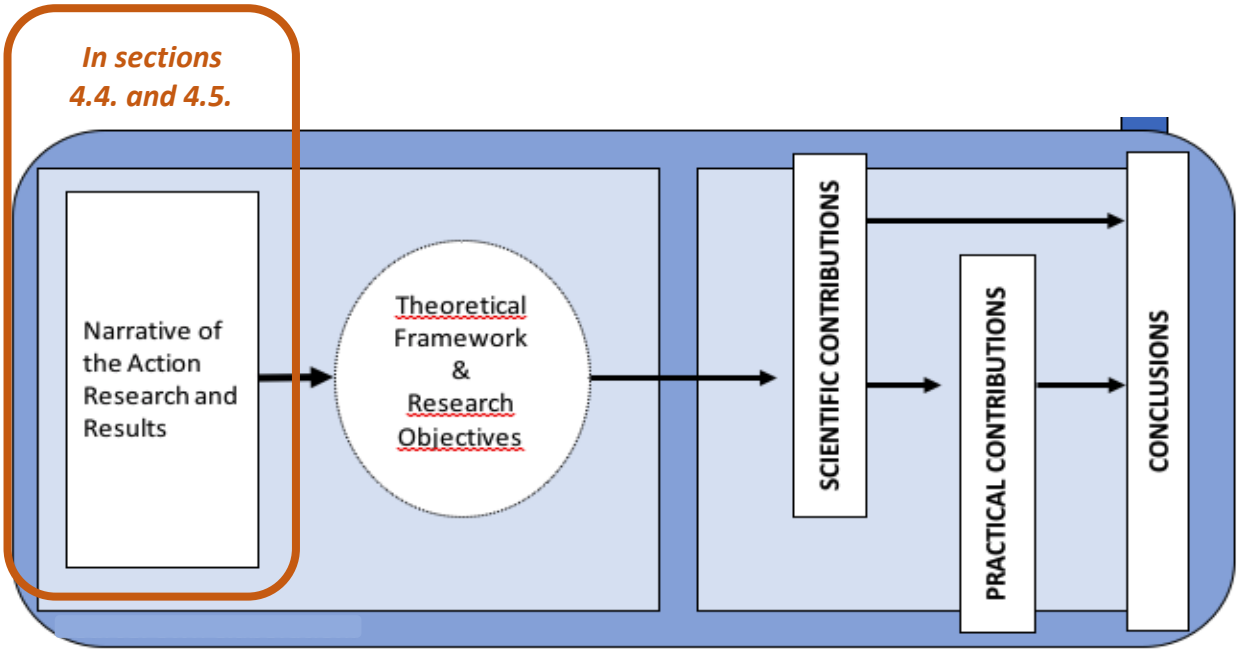
ACTION RESEARCH: NARRATIVE AND RESULTS

4. ACTION RESEARCH: NARRATIVE AND RESULTS

This chapter presents the results obtained from the field work. First, however, the research settings should be addressed, including the geographical area where this research was conducted and its current status with regard to the European Union's Research and Innovation Scoreboard (RIS) in the last two Framework programs (the 7th and the 8th). This research setting is expected to show the importance of carrying out the present research in this particular territory.

Then, based on the recommendation that when conducting Action Research (Coghlan & Shani, 2018; Eden & Huxham, 1996; McNiff, 1988) the participative research is narrated, the three cycles of intervention carried out when co-working with both enterprises (Figure 7) are presented, first for Laboral Kutxa S.Coop. and then for SENER S.A. The outputs of each of the interventions implemented in the enterprises are also included in this narrative. This detailed narration facilitates a high degree of transparency regarding the research process and it also shows the rigor with which it has been carried out.

Figure 7: Methodological approach, narrative of action research and results



Source: the author.

4.1. RESEARCH SETTINGS

The Basque Country. Although in 2019 the innovation indicator "Lifelong learning" of the Regional Innovation Scoreboard the Basque Country region was ranked as bottom one-

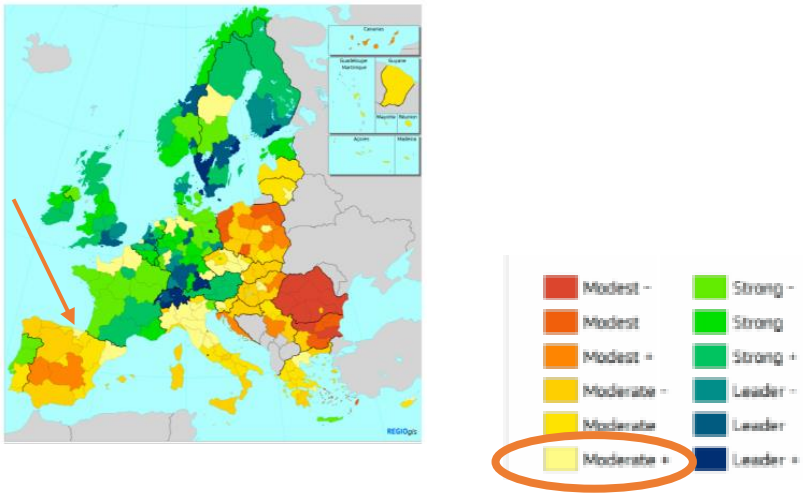
third high performer (Hollanders et al., 2019b) (Figure 9), the learning activities promoted by local authorities adhere to principles of formal training.

This is why it was thought to be of interest to conduct this research in this location, since this would contribute new knowledge that suggests and tests a theoretical model (an AD&HP Ecosystem) that connects formal and informal learning to create greater learning opportunities. First, however, some background is needed in relation to the competitive landscape of the location:

This research was conducted in the Basque Country, a region located on the Northern coast of Spain, bordered with France. It is a high value-added industrial area where the public and local entities are working towards a "Smart Industry" specialization (Eusko Jaurlaritza, 2019).

According to the Regional European Scoreboard used to assess innovation performance (Appendix 19), in 2019 it was considered as a "**Moderate+**" region (Figure 8), and the best performing region of the 19 regions in Spain. Being in this category means that the region's performance is between 50% and 90% of the EU average. Furthermore, although it is in a mostly Moderate Innovator country, for the whole 7th Framework Program (2007-2013) until 2017, it was classified as a "**Strong**" innovator (between 90% and 120% of the EU average) alongside the regions of Comunidad Foral de Navarra, Comunidad de Madrid, and Cataluña (Table 6).

Figure 8: RIS score of the Basque Country in 2019



Source: (Hollanders et al., 2019a)

In order to maintain its competitiveness and aligned with Europe's strategic competitiveness plan, the **Basque Government** has defined the strategic foundations of the "Science, Technology and Innovation" plan (PCTI) for 2030 (Consejo Vasco De Ciencia Tecnología e Innovación, 2019; Eusko Jaurlaritza, 2019). These are focused on developing scientific and technological capacities, along with entrepreneurial capacities to further develop the areas of smart industry, clean energies, and personalized health.

Those three areas will be supported by; Artificial Intelligence and Big Data or Data Science, Internet of Things (IoT) and 5G technology, Cybersecurity, Cyber physical systems, advanced materials and processes, energy storage, electronic power, Biotechnologies and Genetics, Nanotechnology and Quantum Technology and Neutronics (Consejo Vasco de Ciencia, 2019), all areas in which Basque enterprises have already begun working.

Table 6: Regional European Scoreboard from 2007-2019, Basque Country

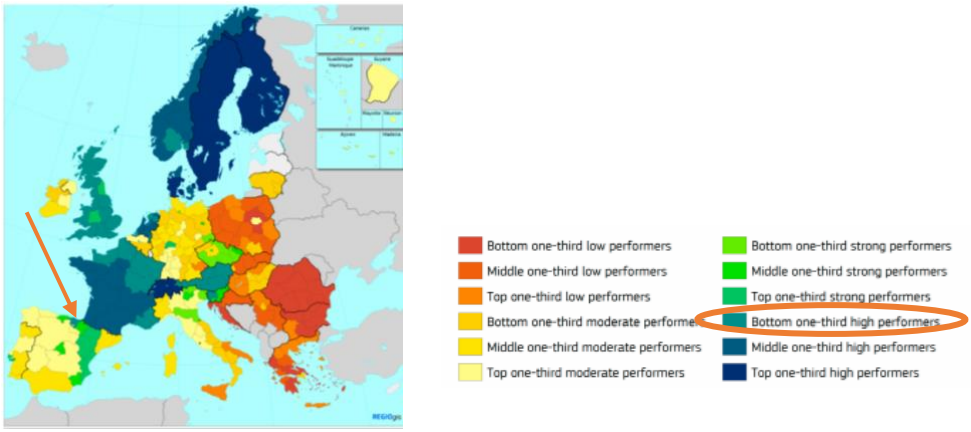
7th Framework Program[7]						
2007	2008	2009	2010	2011	2012	2013
Strong	Strong	Strong	Strong	Strong	Strong	n.a.

8th Framework Program						
2014	2015	2016	2017	2018	2019	2020
Strong	n.a.	Strong	Strong -	Moderate +	Moderate +	n.a.

Sources: (Hollanders et al., 2009, 2012, 2014, 2016; Hollanders & Es-Sadki, 2017)

In order for the regional network of enterprises to work in alignment with such a strategy, the enterprises and the individuals need to develop the required skills and knowledge. To do so, learning practices are needed (formal, non-formal, and informal), with the goal of acquiring the strategic knowledge and skills that will directly contribute to the implementation of the competitive strategy. Having a **lifelong learning culture** enables the creation of the required learning practices for the inhabitants and, in the Basque Country, such a culture already exists.

Figure 9: % population aged 25-64 participating in lifelong learning



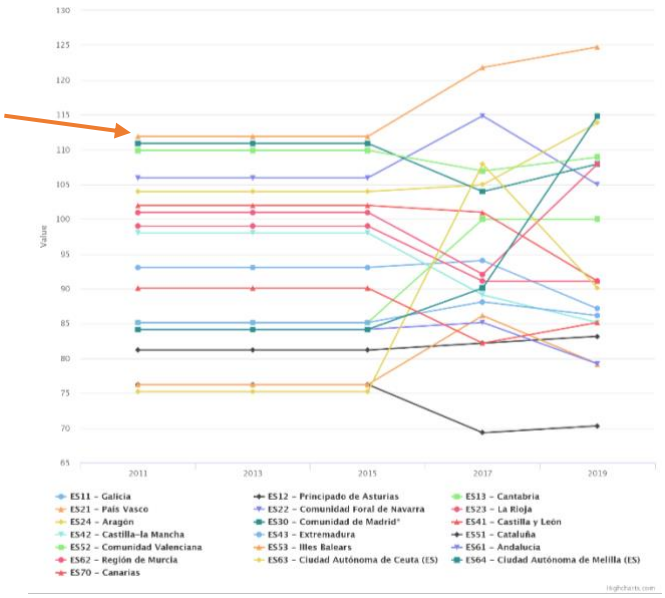
Source: Hollanders, Es-Sadki, & Merkelbach (2019b)

[7] Applicable to both Framework Programmes displayed: The scale used for data from 2007 to 2011 was as follows: Leaders, Followers, Moderate, Modest. Instead, from 2012 on, it has been as follows: leader, Strong, Moderate, Modest. Each of the categories subdivided in high/+, medium or low/-. For better data analysis, all data are displayed following the latest scale.

"Lifelong learning" is one of the innovation indicators of the Regional Innovation Scoreboard, and in 2019 the Basque Country was ranked as the bottom one-third high performer (Hollanders et al., 2019b), (Figure 9).

As can be seen in Figure 10, the lifelong learning indicator has notably increased in the Basque Country in recent years, from 2015 onwards. The latest figures from 2019 indicate that in this region is currently above 124.75% of the EU average. And, since 2015 it has scored markedly higher than the rest of the Spanish regions. The fact that this score is related to one of the indicators in the Regional Innovation Scoreboard shows, once more, its significance as a competitive region.

Figure 10: Lifelong learning 2011-2019, Basque Country



Source: Eurostat (2020)

There are several political and operating groups in place through which the Basque Government supports lifelong learning. There is a foundation called "Hobetuz" created by the Government (and supported by other organizations) in 1996 as a conglomeration of two formerly established entities, both of which are focused on supporting training within organizations. This foundation is responsible for supporting lifelong learning practices all over the Basque Country in order to retain highly qualified employees through in-house training, training of people, and learning programs in educative centers.

In the field of training in organizations, it aims to support strategic training organized by the enterprises' for their employees (Hobetuz, 2014), providing financial support for these activities, with the aim of complementing the national program for lifelong learning in Spain "Fundae" (Hobetuz, 2016).

Within the region, there is another institution that contributes to its inhabitants' lifelong learning, known as "Lanbide". It is the Basque employment service and, as part of its services, it offers training for the unemployed and to those currently working but who wish to improve their skills. The training courses are free of charge for the participants (although some requirements need to be fulfilled), (Gobierno Vasco, 2014).

Those regional approaches are aligned with the EU's strategic plan. In the latest European reflections on achieving a Sustainable Europe by 2020, one of the main horizontal enablers for the sustainability transition is about "education, science, technology, research and innovation" (European Commission, 2019a). Within this enabler, lifelong learning is considered a key asset for creating a sustainability culture and to achieve sustainable development. In short, they support the idea that the focus of education should be lifelong — from childhood to adulthood (European Commission, 2019a).

The European Commission has presented itself as a supporter of lifelong learning from as long ago as 1957, with the "Treaty of Rome" in which basic and advanced vocational training was promoted. Moreover, this has continued since then with various policies and resolutions, such as the "Resolution on Lifelong Learning" in 2002 or the "Upskilling Pathways-New opportunities for adults" in 2016 (European Commission, 2020b).

Individuals need to continue learning when adults in order to remain competitive in the labor market with updated skills. The European Commission encourages adults to participate in formal, non-formal, and informal learning practices. To do so, it has set up an ET 2020 Working Group with different national experts, European social partners and civil society members. Furthermore, there is a network of National Coordinators in charge of promoting adult learning in their country through policy advice and support (European Commission, 2020a).

Aside from the information analyzed in this section of the thesis, no data have been found to show how the politics of Basque enterprises are aligned with those of the Government and the EU's strategic approach to Lifelong Learning. Furthermore, all the practices mentioned above show how the learning activities promoted by local authorities adhere to the principles of formal training; "training of people", "learning programs in educative centers" or "training for the unemployed". There is no evidence to suggest the existence of other learning activities beyond formal training.

The previous chapter (Chapter 3) alluded to the importance of having a common approach for formal and informal learning that inter-connects both in order to create greater learning opportunities (Marsick et al., 2017).

This is why it would be interesting to carry out this research in this location and contribute new knowledge about how the key foundations of an AD&HP Ecosystem could be made tangible. Furthermore, it would be an interesting starting point for regional authorities to keep track of how enterprises are progressing with regard to their Lifelong Learning strategies (beyond formal training) with the aim of maintaining the region's score in the Regional Innovation Scoreboard indicator.

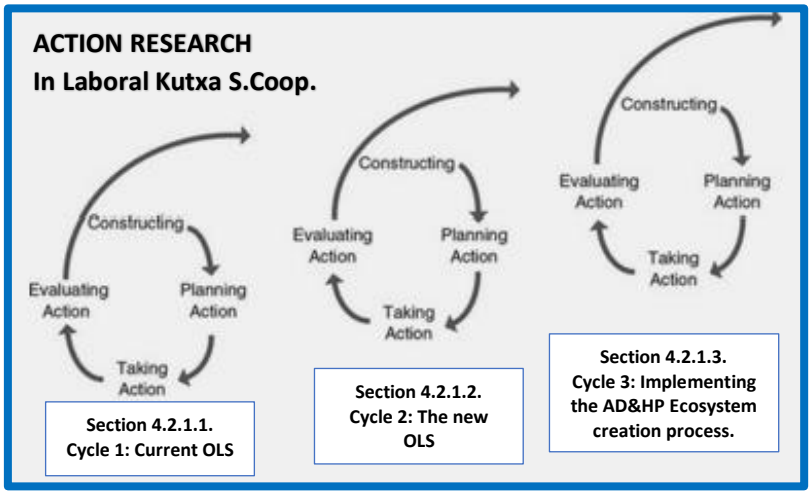
4.2. NARRATIVE AND RESULTS

This section presents the narrative and results of both enterprises under analysis in this research: first, Laboral Kutxa S.Coop., and then SENER S.A.

4.2.1. LABORAL KUTXA S.COOP.

This section narrates the action research carried out in Laboral Kutxa S.Coop, as well as the output from the three intervention cycles. This is organized according to cycles; Sub-section 4.4.1. The current OLS of the enterprise; Sub-section 4.4.2. The new OLS co-designed with the enterprise; and Sub-section 4.4.3. The implementation of the AD&HP Ecosystem creation process (Figure 11).

Figure 11: Action Research in Laboral Kutxa S.Coop.



Source: adapted from Coghlan & Brannick (2014, p. 11)

Nonetheless, Appendix 20 describes in further detail the four steps in each of the three cycles: construction, action planning, taking action, and evaluating action.

4.2.1.1. CYCLE 1: CURRENT ORGANIZATIONAL LEARNING STRUCTURE

This first sub-section (for Laboral Kutxa S.Coop) presents the results of Cycle 1, which aimed to address objectives no.2 and no.3: "To compare and evaluate how the foundations of the AD&HP Ecosystem are inter-connected and influence each other" and "To assess how the organizational culture makes tangible the foundations of an AD&HP Ecosystem".

The results are organized by theme, that is, those that constitute the theoretical model of this thesis (Chapter 2). This is because the aim of this cycle was to describe the current OLS in Laboral Kutxa S.Coop. for subsequent explanation in the Discussion (Chapter 5).

4.2.1.1.1. The Organizational Learning Structure: Creation and Implementation process

The managers of a department or office oversee the follow-up of its people. They are the ones who identify the **training needs** of the team members based on their current performance and the strategic objectives of their business. Apart from assessing their team based on their current and expected professional performance, they check if the strategic plan is being properly implemented or, if it has not yet been implemented, whether the team is ready to do so. The identification of the learning needs itself is not structured: each responsible agent **intuitively identifies** the needs by taking into account not only the business results of the team but also the working conditions of the group during that year. Some might simply talk to their team members to ask what their training needs are.

Apart from this, these **managers identify** what knowledge or skills of their team may be suitable or interesting for other people in the organization. If they do so, they include this in the learning needs identified for their people and communicate this to the training-team in their annual meeting. Each year, they share with the training-team the knowledge and skills needed by his/her professionals to achieve better performance. This information communication is structured, since both parties know that around the month of November, they will have a personal meeting to discuss this issue.

Once this has been done, the training-team leaders gather all the training needs and prioritize them based on the strategic business areas of the enterprise in order to adjust these to the training budget for that year. Based on this prioritization, the training-team defines the training courses that need to be delivered during the following year. This plan is proposed to the CEO team and, once it is accepted, the training-team start to work on the plans by contacting external training providers, co-designing the courses, creating the material for the courses, and inviting the employees to participate in the course.

Once the courses are ready to be delivered, the department managers and working teams decide who attends which course. This is based on who those responsible consider to be in the most need of receiving the course along with the workload they have. The employees are then usually invited without the obligation to attend, although they are strongly recommended to participate.

Another important aspect to consider in the identification of training needs is legality. Due to the industry in which the enterprise operates, they are legally required to ensure that the employees obtain certain certifications, which are awarded through particular courses that take up most of the time that the employees have allocated for training. The L&D team is in constant communication with those external agents who require this fulfillment, whilst an association of enterprises from the same industry come together and discuss the most recent legal requirements.

Whilst this process concerns the training needs of the people, there is another learning source which is not organized through this process (or any other structured process), or managed by the training team. When the **new products and services department** creates a new product to be launched, the employees need to learn about it and be trained to be able to manage it internally and offer it to the customers. Thus, the department in charge of the new creations is responsible for defining the content that each employee (depending on his/her role) needs to work on and internalize. Once this is defined, it is passed to the department or working team manager who are responsible for organizing the necessary training sessions with the team, where experts explaining the content are the creators of the product or service.

Similarly, when a **business unit** identifies that the business objectives are not those that were expected, they talk to the working team managers and identify what learning needs they have with regard to that business unit and organize face-to-face or online training sessions (of 1-2 hours) where they share new or updated knowledge. Furthermore, in this sense, there is one particular business unit (the latest incorporation to the enterprise) that goes beyond an informative session and organizes workshops where individuals bring in their performance difficulties with the products or services in that business unit and are given the opportunity to practice with role-plays. These workshops have been highly successful and positively assessed by the participants.

There is a third process that occurs outside the training-team's tasks where high level managers of bigger areas come together in their business meetings every week, and where training is part of the meeting's agenda. They talk about the knowledge or skills needs that have been identified by each manager. This identification has emerged from either the managers' observations of their team or because the team members, the employees, have expressed these needs. From this identification, they design some training sessions of around two hours in which the team is gathered outside working hours in their own office or one nearby in order to address as quickly as possible those knowledge needs required for effective performance. In these sessions, the one talking and sharing knowledge is the manager of that team, a higher manager, or another colleague from the same office or another office who has the knowledge and is able to share with the rest.

4.2.1.1.2. Organizational Learning

One of the key aspects in organizational learning is the fact that new knowledge needs to be institutionalized. In the case of Laboral Kutxa S.Coop. there is no evidence of doing so and in SENER S.A. only one practice has been identified that serves this function. In SENER S.A. the process of managing the "good practices" is structured and, apart from having them on the intranet, those that are considered key or likely to appear in future projects are integrated into their processes and rules.

With regard to the alignment of the OLS with the corporate strategy, in Laboral Kutxa S.Coop. all training courses are aligned with the **needs of the individuals for their performance and the business's strategic objectives**, and some of these courses are

kept in the internal online learning platform (accessible to anyone within the enterprise).

The knowledge flow within the organization is restricted to the knowledge shared voluntarily by individuals with their colleagues. Whilst there are no structured practices for this, some managers carry out certain practices to do so[8].

Currently, the access to knowledge and information that people have in the workflow to attend to their moments of need are their colleagues and certain contents in the internal online learning platform, which have been collected from previous training courses carried out in the organization.

With regard to connecting the individuals with the environment and external agents, in this sense individuals can ask to take part in external courses (not organized by the organization) and if the manager and the training-team consider it appropriate and aligned with their work, they receive the necessary economic support to do so. The training team, however, regularly creates reports containing current information with the latest news about the industry, which are sent to all employees.

4.2.1.1.3. Team Learning

Naturally people tend to share their knowledge or ask for help from the physically closest employees. Or, if it is a generic need, they check on the internet, or on Google. Although there are no highly empowered teams searching for ongoing improvement, the organization tracks their performance progress by checking team KPIs of business objectives.

Currently there are no structured team learning practices. When someone attends a conference or workshop outside the organization, he/she is not obliged to share that knowledge with other colleagues in the organization. If he/she does, it is done so voluntarily. Concerning the creation of training courses for people in different departments, this tends to be quite difficult as they work separately, and each department is managed on an individual basis.

In the working team, the weekly meetings are supposed to have “learning” as part of the agenda. And whilst this is the case,, it is the last thing in the list, and it tends to be left behind as the previous topics related to everyday work can often take longer than expected.

Part of these meetings are also devoted to discussing current topics. The manager is responsible for briefly bringing in current news or updates about their industry to the team and to share opinions on these topics. But, once again it is a voluntary and not a tracked action — it depends on each manager.

[8] To know more about those practices, see the following section about “Team learning”.

In those training sessions organized by the managers themselves to support performance knowledge needs[9], apart from identifying learning needs, they tend to identify good practice and include these in the training session so these can be spread to other teams and employees. This, however, is not easy as those people who stand out for their performance do not always want the exposure, as they might be afraid of what other colleagues will say.

In the organization's internal online training platform (installed in 2013), there are forums that are usually activated next to a training course and there are some others activated for working groups of departments in order to share questions and knowledge. These tend to be voluntary and, in reality, have not been successful, except for one training course which was legally compulsory for all the employees, and this forum was the only way to contact the experts providing the course. It was used to direct questions to the expert but not to share knowledge with colleagues. Most of the employees do not make a habit of accessing the platform.

There is no evidence to suggest that this organization has practices for the development of team intelligence and abilities.

4.2.1.1.4. Individual Learning

Some managers come together individually with their team members and set some learning objectives for the following year. And, since this is not a structured process, it is done at the discretion of the manager, but usually there is no follow-up of those objectives and they are ultimately not achieved. Nevertheless, in 2019 they had just launched a new "program" where this process was being structured and everyone in the enterprise was required to have an individual meeting with his/her manager to set some learning objectives.

This one- to-one meeting consists of having a conversation about how the person sees himself or herself concerning the necessary competencies for the enterprise, that is, what is his/her improvable gap. These needs are framed within a specific skills framework that has been created for everyone working at the enterprise so, they are able to freely choose within the framework. The aim of this conversation is for the person to reflect on his/her current competence level and to set some self-development objectives to be achieved in a year. To do so, the person responsible helps the individual to define certain learning actions he/she can carry out and become committed to fulfilling in the established timeframe.

Concerning the proactivity of people, there is a general attitude of passivity towards learning. People expect the enterprise to tell them what to learn and when to do so. Nonetheless, whenever they face an obstacle or a problem for dealing with a work task, they ask for help from their nearest colleague. Moreover, in the new program

[9] For more information, see the previous section "The organizational learning structure: creation and implementation".

mentioned previously (the annual one to one meeting between the manager and team members to discuss competences), empowerment is being worked since the individual has to commit with the action plan. But, once again, this is occurring because the enterprise requires them to do so. However, with the recent individual learning program mentioned in the previous paragraphs, it is expected that the employees will engage more with learning and be more responsible and proactive with their upskilling and re-skilling.

Currently, the annual employee survey shows that they miss having more training. However, when asked about the type of training they would like, they do not have a specific answer.

4.2.1.1.5. Formal and Informal Learning Activities

The primary learning activities in the organization are formal training courses, around 50% in-person, and 50% online. Concerning the in-person courses, people have to be absent from their workplace and usually attend the enterprise's headquarters (where most of the training courses take place). These are positively assessed by participants as they have a clear space for learning, with almost no distractions whilst they get to gather with other people.

In the case of the online courses, the professionals can do these any time within a specified deadline and therefore they can decide when they want to do it or when they can do it, either in the workplace or at home. They have permission to do it in the workplace and they also have some annual working hours to be dedicated to learning activities. Nevertheless, those who are face to face with the customer (around 80% of all employees) find it difficult to fit in training-time in the workplace so they end up either not doing it or doing it from home.

An internal e-training platform is available where they store some of the courses that have already been delivered and these are accessible to anyone in the organization, as well as some external courses or resources that employees may find useful. The aim of this content is to be readily accessible to everyone in the enterprise to encourage proactive earning by making available any content that they may find interesting.

Culturally and informally, the employees tend to support each other. Whenever they have a question about a task, they ask a colleague, usually the one nearby, or they ask their manager. And, if it is something generic and not strongly related to their enterprise's particularities, they search on Google. These are their main informal knowledge sources. Furthermore, there are some people that voluntarily attend external conferences to keep up to date with developments in their industry.

4.2.1.1.6. Safe and Encouraging Learning Environment

In recent years the number of people in the working-teams has decreased, which has increased the work tasks for each individual. This, along with the fact that around 75% of the employees work face to face with the customer makes it extremely difficult to have a time and space to dedicate to learning at work. Before, they used to have the "learning hour"; an hour where the whole working team came together to share some knowledge. But as the individuals in the working team have become more specialized and do not consider there are common learning needs, this no longer exists.

Furthermore, the compulsory legal training sessions take up most of the time that the individuals have allocated to their annual training. Thus, training sessions like those organized by higher managers [10] are scheduled outside of working hours. And that is the reason why they are increasing the online training courses and recording live sessions.

There is not much of a feedback culture in this organization — either positive or negative. There are some annual meetings where managers gather individually with their team members to talk about their performance and the team's objectives but there is no explicit discussion of their progression, upskilling, or re-skilling as professionals. And they do not receive ongoing personal feedback about their performance or development. Once again, follow-up of the individual is at the discretion of the managers and is not structured.

Further, in training courses, participants are asked to assess the course following Kirkpatrick's 2nd level, although they are now assessing the possibility of upgrading to Kirkpatrick's 3rd level to assess the course's impact in the workplace. The follow up of these courses is not precise, since participants are not usually forced to join a training course (although there are some exceptions in cases where the individual needs to do so) and, except for the legally compulsory courses, their fulfillment is not tracked.

The organization supports teamwork, and a clear reflection of this is the fact that the performance objectives are attached to team results rather than those of individuals and are rewarded as such. Every week the manager shares the status of the team objectives, including which ones they have achieved, and the ones that will require more work. And, they have seen that when the working teams are smaller and have an environment based on trust, they show higher performance and tend to learn more.

With regard to having a safe environment where mistakes can be made, in this organization, when someone makes a mistake it is addressed and the person is reprimanded. Most of the errors are involuntary and with no bad intention and thus it is not done in a drastic or punishing way but, it is discussed and the person is asked not to repeat that mistake. Moreover, there is a tendency to label people for their mistakes. So generally, it is perceived that people do not want to make mistakes in order to avoid being castigated. And finally, they do not want to stand out — whether this be for the worse or for the better.

[10] For further information about these sessions, see Section 4.4.1.3.1. "The organizational learning structure: creation and implementation process".

4.2.1.1.7. Strategic Leadership

The managers' role influences the participation in training courses and other knowledge sharing practices. When the invitation to a course is sent out by a direct or superior manager, people react faster and are keen to participate, whereas the level of uptake is much lower when the invitation is sent by the training team. Nonetheless, it is usually the training team that is responsible for encouraging employees to enrol in the courses. They once tried recording short videos where managers explained the importance of a course and its strategic alignment with the enterprise and the results were highly positive.

Generally, learning is not considered to be part of everyday work activities, and so a better internal communication strategy is needed to strengthen the importance of learning and the self-responsibility for such learning.

The managers are highly focused on performance and business outcomes. "First is business and then learning". They are in charge of their team's performance but follow-up is not structured and depends on the manager. Moreover, there is no ongoing feedback and assessment of the individuals' learning and development. Furthermore, training is considered to be something that comes from the training team that makes employees feel that they are being taken care of, rather than being related to business and performance.

4.2.1.1.8. User-Friendly Systems and Resources

The main communication systems are: in person, by telephone or by email. And, for the storage of documents, they use a local disk and cloud. They use the telephone for a particular consultation with anyone in the organization and email is used for sharing all the regular information needed for their job. And, although not a digital tool, physically consulting with nearby colleagues is a commonly used practice for solving everyday problems or worries.

At work, they have two main digital platforms: the intranet where they carry out all the work operations, and an e-learning platform. The intranet is highly used as it is a fundamental place for working, whilst the e-platform was installed back in 2013 but it has only recently been used to incorporate training material and has been active for just over a year. This is where most of the online training occurs, if not on the external course provider's platform). Online sessions (usually streaming) are also delivered on this platform.

Moreover, documents are stored from different training courses that have already been delivered in the organization. There are video recordings where people from the enterprise have given a live informative session. These are accessible to everyone in the organization from both work and home, and from computers and mobile devices. They are designed to keep the content updated so that people get into the habit of using it as

a source of new knowledge since this is not a routine practice nowadays. It is considered as "something that the training-team uses and that I have to access when I have a compulsory course to attend".

Having the online platform has enabled the enterprise to reach more people with the same content and to adapt to the required flexibility of space and time. All of the content can be accessed from anywhere and anytime, whilst also being cost-efficient as face-to-face informative meetings can be streamed or recorded for later access.

On most occasions the resources and content of the training courses are customized for the enterprise. They are co-designed by an external provider and the training team and include the specific contents that have been identified as necessary for the enterprise. Nevertheless, some of the courses (particularly those concerning soft skills) are generic.

Moreover, on the internal online training platform, some of the previously delivered courses are stored (along with external courses or resources that employees may find useful) and are accessible to anyone in the organization. The aim is to make this content interesting and readily accessible to everyone in the enterprise to encourage proactivity in learning. Moreover, they try to update the contents as they become obsolete (that is, once everyone has become familiar with the content or has participated in the training course).

Concerning the new process that began in 2019 for the individual learning objectives, although the manager has provided some ideas and has recommended some resources for working on the learning objectives, not all the resources are available in the internal learning platform of the organization.

4.2.1.2. CYCLE 2: THE NEW ORGANIZATIONAL LEARNING STRUCTURE

In this second sub-section on Laboral Kutxa S.Coop. the results of Cycle 2, which aim to contribute to the specific objectives no.3 and no.4: "To assess how the organizational culture affects making tangible the foundations of an AD&HP Ecosystem" and "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

The results are organized by theme, that is, those that constitute the theoretical framework of this thesis (Chapter 2). The aim of this cycle is to define the foundations of the new OLS in Laboral Kutxa S.Coop. and so this was considered to be a more suitable way of presenting the results rather than organizing them according to working session.

THE FOUNDATIONS OF THE NEW OLS

These working sessions allowed the participants to set up the foundations of the organization's new learning structure. Table 7, shows, on the left-hand side, the foundations of the current structure, whilst the proposed foundations of the new structure are shown on the right-hand side.

The desired OLS is explained in a descriptive way, as the participants presented them (Appendices 22-30). The following aspects are addressed: general characteristics of the OLS; how individuals learn; the learning activities; the content and technology to be used; learning in the workflow; the learning environment; and leadership support. The difficulties they may encounter when creating the new OLS (as identified by the participants) are then presented.

Table 7: Current and desired OLS in Laboral Kutxa S.Coop.

CURRENT ORGANIZATIONAL LEARNING STRUCTURE (FOUNDATIONS)	**DESIRED ORGANIZATIONAL LEARNING STRUCTURE (FOUNDATIONS)**
1) We aim to have fully prepared professionals. 2) Our people have fulfilled the legally required training sessions. 3) Our people know we care about them as we offer them training opportunities. 4) Our managers know what their team's learning needs are, and we attend to them. 5) We have started to work on developing the skills of individuals.	1) Individuals to be responsible for their own learning and development. 2) We want structured practices to sharing existing knowledge among our people. 3) We offer personalized learning opportunities, according to the professional needs of the person. 4) Our learning opportunities need to be aligned with the business strategy and culture of the enterprise. 5) We must take advantage of user-friendly digital tools to make knowledge accessible for our people. 6) We have to think of the 702010 methodologies to use the most suitable ones for each learning objective. 7) We have to enable physical and time spaces in the workplace for people to consciously learn. 8) The learning structure that supports this strategy needs to be strong and agile.

Source: The author, based on the participant interviews and working sessions in Laboral Kutxa S.Coop.

The new organizational learning approach is based on an agile learning structure that is adaptable to changes based on the needs of both the people and the organization.

The identification of the learning needs of individuals is done with the active participation of the individual, that is, these are co-identified. The aim is to support the individuals' objectives with learning activities and resources applicable to work. All employees take part in at least one training course every year, some of which will be universal for all employees. The individuals are proactive, responsible and committed to their learning and development. They voluntarily take part and look forward to improving. Further, they are digitally qualified to be able to autonomously search for information online in different sources and share their knowledge on digital platforms.

Concerning ***the learning activities*** used in training and learning, the user experience should be pleasant, motivating and exciting. These should not just be formal training courses, there should be more "70" and "20" practices from the "70:20:10" model.[11] Nevertheless, the formal training courses should be adaptable, diverse and tailored to the user. There is a need for more participative learning activities where people share their knowledge in their workdays; where there are appropriate spaces and activities for sharing knowledge, networking and collaborating opportunities. For instance, all working teams could share and discuss the reports spread by the training team about current news and developments within the industry, or there could be a stronger relationship between working teams and departments in order to encourage this knowledge sharing.

This knowledge sharing does not just occur within an office or a working team but also between offices and working teams. There are no barriers to knowledge sharing. Moreover, it would be useful to have a list of internal experts on different topics and to have access to them for consultation, and such activities should be somehow structured to ensure that they occur, and that they are not made impossible by the employee workload.

The content worked on in the training activities should be focused on the future needs of the employees based on the future needs of the enterprise — the organization's strategic approach. Nevertheless, training and learning activities should be considered as interesting and usable by the user for their everyday tasks. The training courses and the informative content should be presented in a variety of formats, such as video and audio. It is necessary to take advantage of the existing technology in the market, beyond the internal e-learning platform; including podcasts, moocs, and blogs. Nevertheless, there should be an equilibrium between the online and face to face training courses, since both are necessary. The learning structure should be supported by technology and multiple sources of digital knowledge.

With regard to the time spent during ***the workflow*** for learning activities, individuals should get back the "learning hour" to have time for learning in the workplace combined with an appropriate physical space for this purpose (this is particularly important for those working face-to-face with customers, since they need a place that is free from distractions). A learning hour a week is needed that can be used by the individual to learn in the way he/she wants. Furthermore, apart from being applicable to work, learning opportunities should be integrated into the workplace.

This is a collaborative, attractive and motivating ***learning environment*** where individuals have time and space in the workplace to have quality time for learning, whilst being dynamic, transparent, flowy, agile, easy and intuitive. All ideas are accepted and respectfully shared and people are happy and feel that they are the protagonists of their development.

Concerning ***leadership***, everyone in the organization should be involved and the managers at different levels should support this new organizational learning approach.

[11] For further details about the "70:20:10" model, see Arets et al. (2016).

The CEO team should explicitly support it and, the direct managers of the working team or departments are the main influencers, the ones who will more or less motivate their teams to learn. And whilst the HR team should be the leader of the project they should not be the only responsible agents; different knowledge areas from the organization should also take part.

Furthermore, individuals should have support and guidance when defining their learning objectives and for filtering external knowledge and information. And, along with this, the organizational learning structure should take into account and be aligned with the other project that was initiated in 2019 to address individual development of all the employees in certain competences[12]. Further, the new structure should contribute to that project by designing learning activities that will help to address the individuals' learning objectives defined in that project.

With regard to feedback and assessment, the assessment of training courses should include Kirkpatrick's 3rd and 4th level in order to evaluate the extent to which learning on the course is translated to the workplace. Moreover, the organization will assess the results obtained from the learning practices and the involvement and participation of the people in them. This not only involves the participation in training courses, but the skills acquired in the workplace and the knowledge shared and transferred to colleagues and integrated into the workflow.

Nevertheless, obtaining a change in the OLS is viewed as a change that will require all parties to ***overcome some difficulties***. The difficulties identified by the participants in these sessions are described next:

Currently the main learning options offered by the organization are formal training courses where the manager selects who attends which course. This way of proceeding, in addition to the courses that must be completed by law (and which take up many hours), do not allow for giving autonomy to the individual to choose what he/she wants to train in, or how to use their annual working-hours that are allocated for learning.

Furthermore, the number of people working in each working-team has decreased in recent years, which means that the same amount of work is shared among fewer people. This makes it more difficult to fit in learning time or learning moments during the workflow.

Nowadays it is not part of the organization's culture to follow up their employee's learning, or to track their participation in learning activities or knowledge sharing and transfer to the workflow. This will be necessary to make a change in the organizational learning structure if learning is about to become part of the routine working day and be of more importance to everyone in the organization.

Although there are some people committed to their learning and development, most of the employees are not responsible for their learning process and they expect the organization to tell them what to learn, which is how it has always been. People say that ongoing learning is important, but it is not reflected in their actions. In order for people

[12] For further details on this project, see "Individual learning" in Section 4.4.1.3.4.

to become committed to learning, the enterprise needs to show how important it is for the business and the benefits it will bring to the employees. Moreover, people should be prepared to be able to pick up the reins for their development, and they should have the knowledge to know where to search for information and how to share their knowledge with other people.

Furthermore, if there is a desire to implement more "70" type learning actions, then there is a need for people to adopt a more positive attitude and a readiness to change their usual way of learning. Further, it is important that mistakes are considered as opportunities for learning rather than punishing or labeling, in order to create a context in which people are highly influential in their learning approach.

Moreover, for people to engage with the learning activities, they need to be informed about why such a particular learning action is important (its impact on the business, or strategic needs) in order to make people excited about changing from training to learning and managing their the fear of such change. Further, the content must be appropriate for their workflow needs in order for the learning to be more tangible. By adapting the appropriate technological tools of the market to the needs of the enterprise, the learning process could be more engaging. In digital terms, the organization is ready to overcome the challenges associate with these changes.

Although it would be interesting to increase the connection between working groups and departments, from a managerial perspective, these are quite separate. Thus, this can be a barrier when aiming to carry out learning activities that involve different groups. In this regard, having the most adequate technological tools could be helpful. The existing internal e-learning platform could be useful for this new organizational learning approach by providing a place to include more learning sources (apart from training courses) and to share knowledge.

To tackle the change towards the new organizational learning approach it would be interesting to have a team of leaders who, apart from knowing what changes are to be made, are able to motivate, that is, people who will emphasize the importance of learning the change from training to learning with other people. This group of people should have the explicit support of managers and direct managers at the highest level. And, apart from having this team, the organization needs to offer a strong learning structure to support such a learning approach, although it needs to be flexible to give the employees the opportunity to be more autonomous and to manage their own learning process.

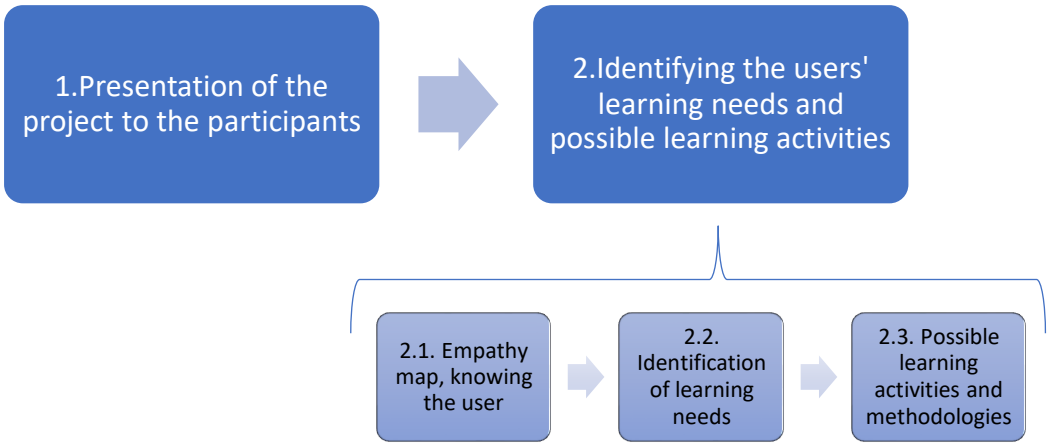
4.2.1.3. CYCLE 3: IMPLEMENTING THE AD&HP ECOSYTEM CREATION PROCESS

In this first sub-section of results for the Laboral Kutxa S.Coop., the results of Cycle 3 are presented, which aim to address the specific objective no.4: "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

The results are organized by time-sequence (Figure 12), displaying the results in each working session; the profile of the users in each knowledge area; the learning needs in each knowledge area; and possible different learning activities in each knowledge area.

This results are presented in this way because the aim of this cycle was to describe and analyze the results obtained in each step of the intervention to assess its effectiveness.

Figure 12: The working sessions' sequence in Cycle 3, Laboral Kutxa S.Coop.



Source: the author

4.2.1.3.1. Presentation of the project to the participants

The first session started with the presentation of the project; its origin, why they were participating in it, and the aim of it. Whilst the participants here will not be the users of the learning structure we are about to design, they do have a direct relationship with them. This is why they were asked to meet with them and identify what learning needs they have concerning the knowledge area being addressed. This will generate highly valuable input for the next session where we aim to identify the users' learning needs.

4.2.1.3.2. Identifying the users' learning needs and possible learning activities

The second session aimed to identify the users' learning needs and the learning activities that could be put into practice. First, we began with the characterization of the user of the learning structure we were designing. To do so, we used the empathy maps. In each of the groups, we chose typical users that could be representative of the user types for which the activities would be designed.

The User in Knowledge Area No.1 (Appendix 31). The users of the learning structure for knowledge area no.1 were divided into two groups; the "Experienced Sellers" (ES) (the people that are highly experienced in selling products from this knowledge area) and

the “Non Experienced Sellers” (NES) (people who have recently started to sell products from this knowledge area). Furthermore, some other characteristics were included to differentiate the last category of people into sub-groups of six different users; whether there is a ES in the same office or not and, the number of employees in the office where he/she works.

A common challenge of these users is achieving their business objectives (in the case of the ES these are individual objectives and, in the case of the NES, the objectives of the office). The ES are worried about the future of their profile in the enterprise and who they are supported by when they have any questions about their performance regarding the product. The NES are also primarily concerned about their future; if the face-to-face interaction with customers is declining, will his/her job position still be required? Furthermore, he/she now has to sell this product (of knowledge area no.1) and he/she does not feel fully prepared for it and they do not know how their regular customers are going to react towards them when selling this new product.

With regard to their difficulties at work, achieving their business objectives is the main challenge for both (and a worry at the same time), and these are increasing year upon year. In the case of the NES — and related to their concerns about their job position — their main future challenge is to be ready for a potentially forthcoming role change, which entails having the required knowledge and skills to achieve the business objectives. Further, they must take on the challenge of keeping their team motivated and engaged at work.

With regard to the aspect that motivates these users the most, this is, once again, the achievement of their business objectives. In the case of NES, the youngest employees and those who have recently been promoted are those who are motivated by the professional development opportunities that could arise within the enterprise. Moreover, the satisfaction of both customers and team members constitute another motivating factor.

The User in Knowledge Area No.2 (Appendix 32). The user of the learning structure for knowledge area no.2 is a person whose role is to be responsible of all the offices in a particular geographical area where the company operates. His/her main challenges are to keep their team motivated and for them to feel comfortable at work, as well as ensuring that the monthly business objectives (in the area for which he/she is responsible) are met.

With regard to motivational factors, achieving those objectives is one of the main sources, along with not receiving recognition within the organization (whether this be for good or for bad). On the topic of pains or aspects that worry him/her, having a team that is motivated to sell more and in general, selling more of their specified quota are the chief sources of concern.

The User in Knowledge Area No.3 (Appendix 33). The user of the learning structure for knowledge area no.3 is a person that works in a medium size office and has face to face interaction with customers, and who has around 15 years of experience. His/her main

motivators are related to customers satisfaction and gaining positive feedback from them. Resolving problems effectively is a further source of motivation for this person.

The aspects that concern him/her the most are: being able to achieve his/her business objectives, whether or not the work digital platform will function properly, and being able to cope with a role change in the event that this is necessary in the future (he/she is starting to hear that face-to-face customer attention is decreasing, which directly affects his/her office).

With regard to challenges, he/she is focused on completing the day's agenda, being prepared to perform future roles and establishing themselves in the enterprise with professional development opportunities.

The User in Knowledge Area No.4 (Appendices 34-35). **One of the users** of the learning structure for knowledge area no.1 is a director of a big size office where customers are served. It is a person that feels satisfied when he/she performs professionally and is working in team. Nevertheless, what worries him/her the most is not being able to perform professionally and not being able to prioritize the most urgent and important tasks.

His/her main challenges are the following: improving the team's performance efficiency, ensuring the team's development, achieving the business objectives of the office, resolving problems, and motivating and coordinating the team. The difficulties he/she experiences include the high administrative load and the feeling that more and more tasks are being assigned to these offices.

The other user is the director of a small office where the customers are served or a "PRO manager"[13]. This person is motivated when the customer is satisfied, when the business objectives of the office are achieved (or his/her PRO objectives) and when he/she receives recognition for a job well done. In the same vein, he/she is worried about a lack of time, not achieving the business objectives, and having unsatisfied customers.

The objectives of these users are the following: getting recognition and satisfaction for a job well done; being a continuous learner and having satisfied customers in order to benefit the organization's good reputation; to achieve all the business objectives that are set for all the business units; having a good working environment; and having a common vision and aim as an office/team and achieving those aims.

Once the users had been characterized, it was time to begin **identifying the learning needs** of that user concerning the knowledge area being tackled in the group. This process began by sharing all the information the attendees had gathered from the users, and then defining the needs with regard to knowledge and skills.

Learning Needs in Knowledge Area No.1 (Appendix 36). The main knowledge and skills needs of the users in this knowledge area were the following: knowledge about the products themselves, all of their characteristics and what makes them different from

[13] PRO Manager: is one of the types of managers in Laboral Kutxa S. Coop., he/she is in charge of a customer segment, known as the "PRO" customers.

the competition and the latest regulations with which it must comply; to better know what criteria to use when offering one product or another to a customer; getting to know the products in detail so that he/she knows enough to properly sell and support his/her sale when negotiating with a customer and; to know how to properly use the digital platform where these products are managed along with the changes that need to be made when a new one is sold.

Learning Needs in Knowledge Area No.2 (Appendix 37). The main knowledge and skills needs of the users in this knowledge area were the following; deep knowledge about the products being sold; getting to know the customers and the products that can suit them best based on their needs; to fully understand and be able to perform the selling process specified by the organization; knowing how certain decisions concerning the products are being made in the organization by other colleagues; a clear understanding of the market and what the competition is offering; to know his/her team's abilities and; to fully understand the digital platform where the products and their selling process are managed.

In addition to all these knowledge needs, the following skills were also identified: being a motivator, being a good communicator, and being empathic, creative and proactive.

Learning Needs in Knowledge Area No.3 (Appendix 38). The main knowledge and skills needs of the users in this knowledge area were the following: being digitally sensitized by having basic digital knowledge applicable to his/her job position; being able to communicate through digital tools, as well as to obtain the wanted or needed information; having the ability to know which channel of communication is best suited to each client and being prepared to accommodate all of these; being familiar with the latest digital trends in the industry; having the knowledge about digital security and how to securely manage information (about both the organization and the customer) on digital tools and platforms; and gaining an understanding of the company's digital products.

In addition to all of these knowledge needs, one main skill was identified: offering the best customer experience possible.

Learning Needs in Knowledge Area No.4 (Appendix 39). The main knowledge and skills needs of the user in this knowledge area were the following: knowing how to use digital tools that support the risk-analysis of the products to be sold; to know in depth the business and the impact of products sold on the enterprise's business results; the knowledge about how these products are sold and the organization's selling procedure for these products; knowing the customer and his/her needs; taking advantage of social media for commercial activity; in addition to knowing the products, knowing how the business works in the market; knowing which administrative documents are required: and knowing how to perform all the steps to support the customer in the buying experience.

In addition to all of these knowledge needs, the following skills were identified: being able to efficiently prioritize work, to know to say "no"; being able to effectively communicate with other colleagues that participate in the selling process; and being

highly rigorous with regard to the product he/she is selling, that is, to whom and under what circumstances.

Table 8: Suggested learning activities in the four knowledge areas, Laboral Kutxa S.Coop

SUGGESTED LEARNING ACTIVITITES, LABORAL KUTXA S.COOP.	
KNOWLEDGE AREA NO.1 • Performance support material: ready to use in the workplace, and user-friendly. • Face to face workshops for: role playing and sharing best practices. • Flipped classroom courses, with previous reflection on one's performance or learning needs. • Shadowing a high-performing colleague. • Mentoring • E-learning content to keep up to date with business and market trends. • Monthly Skype to resolve FAQs.	**KNOWLEDGE AREA NO.2** • A guide with a list of the existing tools for supporting the selling process. • Face to face workshops to learn best practices in selling. • E-learning content with the latest news about the market and competition.
KNOWLEDGE AREA NO.3 *(the working team of knowledge area no.3 did not work on the methodologies or learning activities due to lack of time in the workshop)*	**KNOWLEDGE AREA NO.4** • Having online chats with the managers to get the awareness of the impact of sales on the business results. • Doing simulated practices and role-plays in the workplace. • Performance support material: ready to use in the workplace, and user-friendly. • Creating summaries of existing documents about the knowledge area and creating short videos that are useful and applicable to the workplace. • Online or offline workshops to answer attendees' questions. • Mentoring for individual performance support. • A document with Frequent Mistakes. • An online session every three months to share latest news about competitors. • Having workshops to share best practices and current knowledge in the area.

Source: participants in the working sessions in Cycle 2; Laboral Kutxa S.Coop

Once the learning needs had been identified by the team, it was time to define possible **methodologies or learning activities** that could be useful to address those learning needs. To do so, the participants were asked to think about their learning experiences and activities in which they had previously taken part and that had been successful. These results are quite similar across all of the teams (Table 8); they all include

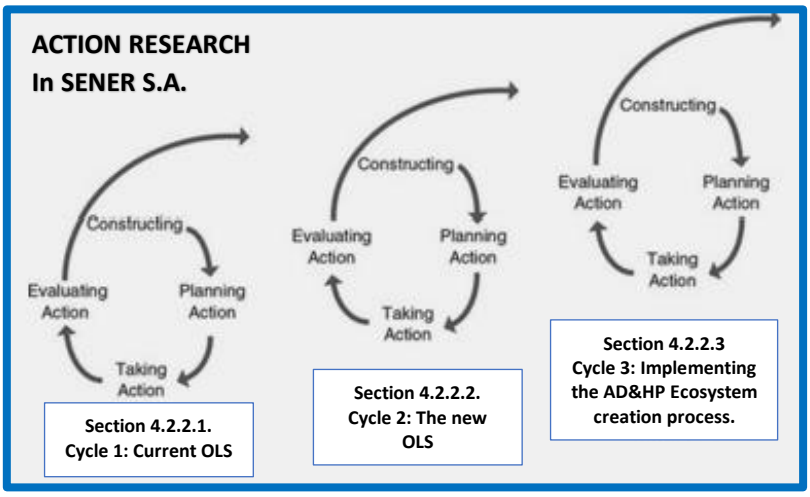
mentoring for individual support, just like having face to face workshops for role-playing and sharing best practices.

They also include attending to users' learning needs by creating FAQs or frequently made mistakes and having some e-learning content or even frequent online sessions to communicate the latest news about the market or latest trends in the business. Together with this, they talk about having simulations in the workplace where a well-performing employee supports a colleague by helping them to practice something before implementing it with a real-life customer. In addition, they stress the importance of having ready to use guides or performance supporting material.

4.2.2. SENER S.A.

This section narrates the action research carried out in SENER S.A., as well as the output from the three intervention cycles. This is organized by cycles; sub-section 4.5.1. The current OLS of the enterprise; sub-section 4.5.2. The new OLS co-designed with the enterprise; and sub-section 4.5.3. The co-creation of the new OLS (Figure 13).

Figure 13: Action Research in SENER S.A.



Source: adapted from Coghlan & Brannick (2014, p. 11)

Appendix 21 describes, in further detail, the four steps in each of the three cycles: construction, planning action, taking action and evaluating action.

4.2.2.1. CYCLE 1: CURRENT ORGANIZATIONAL LEARNING STRUCTURE

In this first sub-section on SENER S.A. the results of Cycle 1 are presented, which aim to address the specific objectives no.2 and no.3: "To compare and evaluate how the

foundations of the AD&HP Ecosystem are inter-connected and influence each other" and "To assess how the organizational culture makes tangible the foundations of an AD&HP Ecosystem".

The results are displayed in a narrative way where all the phases of the cycle are explained. In the third phase of "Taking action", the results are organized by theme, that is, those that comprise the theoretical framework of this thesis (Chapter 3). This method of presenting the results was chosen because the aim of this cycle was to describe the current organizational learning approach in SENER S.A.

4.2.2.1.1. The Organizational Learning Structure: Creation and Implementation

The **department managers** are the ones in charge of the follow-up of their team-members' performance and development. These managers — aside from keeping track of their team's performance — talk to different managers in the enterprise to address the training needs based on future project requirements, as well as the strategic needs of the business. Discipline managers, however, are the ones who are in charge of keeping the organization up to date in the areas and topics in which they work. This sometimes creates a conflict of interests, since each manager may identify different learning needs.

There is no structured process for identifying knowledge needs; each manager decides how to do so. But the main factor that determines the knowledge and skills needed by the employees is the new projects that come in, which have been sold to a customer and need to be developed, usually in the medium-term. Added to this are the business objectives of the department and the discipline, which are aligned with the strategic objectives of the enterprise.

Whenever an individual feels the need to acquire new knowledge or develop a new skill, he/she has the option to talk about it with his/her department manager, so that this can be considered in the training team's annual training plan. This plan will also consider what individuals have said about their learning needs in their annual performance assessment meeting with their department manager. The annual plan is designed between September and December and is implemented in January of the following year.

The **discipline managers** are constantly aware of what the customers are asking for and what new requirements they have. The same attention is given to key providers, since they are knowledgeable about the latest trends in the industry in which they work.

Moreover, they are in touch with and follow the publications of national and international agents who are references in a certain topic that they, as a discipline, are interested in. Furthermore, they attend the most important international conferences in order to be updated with the latest trends in specialist industries and knowledge areas. Another source of knowledge need is the publications and announcements made by the regional "Association of Engineers" (of which most of the managers are part of), as well as specialized electronic journals.

What is more, it is common to have one person assigned as the leader of one topic (the one who is most knowledgeable about this topic) and these are the ones in charge of staying up to date on the topic and sharing this information with the team.

Through these sources, they mainly look for the latest regulatory changes and technology trends. Additionally, the research and development department regularly gather a group of their employees (from one discipline or from several disciplines) to develop the theoretical framework of a technological advancement taking place in the market or literature that may be interesting to incorporate into the firm, all of which contributes to the participants' knowledge acquisition.

The people who work at the enterprise enter with a high level of knowledge in the field, and are highly qualified, with bachelor's degrees in engineering. Most of them also hold a master's degree whilst some have a doctoral qualification. In such a fast-changing market, to keep up to date with technical knowledge, they attend formal training courses (organized exclusively for the enterprise) or open courses. They have already identified the main course suppliers, those that are the most advanced in their specialist topic.

Once the annual training plan had been created, it is then decided who goes to which training course and when. This decision is usually based on which projects the people are working on (or expected to work on), which determines the knowledge and skills needed. Particular consideration is also given to the employee's current workload, so that those with the lightest workload attend the training courses. This decision is made by the department managers.

4.2.2.1.2. Organizational Learning

In all disciplines there are standard procedures for developing the projects, which are created based on the lessons learned in previous projects. These standards are updated regularly based on new insights from new projects, particularly from the "lessons learned" that are noted down and shared within the organization. Extracting knowledge from projects is a common practice, and they have a system for the lessons learned, which is implemented across the entire organization.

When a project is finished, each participant reflects on what did not work as expected, and this is written down following a template. In some project teams, this is done individually by each participant and in some other teams the leader gathers them for reflection and then writes them down after the team has reached consensus.

Once written, this is sent to the discipline manager to which the learning corresponds, and, after he/she agrees, it is published on the intranet in the section called "lessons learned". Given the fact that one project can created multiple lessons, this process of filtering through the discipline manager slows down the publication process.

Concerning the usage of those published lessons learned, apart from updating the standard procedures, it is established that they need to be revised whenever a team

begins to work on a new project. In reality, however, this is done at the discretion of the project leader. Some leave it up to its team members, so they can revise them if they wish, whilst others keep them in mind but simply access them when a related problem arises during the project; and instead they start working immediately on the project so as not to "waste" time, since the documents are usually quite long and tedious to read. Some leaders, however, bring those lessons in during the first team meetings and they all, as a team, go through them in order to have them present during the project.

Concerning the space where the information and explicit knowledge are gathered, there is a common tendency to creating a library on their local disk. This contains the documents from external conferences, internal training courses, projects of reference and key bibliographic references. But this can be conflictive in those teams where people are located outside of Spain where there is no access to the local disk. In that case, the manager of the department or discipline sends the content by email to those outside the country.

With regard to the organization's openness to external agents and the market, as mentioned briefly in the previous section on "the user is the central focus", the customers and suppliers are of high importance for the organization. They are a frequently used source of information for knowing the latest trends in a certain industry or technology along with the customers new needs or requirements. This indicates what the people of their discipline should know about, since it will impact their business and projects.

Furthermore, they find that attending national and international conferences and forums (those that are of relevance for the topic of interest) is a key source of knowledge that keeps them informed as to whether or not they are working on the right path whilst discovering new topics or advancements.

The research and development department is responsible for defining the path that must be followed in order for the enterprise to become innovative. To do so, and as briefly explained in the previous section, they identify interesting technology advancements or literature in the market, which then forms the basis for further research, particularly if what has been identified is aligned with the organization's strategic objectives. A person or the team is assigned with the task of researching these topics in order to obtain the most updated theoretical framework.

In the event that the organization decides to pursue new knowledge and incorporate it into the enterprise, the research team is put in charge of this process, and once they have fully understood the topic or technology, they organize internal training sessions to share their knowledge with the rest of the employees, particularly with those that are going to be using it.

4.2.2.1.3. Team Learning

There are no standardized practices for knowledge sharing — either within the work-teams or within knowledge areas. But there are various knowledge sharing practices

that occur naturally due to an individual's proactivity or if organized by a manager. Some managers bring their team together (face-to-face, online, or blended) every 3-4 weeks for an hour to share what new findings have they discovered in their area in the past month, as well as the projects that they have been working on.

Others invite them to a weekly meeting after work (within the enterprise) to share how things are going in the team and any new knowledge they may have acquired. Nevertheless, it is not easy to motivate the employees to participate, particularly the older ones — the ones who have more knowledge (in the words of a manager).

There are some disciplines where after each project the team comes together, and they have a "learning meeting" where they share what new techniques they have used (and how) in the project. This enables sharing of the knowledge and the experience, as well as identifying who knows about it in case someone needs support when implementing this knowledge in another project. After the meeting, the material (PowerPoint) used to deliver the presentation is stored on the local disk where it is accessible to all of the people from the same discipline.

Moreover, some project teams are taking advantage of digital tools such as Microsoft Teams or Sharepoint, for this knowledge sharing, particularly whose team members are spread out across different geographical areas and need to work as a team in different spaces and time zones. In some cases, these are used informally and there is a high degree of autonomy regarding what is shared (and when). The main aim of these practices is to keep the team together.

In other cases, the manager is the one that starts a conversation on the platform, with very little proactivity on the part of the employees. In this case, they use it as a follow up of a face to face or online live meeting, when there are topics that need to be further discussed.

Nevertheless, for most of the groups the main knowledge-sharing tool is the telephone and the discipline manager is the main node for connecting people. There are, however, some disciplines in which there are fewer people and they are geographically in close proximity. In this case, they are in constant communication and knowledge-sharing occurs naturally in face-to-face format.

Another common practice is having formal internal knowledge-sharing sessions where an employee shares a new discovery about a specific technical aspect, new ways of working efficiently, or a new technical tool he/she has developed. Thus, other colleagues can take advantage of the knowledge and implement it in their workplace, and sometimes this is even compulsory. These are face-to-face sessions and people can connect via streaming from wherever they are. Usually, those in attendance are working in the knowledge area being discussed although they are free to attend even when application of this knowledge is not compulsory.

Those sessions are complemented with written material for consultation after the session when needed (these are long and detailed documents). These are stored on the intranet where a special site is created for the session. Furthermore, they have begun to video-record these kinds of sessions for sharing with people who might be interested

but who could not attend in person. This is a new approach that the company highlights as an important step forward. These sessions are positively valued by the attendees.

As mentioned in the previous section on “Organizational learning”, one common source of new knowledge is the attendance to international conferences and talks, where the latest technological advancements are presented. The people attending these (2-3 volunteers) share the information gathered with the rest of the discipline team or project team. These is usually done by sharing the written material they have gathered at the conference on the common local disk, and sometimes they organize a short face to face session (with the option of connecting via streaming) where the person shares the information and knowledge gathered at the conference.

Most of the discipline managers consider it necessary to put in place more knowledge-sharing practices because many times the knowledge from other areas of the organization is needed or of high interest for both current and new projects. Furthermore, in recent years the projects they have been working on are inter-disciplinary and so it is necessary that people from different knowledge areas work together or, at least, share knowledge regularly. But currently they do not have any structured practices for doing so.

Another knowledge-sharing practice that is being used and that is led by some discipline managers are the “multi-discipline technical sessions”. These are face-to-face sessions where people from different departments and disciplines discuss a specific technology and the people assess it from the discipline he/she is part of and evaluates how that technology contributes to the projects of the organization.

In 2018, they carried out another multi-disciplinary session where each discipline presented recent trends or projects that they had been working on and how they had approached them. The aim of these was to gather insights from other disciplines that may be of use and should be considered in one’s own projects. This was video recorded for the people who could not attend the session. Nevertheless, they state that there is a need to have more knowledge-sharing practices with other disciplines.

In some other disciplines, they informally set aside some days where they have lunch together in the enterprise’s dining room and they talk about a certain technology or new discovery. Some departments also come together whenever they have a problem and have a discussion in order to find the best solution, whilst other individuals use digital platforms such as WhatsApp to solve problems between them and support each other. This has developed naturally and is largely due to the proactivity of individuals. On previous occasions there have been attempts to make other individuals communicate through that platform with other colleagues, and this was unsuccessful.

Furthermore, there is one discipline where there is a display (on the intranet) of the information on the projects that have been carried out in the group and where (in addition to providing all details concerning the projects) contact details are provided for further information or inquiries about the project.

With regard to knowledge sharing and team learning with external agents, there are some disciplines that are composed of multiple sub-disciplines (knowledge areas) where

external knowledge sharing is encouraged. This not only involves contact with external agents as an information source, but also for sharing the organization's knowledge with the outside. They write book chapters, papers in scientific journals and give lectures at universities along with talks at forums, conferences, and universities. Nevertheless, they do not have much time to do so.

4.2.2.1.4. Individual Learning

There is no individual plan for the employees to keep their knowledge up to date. Each year, the discipline and department manager reflect on the knowledge and skills needs they have in the department based on the upcoming projects or technologies to be used. Only those people who are expected to change roles and be upgraded within the hierarchy have an actual career plan.

The most frequently used learning methodology is formal training, in which people participate when they have a lighter workload. The knowledge and information are acquired long before they need to be used (months or even years before). So, when the moment arrives, this knowledge has usually been forgotten. Another common situation is when a person gets involved in a new project or role and all of a sudden they need to acquire a variety of skills in a very short period of time, making it difficult for the person to be efficient as quickly as possible, not to mention getting up to speed in their new project or role.

The organization supports the employees' performance in the workplace by having guides that can be implemented when working on or developing a project, along with the "standard procedures" and "guides for design". The standard procedures indicate the minimum requirements that need to be covered when creating a project, whilst the guides for design include particular topics and examples of previous projects that can be useful when designing a new project. Although this is found to be useful, the interviewees feel that having these guides may decrease their ability to improve the procedures and find new ways of working, since people may just adhere to them and not think further.

The attitude of the employees towards learning tends to be one of proactivity and engagement with the topic they are working on. They tend to be vigilant with regard to new trends and advancements, and some even try to create new solutions.

4.2.2.1.5. Formal and Informal Learning Activities

The main learning activities supported by the enterprise are formal training courses. Further, the L&D's main task is to design the annual training plan and implement it. The training courses tend to be quite long, of about 80 hours in duration and conducted face to face with the expert, rather than online. The online courses are mainly those related to basic office software and are voluntary, where anyone can attend.

On the subject of mentoring activities, these are recommended for the junior employees that join the company. That is, a two-year mentoring program where mentor (a senior employee) guides and assesses the mentee in technical issues, and also reviews his/her work. Moreover, the tasks assigned to the junior employee increase over time. Although these are recommended, they are not compulsory, and thus do not happen in all departments.

If new software or programs are created by an employee or an external contact, and could possibly be used in the enterprise, in order to learn more about them, demo access is provided to some employees for them to try out these resources.

Whilst informal learning activities[14] occur, they are not structured. When these do occur, it is usually due to the proactivity of the manager or individuals.

4.2.2.1.6. Safe and Encouraging Learning Environment

One of the key aspects of a safe learning environment is having the time and space for learning. In this organization, although the employees are allowed to check literature or other resources needed to carry out their work, they do not tend to have much time, due to their workload. There are no structured learning times or spaces at work. Furthermore, the organization does not assign time for informal learning activities or knowledge sharing and the employees need to take it from their free time, which makes it difficult for the managers to motivate them to take part.

With regard to the assessment of learning activities, the training courses (the learning activities on which the enterprise is focused) are not assessed, even though they are expected to be applicable in the workplace. Rather, what it is measured is the number of hours each employee has spent attending training courses throughout the year. Additionally, they assess Kirkpatrick's 3rd level where, after six months, they ask the participants how useful the learning has been for their work. But this is not easy to assess after such a long period of time, particularly for the managers. Usually, attendees tend to find the courses difficult to apply to their work and feel like they need more assistance to do so.

There is no ongoing feedback practice. Once a year, each manager individually meets with each of his/her employees to talk about their performance throughout the year. Both sides share their impressions and the employee addresses what new knowledge or skills he/she thinks they need to develop, if applicable. Moreover, the individual does not have any set learning objectives.

There is a culture in relation to making mistakes and trying out new things. One common practice is that employees have the opportunity to proactively try out new software or test new technology. The outputs are shared with their discipline or department managers and these are considered for incorporation into the workflow. In

[14] These activities have been displayed in the previous "Team learning" and "Individual learning" sections.

some other cases, the managers identify doubtful areas in the management process or an interesting technology in the market and they ask an employee or a group of employees to work on it and develop a solution. These are suggestions and never compulsory, but employees tend to accept and participate. Once the solution is presented, this is assessed for its potential incorporation into the workplace.

Concerning the knowledge sharing culture, although there are no structured practices in place for this, people are not afraid of sharing their knowledge and, what is more, they tend to do it naturally. [15] Whilst previously the opportunity for learning was considered as a reward for those who showed good performance, now it is considered necessary for achieving good performance.

4.2.2.1.7. Strategic Leadership

There is no team that is explicitly responsible for leading and encouraging a holistic learning approach in the organization. Nevertheless, there are some people who are actively implicated in this and have a certain responsibility — for instance, the discipline managers are those in charge of keeping their team up to date in the latest knowledge within the field. All employees are expected to continue acquiring the necessary knowledge to show a high level performance in the projects. The department managers are in charge of their team's development and of the identification of their training needs on a yearly basis. And, last but not least, within the HR team, the training team is in charge of bringing to the organization the training courses that have been requested by the department managers.

4.2.2.1.8. User-Friendly Systems and Processes

Currently they have two internal platforms; two intranets where all the general documents (such as the design guides or standard procedures) and lessons learned are kept. These are known throughout the organization but searching for information in these platforms is not easy, it requires many clicks and even with that it takes much time to find the needed information quickly (if they even find it eventually). This is the main reason why the employees do not view these as knowledge sources and they tend to ask their colleagues or discipline manager for information. In order to change this, they are revising those platforms in order to make them more "friendly" and efficient.

The main communication tools among people are in-person and by telephone (when rapid contact is needed with someone), email, and conferences (when there are people from different geographical areas).

The main way of storing general knowledge and information created within the knowledge area is in the form of saved word documents and excel files on the local disk.

[15] To see the most common knowledge sharing practices in this enterprise, see the "Team learning" section.

But, in some areas they have the problem that people working abroad are not able to access this disk. In those cases, the area manager uses email as a means of sharing the information that is crucial for good performance.

Aside from this problem, the fact that data and information can be duplicated is highly inconvenient for the efficient management of projects. But this practice is changing, as they are starting to use an OpenText software where unique and up to date data are stored and which can be accessed by people from different countries. Once again, some people are making use of particular digital tools such as WhatsApp, Slack, and Sharepoint, informally and by virtue of their own initiative.

Nevertheless, the organization is making some changes, starting from encouraging e-learning, for which an LMS platform was acquired in 2019. This platform is being loaded with different e-learning courses, some created by internal people and others by external agents, as well as other videos or written material about new project management procedures and "how-to" materials in relation to certain administrative tasks. These are mainly homemade videos, recorded and narrated by employees. Whilst the chosen LMS is efficient for storing e-learning courses it does not yet support personalized learning. Furthermore, the way it has been set up means that it does not encourage people to actively participate and share information or knowledge on it, since it is controlled by the enterprise and the IT team.

In order to support knowledge sharing, by the summer of 2020 they are expected to offer all employees access to another digital tool: Microsoft Teams. This is a platform already being used by some employees but there are as yet no licenses for everyone. Those currently using it already have it as a digital workplace where people working on the same project can talk to each other about advancements, share documents, difficulties, and solutions. The organization's idea is to encourage the use of this platform to support knowledge sharing practices and make knowledge flow in the organization.

The resources — and specifically the content that goes through those systems — are mostly technical and strongly related to the current and future projects to be worked on, along with advancements in the organization's knowledge areas. These are the factors that determine the knowledge and skills that need to be acquired by the employees.

With regard to the support given to employee's in their workflow, as previously stated in the section on "Individual learning", there are certain organizational documents — such as the design guide or the standard procedures — that are helpful when working on a project, documents that are highly detailed with specified steps for their usage. Nevertheless, these are long and tedious to go through and when the employees are under time pressure at work (which occurs very frequently) or looking for a particular solution, these documents are not an efficient means of resolving the problem, so they eventually call a colleague or discipline manager for help.

As stated in the section entitled "Formal and Informal learning", formal training courses are the main source of learning support provided by the organization. The contents of

these courses are designed to tackle the skills and knowledge that are required for working (both now and in the future) and those related to new technology that is about to be implemented in the workplace. Nonetheless, an overview of the annual training courses revealed that around 90% of these are repeated every year and, for some roles in the organization, these are obsolete as their field of knowledge is rapidly changing. Attendees highly value the guidance received from those courses that specify how to transfer the newly acquired knowledge into their workflow, that is, a specific and comprehensive guide.

The most updated and relevant content they have access to is through informal learning activities that occur there and then, including attending conferences, reading papers, reading general papers, and talking to customers and suppliers.

4.2.2.2. CYCLE 2: THE NEW ORGANIZATIONAL LEARNING STRUCTURE

In this second sub-section on SENER S.A. the results of Cycle 2 are presented, which aim to address the specific objectives no.3 and no.4: "To assess how the organizational culture affects making tangible the foundations of an AD&HP Ecosystem" and "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

The results are organized by theme, that is, those that comprise the theoretical model of this thesis (Chapter 3). The findings are presented in this way because the aim of this cycle was to describe the desired organizational learning approach in SENER S.A. and so this was considered a more suitable way of displaying the results than organizing by working session.

THE FOUNDATIONS OF THE NEW OLS

These working sessions allowed the participants to establish the foundations of the organization's new learning structure. The left-hand side of Table 9 shows the foundations of the current structure, whilst the foundations defined by the participants for the new structure are displayed on the right-hand side.

As in the previous case, the desired OLS is explained in a descriptive way, as presented by the participants (Appendices 40-41). The following issues were addressed: general characteristics of the OLS; how individuals learn; the technology to be used; the learning activities; learning in the workflow. The difficulties they may encounter when creating the new OLS are then presented, that is, those difficulties that the participants have identified during these sessions.

The new organizational learning approach is people focused. The new training approach supports the individuals' learning needs and there is an agreed commitment between the person, the organization and the managers. In addition, people have the autonomy to manage their learning schedule during the day and at work. Moreover, the individual is motivated to learn, and he/she feels in a safe environment to do so.

The ***individual*** shares their knowledge and are motivated to do so. Moreover, there is a structured network that enables the efficient gathering of all existing knowledge in a cloud storage system, managed by Artificial Intelligence. This system gathers all the knowledge in the organization, and it is used for training and for supporting the development of individuals in the organization. There is an effective technological system that supports the knowledge flow, a system that offers the individuals easy and efficient access to knowledge and content.

Table 9: Current and desired OLS in SENER S.A.

CURRENT ORGANIZATIONAL LEARNING STRUCTURE (FOUNDATIONS)	**DESIRED ORGANIZATIONAL LEARNING STRUCTURE (FOUNDATIONS)**
1) Aligned with the strategic business objectives. 2) Learning is useful for keeping up to date with technical aspects, but people are already highly qualified. 3) There are some knowledge-sharing practices across the entire enterprise, but these are not structured, each team does its best. 4) Keeping in touch with stakeholders is needed for keeping knowledge up to date, but there is no structure for doing so. This is at the discretion of each manager. 5) Learning activities are programmed when someone has free time to do so, which provides knowledge for future needs. 6) All information is registered on two internal platforms or intranets. These are not easy to access.	1) Focused on the people, and on their needs. 2) Where knowledge flow is structured. 3) People are motivated. 4) A solid structure supports this strategy. 5) All organizational knowledge stored in a cloud with artificial intelligence. 6) Supporting and developing people, with personalized learning. 7) External knowledge is an input for improvement. 8) An agreement between a person and the organization's managers. 9) An interconnected structure, the whole organization is connected: from top to bottom, and from left to right. 10) Innovation focused. 11) Connecting new knowledge with existing knowledge. 12) Managing a change process for people to learn with this new framework and with different methodologies.

Source: the author, from the participants in the interviews and working sessions, SENER S.A.

Concerning the ***available technology*****,** platforms such as Teams are in place for all employees to use as a means of promoting team learning and knowledge sharing, along with forums where when an individual can find interesting news or trends in the industry or a particular topic that he/she can share with colleagues. These resources are not just digital; short sessions can be held where people are able to explain what they are working on, so that colleagues can be updated on the work of other teams or disciplines, which people find very useful.

It is a structure that creates opportunities for a high degree of inter-connection between people at all levels; between departments, disciplines and between different roles

within the organization, from top to bottom, and from left to right. This allows for all knowledge to be connected — both the existing and the new.

Having inter-connecting systems also involves a connection with the outside. External agents are considered to be a source of novel information with regard to content and training methodologies. There is vigilance with regard to what is happening in the market in order to support the organization's improvement.

Apart from formal training courses, there are other ***learning activities***, such as webinars and microlearning activities tailored to the individual's needs. There are various learning methodologies that cater for all learning needs — both formal and informal. Moreover, existing technologies are exploited to support learning, such as Virtual Reality, Augmented Reality or 3D videos informally recorded by a colleague with a GoPro camera. In addition to having a diverse range of learning activities, these are also part of the ***workflow*** and there will be appropriate resources and content that are conveniently accessible in the workplace. For instance, a "yellow-pages" which is composed of a list colleagues who are references or "know-how" people for a given topic

Nonetheless, changing the OLS is viewed as a challenge that will require the organization to ***overcome some difficulties***. Those identified by the participants in these sessions are described next:

The main challenge will be to engage people to be proactive in their learning, to start participating in learning activities other than formal training courses, and to be committed to his/her own development. One effective way of achieving this could be to teach the PLE that was worked on during the first day of these sessions and help them to create their own personal learning environment.

It would also be necessary to make them equally aware of the need to change and to start using new activities and resources for learning as well as the benefits of being responsible and proactive in his/her own learning process. We are "competing" with a heavy workload. Perhaps creating a learning agreement between the individual and manager could be useful. The aim is to encourage a shift from thinking that training is something we do when we have less work or free time, and to instead consider it as a key pillar of our performance at work.

Further, before the learning approach starts to change and the new way of learning is implemented, the employees need to be informed beforehand that we are working on this project and the changes that are about to come. This should be addressed by the CEO team, who should inform the employees of what are we doing, why, what for, and what are the main aspects of this new organizational learning approach.

It will be essential to obtain the support of the higher managers so that we are given the necessary time and resources to integrate new learning activities into the workplace. In addition to training courses, it is necessary to show them the importance of informal learning and knowledge socialization practices. By adopting this approach, direct managers will also be on board, and individuals can stop thinking that he/she is not expected to dedicate time to their own learning and development.

There have been many instances in the organization where projects were designed but not subsequently implemented, including the HR department. This can be discouraging for some people, and so it is important to establish KPIs and keep track of the progress of a project and the effects of its implementation. Furthermore, any changes should be gradual, beginning by setting specific objectives and then making small changes in the workflow to integrate new learning activities. This will develop into something bigger that eventually involves everyone in the organization, but it will occur step-by-step.

With regard to technological support, the IT representative in this session expressed that they are ready for a change and they see the need for it, whilst people have already begun to ask about the possibility of including new digital tools in the workflow.

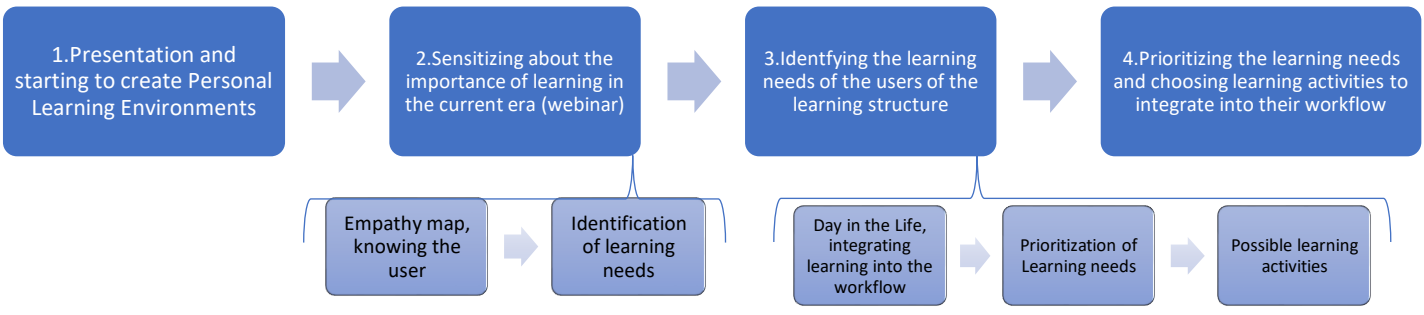
4.2.2.3. CYCLE 3: IMPLEMENTING THE AD&HP ECOSYTEM CREATION PROCESS

In this first sub-section on SENER S.A. the results of Cycle 3 are presented, which aim to address the specific objective no.4: "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

The results are organized by time-sequence (Figure 14), displaying the results in each working session, including the average profile of the users of the OLS; the learning needs of those users; the prioritization of those learning needs and the analysis of their day in the life; and the range of potential learning activities that could fulfill those learning needs.

The findings are presented this way because the aim of this cycle was to describe and analyze the results obtained in each step of the intervention to assess its effectiveness.

Figure 14: The working sessions' sequence in Cycle 2, SENER S.A.



Source: the author

4.2.2.3.1. Presentation and starting to create Personal Learning Environments & Sensitizing about the importance of learning in the current era (webinar)

The first and second session did not yield any major outputs, since the participants played a more passive role during these two sessions. First, the project was contextualized, and they were shown how a digital PLE could be created. The aim, however, was not to create all the PLEs on that day but to show them how to construct one and for them to voluntarily create them. During the following sessions they were given the opportunity to ask the researchers any questions they might have.

Second, the webinar was not highly interactive, since the aim was to share with them the importance of being continuous learners in the current era along with the other ways of learning that are available in addition to formal training courses.

4.2.2.3.2. Identifying the learning needs of the users of the learning structure

The third session aimed to identify the users' learning needs, that is, those who are going to be using the learning structures to be defined during these sessions. As already specified in the "Action Planning" step, each group first created an empathy map in order to identify a typical users' to do-s, pains, gains, and the environment in which they are working (what they see, they hear, say and do).

The typical Project Manager (Appendix 42): He/she is responsible for leading and coordinating the projects of the section, with the aim of delivering the milestones of the project (and its final hand-in) with the expected efficiency and technical requirements. He/she has an average age of 35 years (with a child) with 10 years of work experience in the technical field, but less knowledge on management and leadership. He/she is a highly qualified engineer, fluent in English, and with medium level digital skills.

The main **worries** of the Project Manager are as follows: "I can be a bottleneck", that is, he/she is responsible for meeting technical requirement, identifying urgent and important tasks and prioritizing them, being an efficient communicator with his/her team, achieving the level of performance expected by his/her manager, being able to efficiently manage changes and unexpected situations, and being able to manage technical aspects of a project such as timeline deviations. An IRD is **motivated** by four main sources: recognition by his/her manager, having the possibility of developing professionally, generating good results, and efficiently managing teams.

In relation to **where and how** a Project Manager learns, he/she has five main sources or learning activities; listening to podcasts on the way to work or home, having breakfast with colleagues, attending formal training courses in his/her free time, checking specialized journals and referent experts and organizations in their field and, last but not least, by carrying out the project (his/her actual work).

The typical Team Manager (Appendix 43). He/she is responsible for leading and controlling the subcontracting activities with the aim of fulfilling the budget and due date of the project including the technical requirements. He/she is 43 years old and has

between 15 to 20 years of on the job experience, but rather less in the company (their work is project based). He/she is a technical engineer and manages to speak a little English and has limited digital skills. Finally, he/she has considerable international experience but is willing to become established in his/her home-country and travel less frequently.

The Project Manager's main **worries** are as follows: in the labor market there are working opportunities, but they are out of his/her comfort zone; they are asked to meet certain deadlines; they feel at a standstill in their professional development; they have difficulties to access documents required for the project; they have high responsibilities but are quite lonely and feel somewhat isolated from the other colleagues of the project and the main activity area of the enterprise. A Team Manager is motivated by having opportunities for continuous growth and to perform at his/her best.

Having characterized the typical user of the learning structure through the empathy map, it was time to define the **learning needs**, including knowledge and skills. To do so, the team had to think about the responsibilities of a Project Manager, along with his/her main tasks — not just at that moment but also in the future (based on how they think these tasks could change).

In the case of a **Project Manager, nine major knowledge areas and skills** have been identified (Appendix 44): project management, digital tools, knowledge about the organization, knowledge about the discipline in which the Project Manager works, Industry 4.0., team management, internationalization, customer management, and personal development.

Concerning the **learning needs** of an typical Team Manager, as with the Project Manager, the Team Manager team was required to think about the responsibilities and main tasks of a Team Manager —not just at that moment but also in the future (based on how they think these tasks could change). The following **10 major knowledge areas and skills** have been identified (Appendix 45): technical knowledge, planning, cost control and measuring, contract management, quality and the environment, security, knowledge about the organization, change management, team management and general skills.

4.2.2.3.3. Prioritizing the learning needs and choosing learning activities to integrate into their workflow

The previous session finished by defining the typical users of the learning structures in each team, along with their learning needs (knowledge and skills) according to their role and tasks. In this fourth session, it was time to map out an average workday of such a Project Manager and Team Manager in order to identify which times and activities could be used to integrate learning activities into the workflow. To do so, a "Day in the Life" was created by each of the teams (Appendix 46-47).

The **Project Manager's everyday activity** (Appendix 46) occurs in the office, not far from where he/she lives. The workday begins by checking emails to identify the most

important messages and attend to these as quickly as possible, along with telephone calls. This is followed by an informal chat with teammates about how the work is progressing. After a coffee break, he/she has a coordination meeting with other managers involved in the project and once this is done, it is time to organize and assign tasks within the work team. After lunch, a working-team meeting is held, followed by a document review and management of other tasks in the project, which involves telephone calls.

Finally, he/she reports on the progress and current status of the project with his/her manager and finishes his/her time at the office by dealing with any unexpected situations. Nonetheless,, not all work tasks have finished and when the IRD arrives home he/she attends to some of those tasks in order to avoid becoming bottlenecked and to ensure that other colleagues that depend on him/her can get on with their job. This includes responding to any emails that have been sent by colleagues in a different time-zone.

During these activities, the Project Manager **talks and gathers with** different people, including teammates, other colleagues with different roles, colleagues from his/her discipline, the customer, the providers, the subcontractor, partners, and family.

Throughout the course of all these activities, the Project Manager experiences various difficulties and **worries**, as well as motivating situations. Some of these worries are concerned with being able to cope with deadlines and accomplishing everything that has been planned, dealing with disagreements and complaints in the work team, managing the changes that occur in the project, effectively managing the team and any conflicts of interest, or having a work-life balance.

Some of the **motivating** situations are as follows: performing well and producing good results, having a good relationship with other colleagues, having a good working environment, achieving objectives, achieving recognition for his/her accomplishments, or being able to learn while working (implies professional development).

Throughout the day, the Project Manager uses various **digital tools**, including a laptop, email, smartphone, the basic programs of Microsoft Office, Microsoft Teams, the internal platform for project management, and the intranet.

In contrast, **the Team-Manager's "Day in the Life" is different** (Appendix 47). The main part of his/her job occurs in the portakabin located where the work or construction is taking place (usually out of the country or in an area outside the Basque Country but within Spain). When the Team-Manager leaves the apartment where he/she is living on his/her own, they go to the hut and begins to review emails before making a brief visit to the construction site, if possible. The next activity is to attend to the construction work and hold the daily coordination meeting with the construction team. He/she then checks emails and telephone calls more carefully. The working day then continues by checking on the progress of the construction work, including projected deadlines and outcomes.

And, before lunch, he/she meets the customer's Team Manager to discuss the progress of the construction work. After lunch, which she/he has with the colleagues or customer,

he/she has meetings with the contractor and the supervisors of the construction to check on progress and creates the necessary reports on the construction and the project. During the main tasks of the afternoon, he/she deals with any unexpected situations and continues to monitor incoming emails and phone calls.

During these activities, the Team Manager **talks and gathers with** different people, including the construction team, the subcontractor, the client, the client's JA, the construction supervisors, other colleagues, and suppliers.

Throughout all of these activities, the Project Manager experiences various difficulties and worries, as well as motivating situations. Some of the **worries** are related to what is going on in Spain in the enterprise; what is going on in the country he/she is in (security worries), workload, unexpected situations to be dealt with; requests from the boss; for the telephone to work; to be able to communicate with the subcontractor and the customer (language difference); to be able to attend to the customer's requests; who to ask for advice or information for solving certain problems; to be able to prioritize; or the ability to have a good relationship with colleagues.

Some of the **motivating** situations are as follows: earning more money than working in his/her home country; days go by quickly so returning home is closer; the construction is on track to be completed on time; there are good work outcomes; there are not many unexpected situations; the opportunity to see what other colleagues in other places are doing (through Teams or Yammer); having a good working team; being able to speak the country's language, and being in a good place/area and getting to know new cultures.

Throughout the day, the Project Manager makes use of various **digital tools**, including the smartphone, email, laptop, the IT servers, a paper notebook, the basic programs of Microsoft Office, multiple software programs for project management, WhatsApp, Google Translate, Teams or Yammer, and Skype.

Once the day in the life had been completed in both teams, the next activity was to review the learning needs of the Project Manager and Team-Manager (which were identified in the previous session) and to **prioritize** them. By bearing in mind the role and responsibilities of the person under analysis (Project Manager or Team-Manager) and using a prioritization matrix, they had to classify the learning needs of their typical Project Manager (Appendix 48) or Team-Manager (Appendix 49). All the learning needs were written on a post-it and stuck on a matrix of two axes: importance (high or low) and urgency (high or low). This prioritization was then to be used for defining which learning activities should first be created for the team.

The Project Manager team considered that the most important and urgent knowledge and skills to be acquired are (Table 10): to be open to change; to know in depth the role and job position; effective management of tasks; efficient management of the timing of the projects for planning; efficiently managing the project requirements; monitoring costs; languages; effective communication; and leadership.

The **important, yet not urgent** needs were: having the technical knowledge, knowing what is going on in your discipline, estimating the times that each task in the project will

take, knowing what laws apply to your projects and discipline, having negotiating skills and efficiently using corporative tools for project management.

The learning needs that are **urgent but not important** are the following: to know how to efficiently organize the team's workload, and stress management.

Finally, the **neither important or urgent knowledge and skills to be acquired** are: the organizational model, assertiveness, knowing how to work with the BIM methodology, the country's characteristics (the country were the project is being implemented), digital skills, having the ability and attitude to teach, knowing and understanding the existing guides and quality procedures, managing contracts, customer orientation, artificial intelligence knowledge, and big data.

Table 10: Prioritization of the Project-Manager's learning needs

PRIORITIZATION OF THE LEARNING NEEDS, PROJECT-MANAGERS	
IMPORTANT AND URGENT • Openness to change • The role and job position • Effective management • Effective project timing management • Efficient project requirement management • Cost control • Language • Effective communication • Leadership	**IMPORTANT, NOT URGENT** • Technical knowledge • What is going on in your discipline • Estimating the times of tasks in the project • Laws to be applied to the projects and discipline • Negotiating skills • Efficiently using the corporative tools
URGENT, NOT IMPORTANT • Efficient management of the team's workload • Stress management	**NEITHER IMPORTANT OR URGENT** • The organizational model • Assertiveness • BIM methodology • The country's characteristics • Digital skills • Ability and attitude for teaching • Organizational guides and procedures • Contract management • Customer orientation • Artificial intelligence • Big data

Source: the author, from the Project Manager team participating in the working sessions, 2019

The **Team-Manager's** team considered that the **most important and urgent knowledge and skills** to be acquired are (Table 11); efficient planning of the team's workload, cost management and measuring, efficient management of the projects, socialization skills, efficient communication skills, leadership, team management, contract management, managing and ensuring security in the teams, and analyzing the project risks and making decisions.

The **most important but not urgent learning needs** are the following: to work with challenges, ensuring quality and environmental laws are fulfilled, getting to know more about the organization and its strategic approach, having the required digital skills to perform, being able to manage change and being open to change, and, in the center of the matrix, having the required technical knowledge.

The following learning needs have been considered as **urgent but not so important**: proactivity and multicultural skills, whilst the following have been considered as **not urgent or important**: resilience, autonomy, and teaching skills and attitude.

Table 11: Prioritization of the Team-Manager's learning needs

PRIORITIZATION OF THE LEARNING NEEDS, TEAM-MANAGERS	
HIGHLY IMPORTANT AND URGENT • Efficient workload planning • Cost management and measuring • Efficient project management • Socialization skills • Efficient communication skills • Leadership • Team management • Contract management • Team security management • Risk analysis	**HIGHLY IMPORTANT, NOT URGENT** • Challenge management • Quality and environmental laws • The organization and its strategic approach • Digital skills • Change management • Openness to change • Technical knowledge
URGENT, LESS IMPORTANT • Productivity • Multicultural skills	**LESS IMPORTANT, NOT URGENT** • Resilience • Autonomy • Teaching skills and attitude

Source: the author, from the Team-Manager team participating in the working sessions, 2019

Once the learning needs were prioritized, the next step was to define which **learning activities, methodologies and resources** could be useful for addressing those learning needs.

In the case of the **Project Managers** (Appendix 50), the suggested **learning activities** are the following: shadowing; holding workshops for knowledge sharing between the people with experience in the job, novices, and managers using a flipped classroom approach; creating a newsletter and spreading it via a channel in Microsoft Teams, standardizing their existing digital library; having access to recommended MOOCs; creating internal video tutorials for colleagues for problem solving or understanding; FAQs in Microsoft Teams; having webinars and creating micro-videos to explain how organizational tools work; having access to expert forums; using gaming in the workshops; having formal external training courses for acquiring technical knowledge;

project-based learning; lessons learned, attending conferences; and organizing internal presentations by colleagues and providing coaching support for developing the necessary team-management skills. All these activities and resources should be **digitally supported** by their new e-learning platform (Mudle) and Microsoft Teams.

The **Team-Managers** specified the following **learning activities** (Appendix 51): solving doubts and conflicts by having internal talks with colleagues and participating in open forums with the engineering team or getting in touch with them via yellow pages; sharing lessons learned in a forum with area managers, internal meetings or talks to explain the technologies to be used in the projects; to share best practices in forums with area managers by using Microsoft Teams or other social media platforms where people can be identified by their experience and abilities; having home-made videos of colleagues explaining basic knowledge on how planning should be done; short videos explaining the key terms in projects; having shadowing sessions to learn from experienced colleagues in action; holding workshops with real and practical examples of how to do certain tasks; and formal training courses to learn the usage of certain digital tools and existing regulations and laws.

After all the work done in the four sessions, the result was presented by the participants to a variety of people in the organization. Several organizational managers were invited (from top managers to colleagues) to this presentation, which was to be held in person in Bilbao, and streamed for those people who could not physically attend.

The aim of this presentation was to show the attendees the new learning approach that was being taken by the organization, to show what they have been working on in the sessions, the learning needs they have identified, and the importance of having efficient learning practices for their work performance and development.

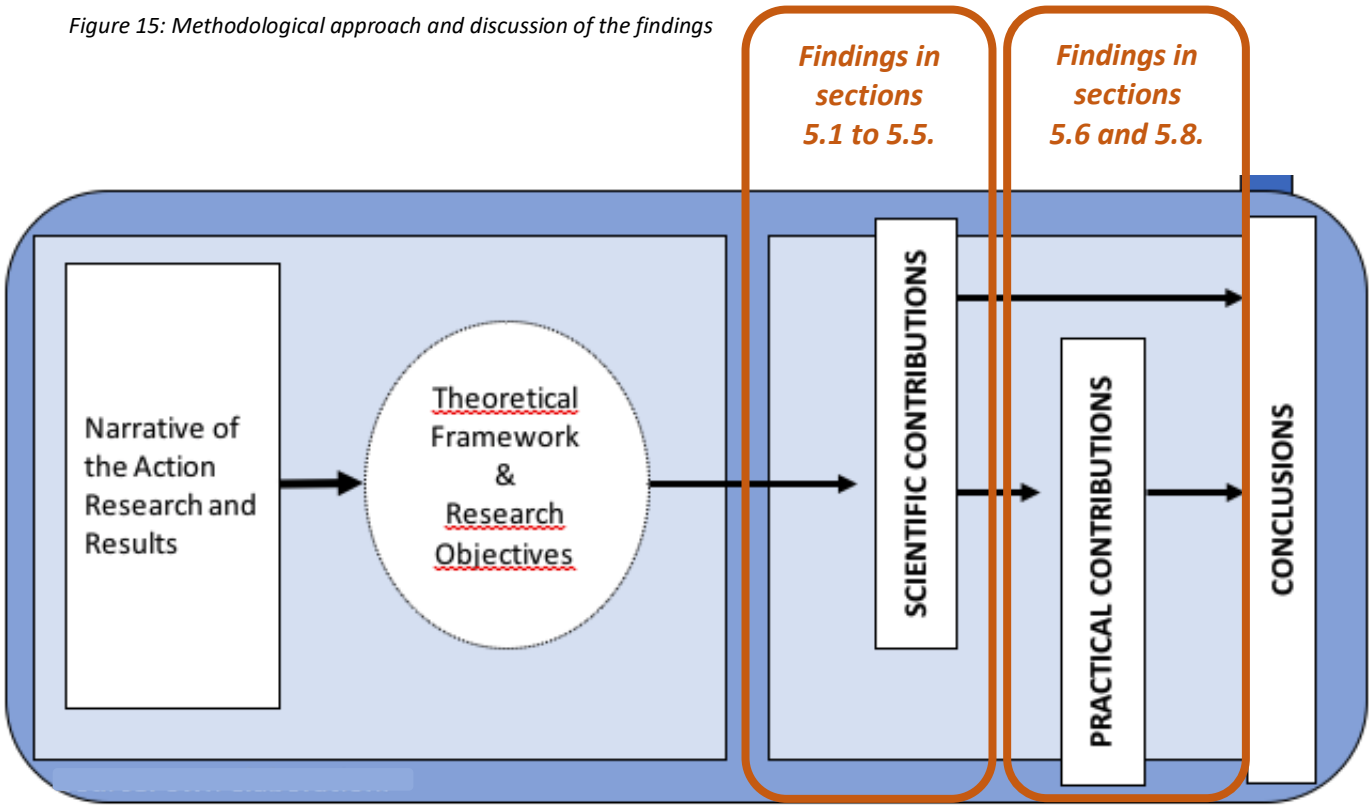
CHAPTER 05

DISCUSSION

5. DISCUSSION

After presenting the results in the previous chapter, it is time to analyze those results in this fifth chapter, the Discussion chapter (Figure 15). The aim of this chapter is to delve deeper into the results obtained from the research by analyzing what lessons can be extracted. To do so, the researcher has accessed the theoretical model and literature review presented in Chapter 2 which has enabled such an analysis. The main aim of this discussion chapter is to address the objectives of this thesis, as set out in Chapter 1.

Figure 15: Methodological approach and discussion of the findings



Source: the author.

First, the scientific conclusions are presented: (1) The foundations of an AD&HP Ecosystem are inter-related and influence each other; (2) The organization's culture affects its OLS; (3) Making tangible the foundations of an AD&HP Ecosystem requires certain steps; (4) The process to make tangible an AD&HP Ecosystem needs to be holistic and user-focused; (5) The suggested process for making tangible the AD&HP Ecosystem has been quite successful in both enterprises.

The practical contributions of the work described in this thesis are then presented, that is, contributions to those organizations for whom this the topic might be of interest: (1) Action Research is useful for deliberately changing the OLS (Sub-section 5.6.); (2) Other organizations may find the suggested theoretical model to be useful for designing their

own AD&HP Ecosystem (Sub-section 5.7.); (3) The organization's culture influences the way in which an AD&HP Ecosystem can be made tangible (Sub-section 5.8.).

As explained in Chapter 3, this discussion has been approached by building an explanation in each case. With explanation building "the goal is not to conclude a study but to develop ideas for further study" (Yin, 2018, p. 179). Based on the different categories that comprise the theoretical framework of organizational learning, an explanation of the current OLS was constructed for each of the two cases.

Furthermore, a cross-case analysis was conducted, using a case-based approach (Byrne, 2009; Ragin & Becker, 1992), the aim of which is to "retain the integrity of the entire case and then to compare or synthesize any within-case patterns across the cases" (Yin, 2018, p. 196).

And, last but not least, a logic-model analysis has been used for analyzing the current and new OLS creation process and the learning scenario that these create in the enterprise (this has been done for both enterprises), (Yin, 2018, p. 186). As addressed in Chapter 3, the aim is to analyze how each step of the OLS creation process influences the outcome structure.

5.1. THE FOUNDATIONS OF AN AD&HP ECOSYSTEM ARE INTERRELATED

This section of the discussion aims to address the second Specific Objective; "To compare and evaluate how the foundations of the AD&HP Ecosystem are inter-connected and influence each other".

To do so, first, an overview is presented of the development level of the enterprises under study, in each of the key foundations separately. Those levels of development are then analyzed and discussed on the basis of the evidence presented in Chapter 4 and the literature reviewed in Chapter 2.

Further, the relationship between the foundations of the suggested OLS and the theoretical model - the AD&HP Ecosystem[16] - is analyzed, along with the effects that they have on each other.

The overview of the development level of the enterprises under study is presented by color-coordinating the AD&HP Ecosystem, as shown in Figures 16 and 17. These aim to show, at a glance, the level of development of each key aspect of the AD&HP Ecosystem in the current OLS of the organizations.

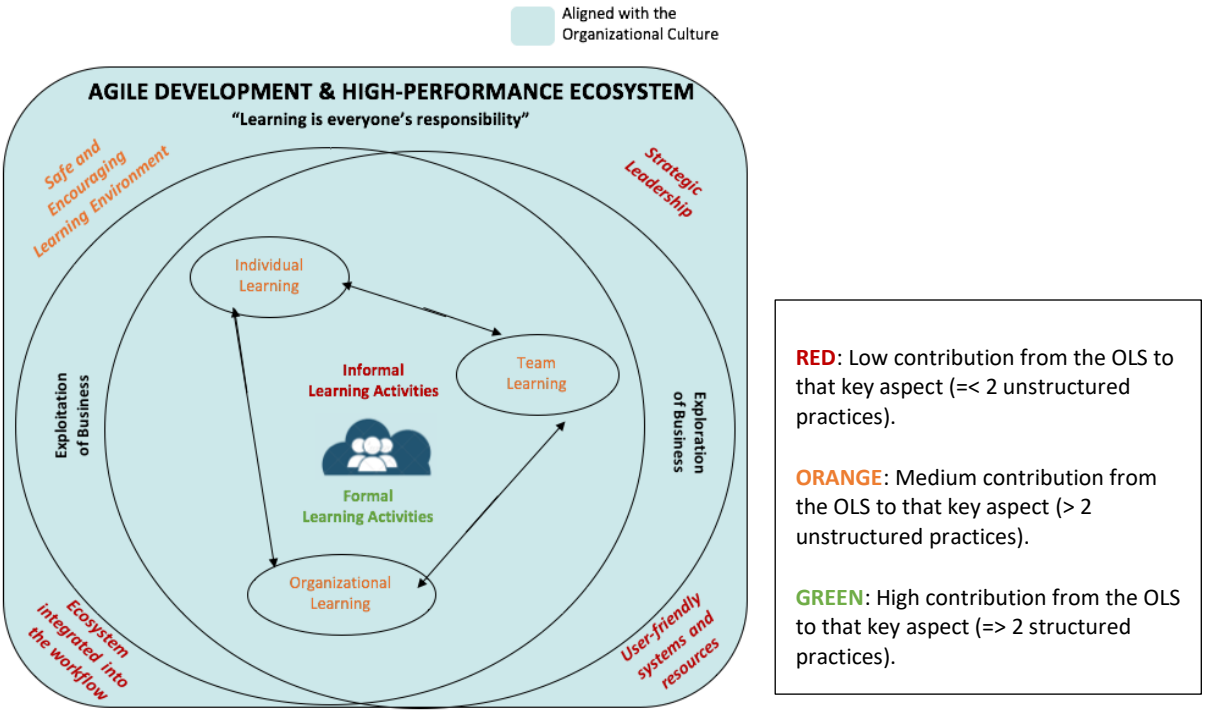
There are three levels in the classification: low, medium and high. A low level is indicated when there are up to two unstructured [17]practices in that aspect; a medium level when there are more than two unstructured practices; whilst a high level is indicated by at

[16] See Chapter 2 for further details about the AD&HP Ecosystem.

[17] "Unstructured practices" are understood as those practices that occur without a conscious decision being made by the organizational part of the organization's learning strategy.

least two structured [18]practices. The overall level of the key aspect is the average of all the scores of its sub-aspects. The specific classification of those sub-aspects is displayed in Appendix 52.

Figure 16: Current OLS in Laboral Kutxa S.Coop.



Source: the author

The development level of the key aspects in the ecosystem are all the same in both enterprises except for "Informal Learning Activities", in which Laboral Kutxa S.Coop. has low-level development whereas SENER S.A. has medium-level development. Nonetheless, they both show high-level development in "Formal Learning Activities", which means that these are supported by the OLS with at least two structured practices. And the three levels of learning (individual, team and organizational) show medium-level development, and although all three of these are addressed , there is potential for improvement regarding the support for them from the OLS .

Both organizations have three out of four building blocks that sustain the AD&HP Ecosystem are of low-level development (having Strategic Leadership; integrating the Ecosystem into the workflow; and creating user-friendly systems and resources) and the

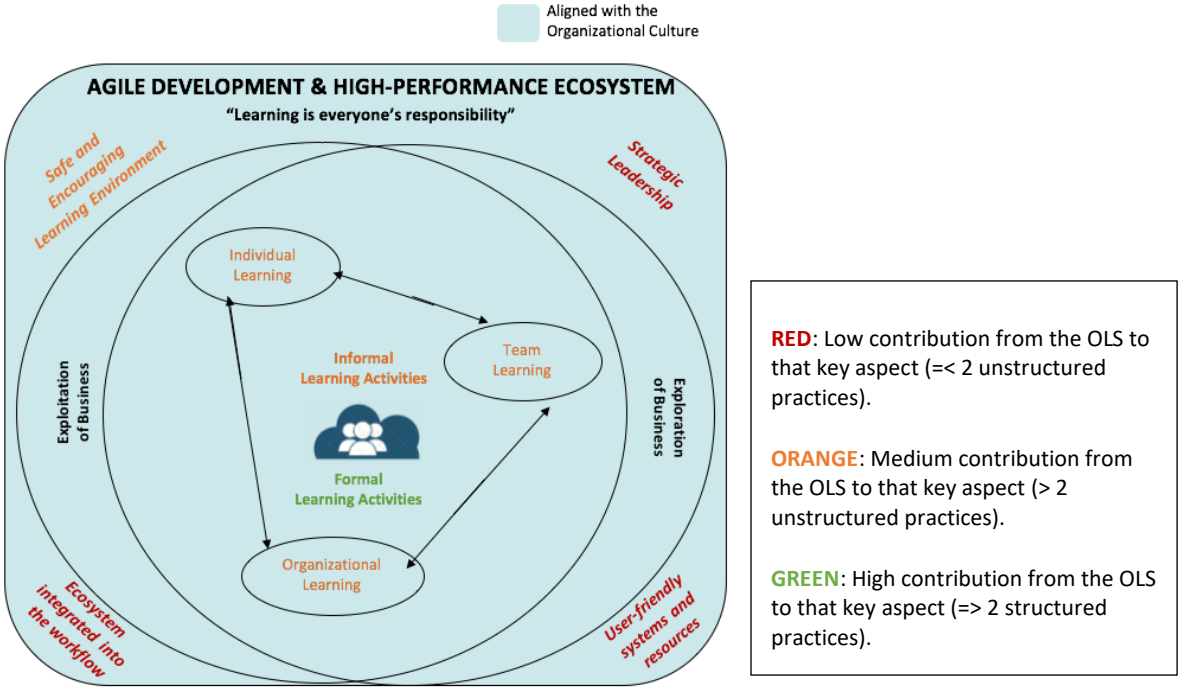
[18] "Structured practices" are understood as those practices that are implemented by means of a conscious decision made by the organization part of its organizational learning strategy.

"Safe and encouraging Learning Environment" building block has been developed at medium-level.

It is considered that the high degree of similarity between both enterprises has been due to their shared elements of their organizational culture. This has been further analyzed in Section 5.8.

Nevertheless, it is interesting to analyze in depth each of those aspects and identify which practices are being used in each enterprise. This is because, although most of the key aspects may have developed to a similar level in both enterprises, their particular internal practices are quite different. This analysis is presented in the following sections.

Figure 17: Current OLS in SENER S.A.



Source: the author.

5.1.1. FINDINGS ABOUT INDIVIDUAL LEARNING

Individual learning is about "intuiting", which is a subconscious process of identifying past or future patterns which make the individual an expert (past-focused) or entrepreneur (future-focused) (Crossan et al., 1999). It is about acquiring new explicit knowledge and making it tacit when it is internalized (Nonaka & Takeuchi, 1997).

It is a subconscious process that leads to "interpretation" where individuals become able to explain what they know (Crossan et al., 1999) through the creation of cognitive maps of knowledge domains (Huff, 1990).

The sub-topics analyzed in "Individual Learning" are as follows: the lifelong-learning mindset for competitiveness; and self-directed dynamic learners. The two main findings when analyzing this topic were as follows:

"**The current development level of Laboral Kutxa S.Coop.'s individual learning is medium**; Whilst they do support individuals' upskilling and reskilling for performance improvement aligned with the strategic needs of the business, there is no evidence that the learning structure supports self-directed or dynamic learning."

"**The current development level of SENER S.A's individual learning is medium-high;** Employees have a lifelong learning mindset and there are dynamic learners. Moreover, this is encouraged by the organization's way of working."

Individual learning includes having a ***lifelong learning mindset*** (Nevis et al., 1995; Senge, 1990) for improving individuals' competitiveness by questioning the deepest assumptions and their everyday performance at work (Argyris & Schon, 1981; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

This lifelong learning mindset should focus on developing individuals' skills and knowledge to better perform in the workplace both currently and in the future, and in alignment with the corporate strategy (Argyris & Schon, 1978, 1981; Matthews, 2013; Nevis et al., 1995). This will make them more capable in both their current and future roles — it is about upskilling and reskilling.

In this sense, in Laboral Kutxa S.Coop. there is a deliberate intention to support the employees' upskilling and re-skilling for improving their performance and competitiveness at work. The managers of a department or office are those who identify the training needs of the team members based on their current performance and the strategic objectives of the business.

Apart from assessing their team based on their current and expected professional performance, they check whether the strategic plan is being properly carried out or, if it has not yet been implemented,, whether the team is prepared for this. Furthermore, other agents such as the leaders of the new products and services department and the business units can also suggest improvable learning areas.

Further, high level managers of bigger areas come together in their business meetings every week, and part of the meeting's agenda is training. They talk about what knowledge or skills needs each manager has identified within their team. This identification is based on the managers' observations of their team or because the team members —the employees — have expressed their needs to them.

From this identification, they define a formal training session of about two hours in which they gather their team outside working hours in their own office or one nearby in order to cover as quickly as possible those knowledge needs required for effective performance.

SENER S.A. adopts a similar approach. Each year the discipline and department manager reflect on the knowledge and skills needs they have in the department based on the upcoming projects or technologies to be used.

In the same way, whenever an individual feels the need to acquire new knowledge or develop a new skill, he/she can make a request to the department manager to be included in the training team's annual training plan. Additionally, what the individuals have addressed about their learning needs in their annual performance assessment meeting with their department manager is submitted as a petition within that plan. This annual plan is designed between September and December and is implemented in January of the following year.

Moreover, the discipline managers are in close contact with external agents (from outside the organization) in order to be proactive with regard to future performance needs; they constantly keep an eye on what the customers are asking for and what their new requirements are. The same attention is given to key providers, since they are familiar with the latest trends in their particular industry.

An efficient OLS should enable individuals to be ***dynamic learners***, that is to be fast and be ready to adapt and collaborate and to ***learn in a self-directed*** **way** in each moment of need (Matthews, 2013). Carrying out self-directed learning requires the individuals to be responsible for their own learning and professional development (Argyris & Schon, 1981; Nevis et al., 1995; Pedler et al., 1989, 1991; Senge, 1990).

In Laboral Kutxa S.Coop, however, there is a generally passive attitude towards learning. People expect the enterprise to tell them what to learn and when to do so. Nonetheless, whenever they face an obstacle or problem in a work task, they ask for help from their nearest colleague.

Furthermore, up to 2019, no evidence has been found to suggest that the organization has a system or a structured practice in place for encouraging self-directed learning or for empowering dynamic learners. Nevertheless, in that year they launched a new structured process to do so; a program where everyone in the enterprise needs to have an individual meeting with his/her manager to set learning objectives for himself/herself.

This one-to-one meeting consists of having a conversation about how the person sees himself/herself in regard to the competencies he/she needs to master. Those competences are particular skills that everyone should have within the organization, although they can begin working on those they prefer the most. The aim of the individual conversations is for the person to reflect on any current gap concerning the competences of his/her choice and set self-development objectives to be achieved in a 12-month period. To achieve this, his/her manager helps to define certain learning actions he/she can carry out and commit to for the established period.

With this approach, apart from supporting the employee's performance, it is expected that the employees will engage more with learning and be more responsible and proactive with their upskilling and re-skilling. This is also positive from the self-directed learning perspective, since the individual commits to improving certain competencies in a specified period of time, and he/she has the autonomy to carry out the necessary learning activities to achieve that goal (Ryan & Deci, 2000). He/she, however, has the required support and guidance of the manager (Matthews, 2013).

Employees can self-regulate their learning (Winne, 2001) and determine what to learn (Zimmerman, 1998) with goal-oriented behavior and by actively engaging in their learning. Further, the fact that he/she has made a commitment towards accomplishing an objective contributes to having an intrinsic motivation for learning — a key aspect for self-directed learning (Knowles, 1975).

In the case of SENER S.A., no evidence has been found to suggest explicit encouragement from the organization regarding individuals' self-directed learning and dynamism. Nevertheless, the people working there are proactive and highly interested in the topic they work on. When they are working in a team on a project, they have a highly sophisticated outcome to obtain. In these teams, each participant has a clear role and responsibility, and they are expected to show a high level of performance.

Moreover, each project is unique, since every customer has different requirements. Therefore, they usually tend to encounter situations or challenges they need to resolve, which requires them to search for the best solution or answer to the problem, and they are expected to do so.

This way of working makes them vigilant with regard to trends and advancements and in the ideation of new solutions. The employees are highly autonomous when carrying out projects, which makes the team and its team members responsible for the outcome. To do so, they must often learn more deeply about a knowledge area, which requires them to be self-directed and dynamic learners.

5.1.2. FINDINGS ABOUT TEAM LEARNING

Team learning is about developing team intelligence and abilities, about creating new knowledge, which goes beyond the mere sharing of individual knowledge (Fiol & Lyles, 1985; Senge, 1994).

The sub-topics analyzed with regard to team learning are as follows: developing team intelligence and abilities; and Communities of Practice for knowledge sharing. These were the two main findings that emerged when analyzing this topic:

"**The current development level of team learning in Laboral Kutxa S.Coop. is medium-low.** Although they naturally share knowledge, there are no structured practices for such sharing. Moreover, there is no contribution to the creation of team intelligence with a team spirit by means of feedback and cooperative learning."

"**The current development level of team learning in SENER S.A. is medium.** They have certain practices for developing team intelligence and some decisions are made as a team. And, although there are knowledge sharing practices, these take place at the discretion of the managers and individuals and are not structured.

Currently, no evidence has been found for a structured approach to team learning in either Laboral Kutxa S.Coop. or in SENER S.A. There are, however, some informal and unstructured practices being implemented in both enterprises.

In relation to the issue of ***developing team intelligence and abilities***, neither of the enterprises show evidence of structured practices for this purpose. In fact, there is not even a common sense of purpose for learning (Mitchell & Sackney, 2000). Further, no structured activities have been identified for making team decisions for change and improvement based on reflection and feedback.

Team learning requires a conscious process of creating cognitive maps about knowledge domains for the whole group, by creating a common understanding (Crossan et al., 1999; Daft & Weick, 1984). Furthermore, it implies that the changes that have occurred in the individuals' understanding and actions become integrated and contribute towards change at the group level. This requires a common understanding within the group members, which occurs by having continuous conversations and having shared practices (Seely-Brown & Duguid, 1991).

It would be interesting for these organizations to work on the interpretation and integration of the knowledge towards achieving team intelligence because it enables individuals to expand their professional capacity by having a shared sense of purpose, and the ability to engage in positive conflict if disagreements arise (Mitchell & Sackney, 2000). Furthermore, it contributes towards the ability to collectively solve problems and to look for innovative solutions.

Nevertheless, in SENER S.A. there are some informal and occasional activities for learning and responding to challenges in team. Those are led by managers motivated by project needs but in no cases are these structured practices. Some discipline managers lead the "multi-discipline technical sessions"; these are face-to-face sessions where people from different departments and different disciplines talk about one specific technology and the people assess it from the discipline he/she is part of and evaluate how that technology contributes to the organization's projects.

As a case in point, in 2018, they carried out another multi-disciplinary session where each discipline presented recent trends or projects that they had been working on and how they had approached them. The aim of this session was to gather insights from

another discipline that might affect their own and could be taken into account in their projects. This was video recorded for those people who could not attend the session.

On the subject of having ***Communities of Practice***, these are based on the idea that learning is better when participating in social practices or communities of practice (Wenger, 1998). In communities of practice, people come together to share their interests or profession, and these can either be set up formally or can evolve naturally. The aim of these is to share knowledge among the participants in order to promote their self-development.

In this sense, there are some knowledge sharing activities in both organizations, but once again, these are unstructured and occur due to the proactivity of either the managers or the individuals.

In Laboral Kutxa S.Coop. for instance, in the weekly meetings of the working teams, "learning" is supposed to be part of the agenda, which includes talking about current topics of interest in their industry. Although it is on the agenda, it is the last item on the list, and it tends to be left behind since the priority topics related to everyday work often take longer than expected.

Another example of those unstructured and informal practices is the following: some managers organize formal training sessions outside working hours to share some good practices they have identified among their people. This is, however, not easy as those people who stand out for their performance do not always want the exposure or are afraid of what other colleagues will say.

Concerning the individuals' proactivity for sharing their knowledge and learning, this is a common and informal practice in Laboral Kutxa S.Coop. Thus, the employees support each other in their performance; and they share their knowledge when a colleague asks for help, usually the one nearby. However, these are not structured practices and there are no dedicated physical or digital spaces (or time) set aside for this purpose.

Likewise, in SENER S.A. there are no homogeneous structured practices for knowledge sharing within either the work teams or within knowledge areas. But there are knowledge sharing practices that occur naturally due to an individual's proactivity or because these have been organized by a manager.

By way of illustration, in some disciplines the colleagues have lunch together and talk about a certain technology or new discovery. These knowledge sharing moments have the aim of establishing common challenges, for getting the opinion of other colleagues or for simply sharing a new discovery that may be of interest to them. Also, some departments come together whenever they have a problem and have a discussion in order to find the best solution.

Some managers, instead, bring their team together (fully face to face, fully online or blended) every month or every 3-4 weeks for an hour to share anything new that they have discovered in their area in the past month, as well as what projects they have been working on.

Some others invite them to a weekly meeting just after work (within the enterprise) to share how things are progressing in the team and any new knowledge they may have acquired. Nevertheless, it is not easy to motivate the employees to participate, particularly the older ones — who have more knowledge (in the words of an interviewed manager).

Some other disciplines instead adopt a more formalized approach, where after each project the team comes together, and they have a "learning meeting" where they share what new techniques they have used in the project and how. This enables them to share the knowledge and the experience, as well as to identify who knows about it in case someone needs support when implementing such knowledge in another project. After the meeting, the presentation (PowerPoint) used to deliver the experience is stored on the local disk, which can be accessed by all the people from the same discipline.

As an example of the employees' proactivity, some of them take advantage of digital platforms such as WhatsApp to solve problems between them and to support each other. This has developed naturally and is due to the proactivity of individuals., since previous attempts to make other individuals communicate through that platform with other colleagues have been unsuccessful.

These examples are a clear demonstration of how informal learning practices occur ubiquitously outside a classroom (Watkins, 2016b) that are experiential, on-demand (the individuals engage with it when they require certain knowledge for their work), social, and naturally embedded into the workflow (Bersin, 2009).

As previously stated in the literature review, informal learning is more difficult to monitor, and although it requires that the organization loosens it control, it gains a continuous learning workflow where people naturally engage with learning for its useability at work. This type of learning addresses real time work problems or needs and is only limited by the time and capacities of those engaged in that learning (Watkins, 2016b).

In any case, most of the discipline managers consider it necessary to set up more knowledge-sharing practices because many times the knowledge from other areas of the organization is needed or of high interest for current projects or new ones that may arise in the area. Furthermore, in recent years the projects they have been working on are inter-disciplinary and thus it is necessary that people from different knowledge areas work together or, at least, share knowledge regularly. But currently, they do not have any structured practices to do so.

Moreover, encouraging knowledge sharing and having Communities of Practice is beneficial for the enterprise as it contributes to the development of the expertise of its people, and it supports the acquisition and accumulation of new knowledge and skills by going through four stages (Dreyfus & Dreyfus, 1986): novice; advanced beginner; competent; proficient; and expert.

5.1.3. FINDINGS ABOUT ORGANIZATIONAL LEARNING

Organizational learning is about embedding the new routines, rules and procedures that have been tested by institutionalizing them (Crossan et al., 1999)

To do so, the following four sub-categories of organizational learning were analyzed: institutionalizing new knowledge; Knowledge Management, making knowledge flow; and alignment with the corporate strategy. The two main findings that emerged when analyzing this topic were as follows:

"The current development level of organizational learning in Laboral Kutxa S.Coop. is medium. There are some informal practices for knowledge flow and organizational learning is aligned with the corporate strategy. Nevertheless, there is no clear system for institutionalizing individual and team learning."

"The current development level of organizational learning in SENER S.A. is medium. They do have some specific systems in place to keep an eye on the market. But although there are some practices to make knowledge flow, there is no structured approach for institutionalizing existing knowledge."

One of the key aspects in organizational learning is the ***institutionalization of the existing knowledge*** in the enterprise which, according to Crossan et al.'s (1999) "4i" framework, is accomplished when newly tested routines, rules and procedures are embedded in the organization's business activity.

There is little evidence in the data gathered with regard to the way in which either of the enterprises' current practices for institutionalizing the knowledge of both teams and individuals. Nevertheless, it is known that in SENER S.A. there are two structured support practices. First, when the employees discover new findings when researching a new technology, if it is of interest to the upcoming projects of the enterprise, this new knowledge is shared within the organization and is taken into account for future projects. Second, in order to take advantage of the formalized process of gathering lessons learned in each project, those situations that may be repeated in the future are collected and included in their official procedures and guides.

Institutionalizing the existing knowledge in the enterprise is key for its development and for avoiding overdependence on the employees, since, sooner or later, they will leave but the enterprise must go on. And, as already stated in this thesis, an organization that learns gains competitive advantage by improving its exploitation and exploration activity (March, 1991; Smerek, 2018).

Another aspect analyzed in organizational learning is ***making knowledge flow through Knowledge Management***. This requires having an effective system that identifies the existing knowledge within and outside the enterprise (Wang & Ahmed, 2003) in order to make it flow among the professionals of the organization (Jensen, 2005). If this knowledge is made accessible to the employees and it is used for organizational goals,

it allows the organization to avoid being dependent on any particular individual's knowledge as it becomes part of the organization's knowledge (Spender, 1996). This is how the organization gets to learn (Cyert & March, 1963, 1992; Kim, 1993b).

In Laboral Kutxa S.Coop. there is currently no evidence to suggest the existence of a system for identifying existing knowledge in order to make it flow throughout the workplace. The knowledge sharing that occurs in the organization happens informally and voluntarily by individuals who share it with their colleagues; people naturally tend to share their knowledge or ask for help to those employees in closest physical proximity. And, for instance, when someone attends a conference or workshop outside the organization, they are not formally obliged to share that knowledge with other colleagues in the organization. If this occurs, it is done voluntarily.

Concerning the connection between the organization and its employees with the external environment as a source of knowledge (Wang & Ahmed, 2003), there are some unstructured practices in Laboral Kutxa S.Coop. For instance, individuals can ask to take part in external courses (not organized by the organization) and if the manager and the training team consider it appropriate and aligned with their work role,, they receive generous economic support to do so. Moreover, the training team regularly creates reports containing current information with the latest news about the industry, which are sent to all employees. But there is no evidence with regard to whether this last practice is successful.

In SENER S.A. they instead have a specific procedure concerning the assessment of new existing technology that could potentially be integrated into the organization's projects. It is common practice to have one person assigned as the leader of one topic (the one who knows the most about such a topic) and these people are charged with the task of keeping up to date with new advances in the area and sharing these with the team.

Through these sources, they mainly look for the latest regulatory changes and technological trends. Additionally, the research and development department regularly gather a group of their employees (from the same discipline or from different disciplines) to develop the theoretical framework of a technology advancement that is taking place in the market or literature and that may be interesting to incorporate into the firm. This contributes to the participants' knowledge acquisition.

In this enterprise, various sources are used to maintain contact with external agents. Their main external sources are: customers, providers, international conferences and the Association of Engineers. The discipline managers are constantly aware of what the customers are asking for and what new requirements they have. The same attention is given to key providers, who are familiar with the latest trends in the industry. Nevertheless, there is no evidence that other employees (who are not discipline managers) engage in these practices.

Moreover, they are in touch with and follow the publications of national and international agents who are key reference in a certain topic in which they, as a discipline, are interested. Furthermore, they attend the most important international conferences to become familiar with the latest trends in specific industries and

knowledge areas. Other sources of knowledge are the publications and announcements made by the regional "Association of Engineers" to which most of the managers belong, as well as specialized electronic journals.

With regard to the storage of explicit knowledge, no structure has been found for this in either of the enterprises — nor is there a system that efficiently embeds that knowledge into the workflow (Watkins & Marsick, 1993, 1996) or one that captures and shares tacit knowledge.

In SENER S.A., for instance, they have a local disk for the working team where they store all work-related documents, but these are just for the working team and those who are located abroad and would otherwise be unable to access these documents. Moreover, the general documents and lessons learned are stored on the intranet, but the latter are not easy to access.

In organizational learning, it is important that the learning strategy and activities are aligned with the ***corporate strategy***. When an organization invests in having an effective OLS, it aims to contribute to its competitive advantage by improving the performance and development of its people and the organization as a whole. Nevertheless, the ultimate aim of an organization is not to learn, but to be competitive in the market. And whilst learning makes a key contribution to this, it is not the final objective.

This is why it is crucial that the organization's learning strategy and structure are totally aligned with the corporate strategy, otherwise, their learning strategy will not support their business goals. In this case, both enterprises have their OLS aligned with their corporate strategy.

In the case of Laboral Kutxa S.Coop., there is an alignment between their current OLS and corporate strategy; thus, when the managers of s department or office identify the learning needs of their team, they focus on their current performance and the strategic objectives of the business. And, when the training team receives the information regarding the learning needs, when designing the annual training plan, they prioritize the training courses based on the strategic business areas of the enterprise in order to adjust to that year's budget.

In the case of SENER S.A., the learning activities are also aligned with the business strategy. The main factors that determine the knowledge and skills that the employees need are the new projects that come in, those that have been sold to a customer and need to be developed, usually in the mid-term. In addition to the new projects, the learning needs are also driven by the business objectives of the department and the discipline, which are aligned with the strategic objectives of the enterprise.

This approach in both organizations is positive, as their effort in organizational learning will contribute to their organization's strategic goals and, ultimately, competitiveness.

5.1.4. FINDINGS ABOUT FORMAL AND INFORMAL LEARNING ACTIVITIES

An AD&HP Ecosystem is situated in the organizational context where experiential learning is the main means by which the organization and its members learn and develop in the workplace.

To support this, it is necessary to take advantage of all types of learning, including formal and informal learning activities. Formal learning activities are understood as formally planned and structured activities managed and led by the organization (Ellinger, 2005), whereas informal learning activities are unstructured, on-demand, and naturally embedded into the workflow (Bersin, 2009).

The sub-topics analyzed with regard to team learning are as follows: formal learning practices; and informal learning practices. The two main findings that emerged when analyzing this topic are as follows:

"**Currently in Laboral Kutxa S.Coop., there is a low level of development in informal learning activities and a high level of development in formal activities.** Formal learning is the most developed area, whereas informal learning is not supported."

"**Currently in SENER S.A., there is a medium level of development in informal learning activities and a high level of development in formal activities**. Formal learning is the most structured type of practice, although there are some informal learning practices that are implemented at the discretion of managers or individuals."

Back in 2009, Marsick, Watkins, Callahan, & Volpe (2009) argued that for the employee's development it is necessary to develop a learning structure or architecture that includes ***formal, informal and incidental learning opportunities***. Incidental learning is a subset of informal learning, which occurs in an unplanned way, often due to a chaotic context and social interaction (Perrin & Marsick, 2012; Watkins et al., 2018).

Formal learning can contribute to an individual's knowledge and skills acquisition, whereas informal learning encourages continuous learning through dialogue and inquiry (Nurmala, 2014). For this reason, a combination of formal and informal learning practices is often recommended (Skule, 2004).

In both enterprises under study, the primary learning activities in the organization are formal training courses. What is more, in both cases the L&D's main task is to design and implement the annual training plan with formal courses.

In Laboral Kutxa S.Coop., around 50% of the courses are face to face and the other 50% are delivered online through the organization's e-learning platform. For the in-person courses, people have to be absent from their workplace and usually attend the enterprise's headquarters (where most of the training courses take place). These are positively assessed by participants as they have a clear space for learning, with nearly no distractions, and they get the opportunity to gather with other people.

In the case of the online courses, the professionals can do these any time within a specified deadline so, they can decide when and where they do these, either in the workplace or at home. They have permission to do these in the workplace, and, moreover, they all have some annual working hours that can be dedicated to learning activities. Nevertheless, those who are face to face with the customer (around 80% of all the employees) find it difficult to fit in training-time in the workplace and so they either do the courses from home or do not complete them at all.

SENER S.A. tends to have quite long training courses of about 80 hours, and these are usually face to face with an expert, not online. Most of the online courses are voluntary and are related to basic office software.

Moreover, there is a common practice which is not organized by the L&D team but is also a formal activity. When new software or program is created by an employee or an external agent that could potentially be used in the enterprise, in order to learn more about it, some employees are given demo access in order to familiarize themselves with it.

The fact that neither of the enterprises include informal learning practices in their OLS makes it difficult to make learning part of work, to make it part of their organization's culture. Furthermore, it does not contribute to the employees self-directed learning or dynamism. Nevertheless, those online courses organized in Laboral Kutxa S.Coop. contribute to the employees' autonomy when learning, which does, in turn, contribute to self-directed learning (Ryan & Deci, 2000).

Having informal learning activities could positively contribute to the creation of team intelligence with the natural emergence of knowledge sharing. And if this was combined with the required systems embedded into the workflow, the new knowledge created could be integrated and institutionalized as organizational learning. In order to offer higher learning opportunities, these organizations should adopt an inter-connected approach to formal and informal learning.

Nonetheless, in both enterprises there are some ***informal learning practices*** that arer unstructured and occur by virtue of the proactivity of the employees or managers.

In Laboral Kutxa S.Coop., culturally and informally the employees tend to support each other. Whenever they have a doubt about a task, they ask a colleague (usually the one nearby) or their manager. And if it is something generic and not strongly related to their enterprise's particularities, they search on Google. Those are their main informal knowledge sources. Furthermore, there are some people that voluntarily attend external conferences to keep up to date with developments in their industry. But there is no evidence that the organization actively supports informal or incidental learning activities.

In SENER S.A., informal learning activities[19], take place because of the proactivity of the manager or the individuals. Furthermore, spreading these practices and making them

[19] Those activities have been displayed in the previous two sections on "Team learning" and "Individual learning".

more present in the organization was one of the objectives of the enterprise within the context of this project.

However, there is one informal learning activity that is encouraged by the organization and is semi-structured, that is, a mentoring program. This is dedicated to the junior employees that join the company. It is a two-year mentoring program where the mentor (a senior employee) guides and assesses the mentee in technical issues, and also reviews his/her work. The tasks assigned to the junior employee also increase over time. Nonetheless, whilst this program is recommended it is not compulsory; thus it is not implemented in all departments.

Although informal learning practices are unstructured and tend to happen naturally in the workplace, these organizations could make an effort and encourage them to occur. Informal learning is highly influenced by the context and the people in it (Cseh et al., 1999; Ellinger & Cseh, 2007; Eraut, 2004; Marsick et al., 2009).

They could create certain situations and contribute with the resources and systems required to create a safe and encouraging environment for informal learning. For instance, social informal learning can be supported by encouraging participation in group activities, working alongside others, tackling challenging tasks and working with clients (Eraut, 2004). Furthermore, it has been recommended to include the four building blocks[20] as key components of an AD&HP Ecosystem and creators of an appropriate informal learning environment: a safe and encouraging learning environment; strategic leadership; having the OLS integrated into the workflow; and having user friendly systems and resources.

Even so, whilst this type of learning can be encouraged, the organization needs to loosen control because most of what happens is tacit and difficult to track (Nonaka & Takeuchi, 1995) otherwise it will not attend to real time work problems or needs (Watkins, 2016b).

5.1.5. FINDINGS ABOUT HAVING A SAFE AND ENCOURAGING LEARNING ENVIRONMENT

Within any organization, it is the enterprise's responsibility to create a learner-friendly environment to display the learning strategy. Certain work environments create a more appropriate learning context, by supporting knowledge creation, sharing, and application (Janz & Prasarnphanich, 2003; Slater & Narver, 1995).

The sub-topics analyzed in relation to team learning are as follows: creation of a safe environment in which to share and inquire; and encouragement to learn. The two main findings that emerged when analyzing this topic are as follows:

[20] The four building blocks are further analyzed in the following sub-sections: from 5.1.5. to 5.1.8.

"Currently in Laboral Kutxa S.Coop. the development level of a safe and encouraging learning environment is medium. Although they do have some individual time for learning at work, this is not embedded in the workflow, making it difficult to use. Moreover, there are no practices for regular feedback, and risk-taking is not accepted."

"**Currently in SENER S.A., the development level of a safe and encouraging learning environment is medium**. Most managers make learning part of work, they anticipate learning needs, some risk-taking is acceptable and individuals are committed to learning. Nevertheless, inquiry is not promoted and there is no culture of either feedback, or goal setting with regard to learning."

A ***safe learning environment*** promotes inquiry, openness and trust (Davenport & Prusak, 1998; Popper & Lipshitz, 1998; Stata, 1989) in a caring environment (Gold et al., 2001; Nonaka & Takeuchi, 1995), an environment where learning is a natural part of work in safe conditions (Neal & Griffith, 2002) and where diversity is accepted (Hicks-Clarke & Iles, 2000).

Such an environment should encourage people to be open-minded and to participate in experiments and innovative approaches (Leonard-Barton, 1995; Popper & Lipshitz, 1998; Prieto, 2003; Van den Brink, 2003). But for people to take part in experiments and other uncertain activities, they need to feel that they are in a safe environment where they can take risks and will not be severely punished for doing so (Denton, 1998; Popper & Lipshitz, 1998; Sinkula et al., 1997).

In Laboral Kutxa S.Coop. making mistakes implies being labelled for them; when someone makes a mistake it is addressed, and the person gets reprimanded. Most of the errors are involuntary and unintentional so this is not done in a drastic or punishing way. Nevertheless, there is a tendency to label people for their mistakes, and this creates a barrier to participation in higher risk activities.

In SENER S.A., however, there is quite a positive culture with regard to risk taking, but within a controlled environment, so the result of the projects cannot be affected. Employees have the opportunity to proactively create new software or test new technology. Once the output is presented to their managers it is assessed for its institutionalization and incorporation in the workplace.

Those approaches can be initiated by the employees or on the recommendation of a manager; he/she identifies uncertain areas in the management process or finds an interesting technology in the market and he/she asks a team to work on it and develop a solution. These are suggestions and never compulsory, but employees tend to accept and participate.

These practices illustrate an attitude of inquiry and openness, and the managers' positive attitude supports the creation of a safe environment for learning and experimenting. Moreover, those practices make a valuable contribution to team learning, particularly the creation of team intelligence. The fact that a group of employees work together to try out a new technology or find a solution to a challenge

develops a common understanding and interpretation of the topic under research (Crossan et al., 1999; Daft & Weick, 1984).

In Laboral Kutxa S.Coop., however, there is no evidence of the existence of these types of practices. And, in addition to the attitude towards mistakes described above, it does not contribute to having a safe environment that encourages open mindedness, inquiry, and the willingness to experiment.

An appropriate learning environment, moreover, encourages individuals to share their knowledge with colleagues along with their ideas and opinion, as there is a relationship based on trust and collaboration (Coopey, 1995; Gieskes, 2002; Marquardt & Reynolds, 1994; Muñoz Seca & J., 2004; Nonaka & Konno, 1998).

In Laboral Kutxa S.Coop., whilst there are some informal knowledge sharing practices (although not many), there is a safe environment for such practices. An example of this is the following: as stated previously in the "Team learning" findings, the employees tend to support each other and they share their knowledge when a colleague asks for help (usually the one in closest proximity).

In SENER S.A. as in Laboral Kutx S.Coop., although there are not structured practices for it, people are not afraid of sharing their knowledge and they tend to do it naturally[21]. Furthermore, a mindset shift has occurred in the recent years; before learning was considered as a reward for those who had shown good performance instead, it is now considered necessary for good performance.

Once again, having a safe environment contributes to team learning; it contributes to having an appropriate environment for carrying out Communities of Practices, sharing knowledge, and team learning practices. This not only contributes to team learning but also to individual learning; by having conversations individuals acquire new knowledge, and this contributes to their competitiveness by prompting them to question their assumptions and everyday performance at work. Thus, both enterprises should work further on this aspect, and, apart from keeping a safe environment for learning, should encourage people to share their knowledge.

In an ***encouraging learning environment*** all people are given the time and space to engage in active learning practices (Argyris & Schön, 1978; Kolb, 1984; London & Smither, 1999; Nevis et al., 1995; Senge, 1990) in a variety of ways, both formally and informally. In such an environment people anticipate the learning needs for their particular work role, they set themselves learning goals with specific knowledge and skills to be acquired, they actively take part in learning activities, they ask for feedback on their goals and they keep track of their progress (London & Smither, 1999). This is a reflection of how individuals take responsibility for their own development and are committed to continuous improvement (Isaacs, 1993; Leavitt, 2011; Senge, 1990, 2004).

In Laboral Kutxa S.Coop., employees do not have much time for learning in the workflow, particularly when it comes to informal activities. A number of different factors have led

[21] To see the most common knowledge sharing practices in this enterprise, check out the section about "Team learning".

to this situation. For instance, recent years have seen a decline in the number of people in the organization's working teams, which has increased the workload of each individual. This, along with the fact that around 80% of the employees work face to face with the customers all day makes it extremely difficult to have a time and space for learning at work.

Previously, they would have the "learning hour", an hour when the whole working team came together to share knowledge. But, as the individuals in the working team have become more specialized and do not consider there to be common learning needs, this no longer exists.

Furthermore, the compulsory legal training sessions take up most of the time that has been assigned for training. That is why training sessions like the ones organized by higher managers [22] are scheduled outside working hours. And this is also the reason why they are increasing online training courses and recording live sessions, so that people have the opportunity to acquire that knowledge whenever and wherever it is convenient.

Concerning the individuals' attitude towards learning, in general terms, people are not proactive in their development and there is no evidence of the organization creating the appropriate environment to encourage such development. This situation is detrimental to individual learning, particularly the development of self-directed and dynamic learners.

In SENER S.A., although the employees are allowed to check the resources needed to perform their job, they do not tend to have much time, due to their workload. There are no structured learning moments or spaces at work. Furthermore, the organization does not assign time for informal learning activities or knowledge sharing (it is not considered to be part of work) and the employees need to take it from their free time, which makes it difficult for the managers to motivate them to take part in informal activities they suggest doing at work or after work.

The fact that informal learning practices are not considered part of work and that no time is allocated for such practices is highly harmful for creating an encouraging learning environment. The message that is emitted with this is that those practices are not valuable or recommended because they decrease the time that is available for actual work. Being a learning organization entails being aware of the importance of continuously learning and remaining competitive. This type of organization can be achieve if the OLS supports both formal and informal learning activities by making a positive contribution to organizational learning. If informal learning activities are not supported, the organization is missing out on a key contributor to individual, team and organizational learning.

Nevertheless, when analyzing the findings in "Team learning" it could be seen that there are multiple informal learning practices going on in SENER S.A. due to the individuals' or managers' proactivity. This fact shows the high implication of the employees in this

[22] For further information about these sessions, see the section "The organizational learning structure; creation and implementation".

enterprise who, are highly committed to their development and performance and even use part of their personal time for it. This does not mean that individual should not work on their development out of work but, that the organization should contribute too.

5.1.6. FINDINGS ABOUT HAVING STRATEGIC LEADERHSIP

Having effective leadership helps to create the conditions required to become a Learning Organization (Goh & Richards, 1997; Jerez-Gomez et al., 2005; Watkins & Marsick, 1993) which encourages employees to learn as part of work.

The analyzed sub-topics related to having strategic leadership are as follows: the role of strategic leadership (being a role model, offering feedback and guidance and recognizing and rewarding); assessment and KPIs; and the components of the leading team. These were the two main findings when analyzing this topic:

"**Currently in Laboral Kutxa S.Coop. they have low-level developed leadership for encouraging learning.** Whilst their managers' attitudes towards learning have an impact, learning and training are considered the training team's "thing". Managers support performance but do not coordinate with the training-team, nor are senior managers involved.

"**Currently, in SENER S.A. they have low-level developed leadership for encouraging learning.** Although people in different roles are highly committed to encouraging learning activities, they are not coordinated, and individuals do not get the required feedback and guidance in order to support learning."

All learning activities, particularly proactive learning initiatives, need to be supported by an effective leader who guides the practices to be implemented within the learning structure. This requires a leader who is able to change roles depending on each particular situation (Argyris & Schon, 1981; Nevis et al., 1995; Senge, 1990) and encourages learning as part of work along with the ability to behave differently in order to work more effectively (Paine, 2019b). This is the person who provides a safe space for learning where people can take on new behaviors and realize that they are expected to be engaged in learning practices and challenge how things are usually done.

The leaders become a ***role model*** who themselves become learners (Ellinger, 2005; Schein & Schein, 2017; Watkins & Marsick, 1999), and that is precisely when they set a good example and create a psychologically safe environment for others (Schein & Schein, 2017).

In Laboral Kutxa S.Coop. it has been observed that the managers influence the participation in training courses and other knowledge sharing practices. When the invitation to a course is sent out by a direct or superior manager, people react faster and are more likely to participate, whereas when if this is done by the training-team, the level of success is much lower. Nevertheless, the invitation is usually sent out by the

training team. They once tried recording short videos where managers explained the importance of a course and its strategic alignment with the enterprise, and the results were highly positive.

Generally, learning is not considered to be part of the everyday activities, and thus a better internal communication strategy is needed to strengthen the importance of learning and the self-responsibility for such learning.

In the case of SENER S.A., there is not team whose explicit responsibility is to lead and encourage a holistic learning approach in the organization. Nevertheless, there are some people who are actively implicated in it and have a certain responsibility; for instance, the discipline managers are those in charge of keeping their team up to date on the latest knowledge within the field. All the employees are expected to continue acquiring the knowledge needed to show high performance in the projects. The department managers are in charge of their team's development and of the identification of their training needs on a yearly basis. And, last but not least, in the HR team, the training team is in charge of bringing in those training courses that the department managers have requested.

Neither of the enterprises, however, show evidence that the "leader" or manager considers himself/herself as a role-model concerning his/her attitude towards learning, whilst there is no encouragement to challenge how things are usually done.

To show effective leadership, leaders should talk to people in different roles within the organization and have small meetings during the year (not just one big meeting) to identify the performance needs (Paine, 2019b). They should try to understand the aspects that block people's performance and where they could bring out their potential (Paine, 2019a).

In both enterprises, managers are highly focused on performance and business outcomes. They oversee their team's performance but follow-up is not structured and depends on the manager, whilst there is no ongoing feedback and assessment of the individuals' performance and development. Furthermore, training is considered to be something that is the responsibility of the training team. In Laboral Kutxa S.Coop., they even see it as something that makes the people feel cared for as opposed to being related to business and performance. Neither of the enterprises have an overall view of learning; they distinguish between training and the other learning activities related to performance support.

For leadership to contribute towards a safe and encouraging learning environment, Paine (2019) suggests that certain words and expressions that are natural to people should be present: Optimism, Empowerment, Collaboration, Experimentation and, the question "What did you learn today?". With these terms "…widespread curiosity, radical questioning of what we do and how we do it, to share and collaborate, to experiment and articulate, this way, you generate ideas and new knowledge that emerge from both inside and outside." (Paine, 2019b).

In both enterprises, no evidence has been found to indicate that these words are part of their everyday vocabulary.

Furthermore, when experimenting or learning from experience, it is necessary to receive ***appropriate feedback and guidance*** (Isaacs, 1993; Nevis et al., 1995; Senge, 1994; Yeganeh & Kolb, 2009). And all learning initiatives should be followed up with recognition and reward (Bennett & O'Brien, 1994).

In Laboral Kutxa S.Coop., there is not much culture of giving and receiving feedback, whether this be positive or negative. Whilst annual meetings are held where managers gather individually with team members to discuss their performance and the team's objectives, no explicit reference is made to their progression, upskilling or re-skilling as professionals. And they do not receive ongoing personal feedback about their performance or development. Once again, individual follow up takes place at the discretion of the managers and is not structured.

Further, in training courses, participants are simply asked to assess the course following Kirkpatrick's 2nd level, although they are now assessing the possibility of upgrading to Kirkpatrick's 3rd level to assess the impact of the course on the workplace. The follow up of these courses is not precise, and participants are not usually obliged to join a training course (although there are some exceptions, in cases where the individual needs to do so) and, except for those courses that are compulsory by law, their fulfillment is not tracked.

In the case of SENER S.A., there is also no ongoing feedback system. Once a year, each manager individually meets with each of his/her employees to talk about their performance during the year. Both sides share impressions and, if appropriate, the employee addresses the new knowledge or skills that he/she thinks require development. Moreover, the individual does not have any set learning objectives.

The training courses (the learning activities in which the enterprise is focused) are not assessed, even though they are expected to be applicable in the workplace. Even so, what is measured is the number of hours each employee has spent attending training courses throughout the year. Further, they use Kirkpatrick's 3rd level where they ask the participants after six months how useful it has been for their workplace. Usually, attendees tend to find the courses difficult to apply to their work and feel like they need more assistance to do so.

Hand in hand with feedback are recognition and reward. All learning initiatives should be followed by ***recognition and reward*** (Bennett & O'Brien, 1994). Appropriate and flexible rewards create favorable conditions for becoming a learning organization (Pedler et al., 1991). In this case, there is insufficient evidence to assess this in either Laboral Kutxa S.Coop. or in SENER S.A.

Another key aspect of the strategic leadership of an AD&HP Ecosystem is ***keeping track and assessing*** the learning management approach itself, in order to measure its success and to learn how it can be improved (Garvin et al., 2008). In order to implement such a follow-up, the most appropriate KPIs need to be defined depending on desired the impact.

In this case, both enterprises keep track of their formal training courses. In Laboral Kutxa S.Coop., once a training course has finished, participants are asked to assess the course

following Kirkpatrick's 2nd level, although they are now considering the possibility of upgrading to Kirkpatrick's 3rd level to evaluate the impact of the course in the workplace.

In the case of SENER S.A., the training courses are expected to be applicable in the workplace, although this is not measured effectively. What is measured is the number of hours each employee has spent attending training courses throughout the year. And they assess Kirkpatrick's 3rd level where they ask the participants and their managers after six months how useful it has been for their workplace. But this is not easy to assess after such a long period of time, particularly for the managers. Usually, attendees tend to find the courses difficult to apply to their work and feel like they need more assistance to do so.

In regard to the informal learning practices that occur due to the proactivity of managers or employees, these are not tracked although those carried out by the managers are expected to have a positive impact on their performance. But, in neither of the enterprises is this measured or assessed.

Nevertheless, if the aim of the OLS is to contribute to the organization's competitive advantage by making organizational learning a strategic business asset, the KPIs being assessed need to be aligned. Thus, the aspect to be measured in this OLS is its contribution to employee performance and the acquisition of required knowledge and skills for future performance needs. This is why the KPIs should be aligned with the employees' development and performance, and it is the contribution to those aspects that should be measured.

With regard to the ***components of the leading team*** — the last aspect under analysis within strategic leadership — there is no unified approach toward learning and development in either of the enterprises. The approach is similar in the two enterprises; there is the training team that oversees the delivery of formal training courses, and there are proactive managers or employees who experience the need to acquire or share new knowledge and so they organize mostly informal learning practices, either at the individual or team level.

Whilst the training courses are planned at the beginning of the year for the following 12 months, the learning activities organized by managers and employees take place over a short period of time as their aim is to address current performance needs and, in the case of SENER S.A., to share the latest discoveries from within the industry.

The activity of the training teams is more focused on attending to development needs but, the fact that they are planned a year ahead over a period three of four months makes it non-agile and the OLS should support the "agile development" of its people and the organization itself. In contrast, the purpose of informal learning activities is to attend to the learning that is needed to achieve high performance.

Thus, it is evident that the leading team has no unified approach towards their current OLS. A strategic leading team is needed, otherwise, there is no common vision about the users' real learning needs for supporting their agile development and high performance. Moreover, there may be repeated approaches from different sides and the users stop being at the center of the OLS, leaving behind their user-experience within the OLS.

Additionally, one of the premises of an effective OLS is to have systemic thinking and a perspective of how different people and resources within the structure are inter-connected. If there is no unified approach, it is more difficult to have this holistic vision.

Furthermore, there are certain profiles missing from that leadership. Under the premise that learning is everyone's responsibility, the leadership team should be composed of people with different roles within the enterprise. This should not only include the training team or the Learning & Development (L&D) department but also supervisors, line managers, employees, stakeholders, and senior leaders (Matthews, 2013).

Having the senior leaders and managers on board with the organizational learning's vision is key to creating a positive climate for learning (Paine, 2019b). For instance, Shipton, Zhou, & Mooi (2013) found that it is more likely for informal learning and knowledge sharing practices to occur if a senior manager considers organizational learning to be a key asset for gaining a competitive advantage.

5.1.7. FINDINGS ABOUT THE ECOSYSTEM BEING INTEGRATED INTO THE WORKFLOW

All contributions to learning must be integrated and blended in harmony, including thinking practices, training activities, performance support, team learning, and knowledge banks (Senge, 1990).

Under that premise, an OLS integrated into the workflow ensures access to learning resources in the five moments of need of a person or working team: learning for the first time; expanding the knowledge base; remembering and applying learned concepts; when things do not go according to plan; and when change occurs (Gottfredson & Mosher, 2010). Moreover, Gery (1991), the first author to address the issue of performance support, argued that individuals should be provided with "individualized on-line access to the full range of systems to permit job performance" (1991, p. 21).

It is a "learning-on-demand" service that consists of offering 24/7/360 real-time access to the learning resources, to usable and relevant information and knowledge (Boud & Garrick, 1999; Craig, 1996; DeNisi & Kluger, 2000; Matthews, 2013; Rosenberg, 2013; Rossett & Schafer, 2006).

Based on this understanding of the topic, when analyzing the integration of the OLS into the workflow of both enterprises, the main findings were as follows:

"**Currently the level of integration of Laboral Kutxa S.Coop.'s OLS into the workflow is low;** employees receive little support in their moment of need and there is no learning-on-demand service**"**

"**Currently the level of integration of SENER S.A.'s OLS into the workflow is low;** learning activities are considered to be carried out when there is free time and are not part of work. And employees could be better supported in their moment of need by having a learning-on-demand service, which is currently lacking"

In Laboral Kutxa S.Coop., individuals received little supported from the OLS in their moment of need. The fact that the primary learning activities promoted by the OLS are formal training courses makes it difficult to integrate the training solutions into the work flow; and while informal learning refers to the learning that ubiquitously occurs outside a classroom, formal learning is situated in a classroom (Watkins, 2016b). These are not integrated into the workflow and accessible in the moment of need.

In the case of the online courses, however, the professionals can do these anytime within a specified deadline, so they can decide when they want to do it or when they can do it, either in the workplace or at home.

They have permission to do these courses in the workplace, and they all have some annual working hours to be dedicated to learning activities. Nevertheless, as previously stated, those who are face to face with the customer (around 80% of all the employees) find it difficult to fit in training-time in the workplace so they eventually do it from home or sometimes not at all. Whilst all of this makes learning more flexible, again, it is not part of the workflow.

Additionally, they have an internal e-learning platform where they store some of the courses that have already been delivered in the enterprise, making them accessible to anyone in the organization, along with external courses or resources that employees may find useful. This aim of this content is to be freely accessible to everyone in the enterprise to encourage proactivity in learning.

This system, however, is not successful, and people do not tend to access this platform as a source of knowledge. The could be due to the fact that those contents are not of value for the employees' development and performance because they do not attend to their learning needs. Or even because the system or digital platform that houses those resources is not user-friendly; lacking in high connectivity (with people and resources from inside and outside the organization), whilst failing to provide on-demand learning and a reach-back capability (Matthews, 2013).

In SENER S.A., like Laboral Kutxa S.Coop., the OLS offers the employees little in the way of support in their moments of need. The most widely promoted learning activity is formal training, in which people participate when they have a lighter workload. The knowledge and information are acquired much before they need to be used (months or even years before). So, when the moment arrives, that knowledge is usually forgotten. Another common situation is when a person gets involved in a new project or role and suddenly needs to acquire a variety of skills at short notice. In this case it is difficult for the person to be as efficient as possible, not to mention getting on board quickly with the new project or role.

The chief contribution of the OLS comes in the form of guides to be implemented when working on or developing a project, along with the "standard procedures" and "guides for design". The standard procedures indicate the minimum requirements to be covered when creating a project, whereas the design guides include particular topics and examples of previous projects that can be useful when designing a new project.

Although this is found to be useful, the interviewees consider that having these guides may decrease the ability to improve the procedures and find new ways of working, since people may just adhere to these without thinking further. Further, sticking to procedures and basic guidelines means that there is a lack of support when the individual encounters a challenge in a project and needs to delve further into a knowledge area. The individual is expected to have the ability to deal with the problem.

Having an OLS integrated into the workflow would positively support the agile development and high-performance of their people, teams and organization as a whole, not to mention the extent that it would contribute towards making learning part of its organizational culture and a strategic asset for the business.

Apart from not supporting learning and performance in the moment of need, the OLS in these enterprises does not help to capture and share the knowledge that is transferred and co-created among individuals and teams, or with internal and external agents or communities (Fuller & Unwin, 2004; Wenger, 1998). This would contribute directly to the three levels of learning: individual, team and organizational (Watkins & Marsick, 1993, 1996). This is obtained by integrating the OLS into the workflow.

Moreover, the fact that there is no united leadership in this regard makes it difficult to integrate the OLS. As previously stated, in both enterprises there are two main contributions to organizational learning: the work of the training team, and that of the proactive managers and employees. They both act separately, and their activities are not inter-connected which makes it more difficult to readily integrate the OLS into the workflow. There is a need for a greater level of communication and teamwork among the leaders and contributors of the OLS.

5.1.8. FINDINGS ABOUT HAVING USER-FRIENDLY SYSTEMS AND RESOURCES

For the OLS to be integrated into the workflow and to offer a satisfactory user experience, it is necessary to have easy-to-use systems and valuable resources. Moreover, organizational learning requires ***systems to capture and share learning*** across the organization (Garvin, 1993; Jerez-Gomez et al., 2005; Slocum et al., 1994).

The sub-topics analyzed about team learning are as follows: On-demand learning systems and resources; Knowledge sharing technologies; Valuable content and information; and Supporting organizational learning. The two main findings that emerged when analyzing this topic are as follows:

> "**Currently in Laboral Kutxa S.Coop., their systems and processes have a low-level of development;** These systems are not integrated into the workflow, employees are not empowered to lead those systems and processes and, the organization does not offer an on-demand service where the user finds what he/she requires in the moment of need."

> "**Currently in SENER S.A., their systems and processes have a low-level of development**. They are mainly lacking in the integration of these systems into the workflow to support the individuals during work. And there is potential for improvements in their system for knowledge sharing and supporting the institutionalization of that knowledge."

A learning structure should be based on high connectivity, ***on-demand learning,*** and reach-back capability. This learning structure should be rapidly accessible, saving time for the participant in his/her search by making relevant, current, and valid information available. It should be a learning structure where all organizational knowledge and resources are readily available and where key external knowledge-contributing agents are involved. Such a place should supports the professional growth of both individuals and teams (Matthews, 2013).

In this case, neither of the enterprises have all the necessary user-friendly systems as part of their OLS that will attend to the users' learning needs:

In the case of Laboral Kutxa S.Coop., they have two main digital platforms: the intranet where they carry out all the work operations, and an e-learning platform. The intranet is frequently used as it is a fundamental place for working, and whilst the e-platform (installed in 2013) has recently begun to incorporate training material, it has only been active for just over a year. This is where most of the online training occurs (otherwise, it is delivered on external course provider's platform), along with online sessions (usually via streaming).

This e-learning platform is managed by the training team and its aim is to keep the content updated so that people acquire the habit of using it as a source of new knowledge. It is considered as something that the training-team uses and that must be accessed when attending a compulsory course. Furthermore, the users are not empowered to take ownership of those tools and what goes on in them.

This shows how their current systems do not encourage individuals to be proactive and empowered in their learning activities., which is due to the fact that their current digital tools are managed and led by the training team. Currently, this platform is far away from offering an on-demand learning service or even performance support.

In the case of SENER S.A., the situation is similar; they do not have an e-learning platform (they acquired an LMS in 2019), but they do have two intranets where all the general documents (such as the design guides or standard procedures) and lessons learned are kept. Aside from this, if people want to share information with workmates or colleagues from their department, this is done via the local disk (in some cases they use Microsoft Teams). Nowadays, searching for information on the local disk or the intranets is not an easy task, requiring many clicks, and even with that it takes much time to find the information in the moment of need (if they find it at all). In order to change this, they are revising those platforms in order to make them more user-friendly and efficient.

With the recent acquisition of an LMS, they are planning to make it user-friendly, but it will be used to store e-learning training and filtered home-made videos. This means that this e-learning platform will not empower the employees to actively participate and contribute to it; rather, they will be passive consumers of the content provided by the training team.

Another key contribution of user-friendly systems and resources should be to offer ***knowledge sharing technologies.*** In this regard, little is offered by Laboral Kutxa S.Coop; the most frequently used tools are the telephone and email. In spite of this, there is an internal online training platform containing forums that are usually activated alongside a training course, whilst others are activated for working groups of departments to share questions and knowledge.

Nevertheless, the usage of those forums is voluntary, and they have not been successful, since people do not take part in them. This may be due to a lack of enthusiasm from the employees with regard to the attractiveness of the digital platform and the forums.

It is likely that this lack of enthusiasm is driven by three main factors. First, there is a lack of "friendliness" of the platform, which requires much effort and time to access the content of interest. Second, the forums are unappealing because they require many clicks to go beyond typing, for instance, for attaching a picture. And third, the obsolete content of the platform may be of little interest to the employees.

In SENER S.A., the existing social communication and knowledge sharing technologies enable those socializing activities to be carried out in a structured and unstructured way. In some cases, the participants are self-managed and are able to engage in a self-directed learning experience.

Although for most of the groups the main knowledge-sharing tools are the telephone, email, and conference calls, some project teams are taking advantage of other digital tools such as Microsoft Teams or Sharepoint. These are used for knowledge sharing within a working team (project advancements, sharing documents, difficulties and solutions), which is particularly useful when team members are spread across different geographical areas and need to work as a team in different spaces and time zones. In some other cases, these are used more informally, and supported by the manager with the aim of creating a sense of community in the team.

Since the Microsoft Team tool is being positively received by the employees, by the summer of 2020 they are expected to offer all employees access to this tool to support the knowledge flow within the enterprise.

In other cases, the manager is the one that starts a conversation on the platform and there is not a high level of proactivity on the part of the employees. In this last case, they use it as a follow up of a face to face or online live meeting, when there are topics that need to be further discussed. The usage of these digital tools has supported them in becoming a more empowered team (Garvin, 1993; Garvin et al., 2008; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996). They have digital spaces where knowledge can be transferred and new knowledge can be co-created, which enables the creation of peer networks in the form of learning communities (García-Peñalvo et al., 2012; McAfee, 2009; Seufert, 2012).

Concerning other knowledge sharing practices such as internal sessions for sharing new discoveries, these tend to be video recorded (they have just started to do so). But then these are stored on the local disk and they are not easily accessible to everyone who may be interested in acquiring that knowledge. In some other cases, these kinds of

sessions are broadcast live, and people can connect via streaming from wherever they are.

In regard to the international conferences people attend, they usually share the written material they have gathered at the conference on the common local disk and, sometimes, they organize a short face to face session (with the option to connect via streaming) where the person shares this information and knowledge.

An OLS that supports such knowledge sharing practices should facilitate on-demand learning by offering high connectivity and reach-back capability. In this case, although they do have some digital systems to use for knowledge sharing, they lack reach-back capability which makes it "useless" in the moment of need within the workflow. Nevertheless, apart from improving this aspect, they should further encourage the usage of knowledge sharing technologies, as these are being positively values and are indeed supporting the proactivity and autonomy of employees.

Concerning the ***value and contribution of the content*** and information flowing through the OLS, there is little evidence to assess this in either of the enterprises. Although it is known that in the case of Laboral Kutxa S.Coop., in their e-learning platform, apart from having the current compulsory formal training courses and the content from past courses, there is relatively little up to date content.

In the case of SENER S.A., most of the content is related to current projects. But the documents that contain that content are long and highly detailed, which make them unpractical to use during the workflow. When looking for a particular solution, this is not efficient, so they eventually call a colleague or the discipline manager to ask for help.

Unless the content is valuable, the learning activities that have been designed will not be successful because they will not truly attend to the users' learning needs. That is why the content needs to be reliable, updated, easy to use and close to the needs of the users of the OLS (Matthews, 2013).

Concerning the systems and resources that contribute to ***organizational learning***, the information needs to be shared and stored in organizational memory in such a way that it may be transmitted, accessed, and used for organizational goals (Cyert & March, 1963, 1992; Kim, 1993b). And it should identify the existing knowledge within and outside the enterprise in order to make it flow among the professionals of the organization — both teams and individuals (Jensen, 2005). To do so, appropriate systems and processes are needed.

In Laboral Kutxa S.Coop., their e-learning platform stores the documents from various training courses that have already been delivered in the enterprise. There are video recordings of people from the enterprise giving a life informative session. These are accessible to everyone in the organization, from work and from home, and on the computer and mobile devices.

In SENER S.A., the systems and procedures for supporting organizational learning are underdeveloped. On the newly acquired e-learning platform they store different e-learning courses and other resources about new project management procedures or

administrative tasks, whilst there are also digital files with general guides, procedures and lessons learned, stored on the intranets.

As previously stated, and applicable to both enterprises, the lack of user friendliness of these platforms makes those resources unattractive and difficult to access in the moment of need. That is not to say that these do not manage the tacit knowledge of people; rather, they do not contribute towards make the existing knowledge within and outside the organization flow in an agile way among the employees or help them to use that knowledge in their workflow for organizational goals.

Moreover, pursuing a balance between the contribution to the exploration and exploitation of the business requires an OLS composed of organic and mechanistic systems (Burns & Stalker, 1961; Courtright et al., 1989).

In both enterprises, their systems for managing the OLS are mostly of a mechanistic nature. These are highly structured and formal with clear rules and responsibilities with a top-down direction, and they pursue a higher level of efficiency, price competitiveness and economies of scale (Courtright et al., 1989).

These systems are most suited to formal learning activities. Nonetheless, if they wish to offer user-friendly systems and resources that will attend to all learning need moments by encouraging informal learning activities and the autonomy of employees, they should work even more on their organic systems, since these are more flexible, agile, responsive and innovative, and will benefit exploration by finding new knowledge and skills (Courtright et al., 1989).

5.1.9. THE EXISTING INTERRELATIONS BETWEEN THE FOUNDATIONS OF AN AD&HP ECOSYTEMS

In this theoretical model (Chapter 2, Section 2.4.) it has been suggested that the foundations of an AD&HP Ecosystem are connected and interrelated. This section presents the relations and connections that have been found among those foundations when analyzing the data in the two cases.

It has been observed that “Individual Learning” is strongly related to “Team Learning”. The proactive attitude of individuals towards their learning and development has been particularly instrumental in encouraging SENER S.A. to not only proactively organize team-learning activities but to voluntarily participate in them. In Laboral Kutxa S.Coop., the individuals are not so prone to self-driven learning and so the knowledge sharing practices are mostly driven by managers.

This illustrates another relationship between “Individual Learning” and “Informal Learning activities”. The proactivity of individuals (either technicians or managers not related to training tasks) leads to the creation of informal learning practices, both at the individual and team level.

Further, “Organizational Learning” is undoubtably related to “Individual Learning” and “Team Learning”. Within “Organizational Learning”, which concerns the institutionalization of existing knowledge, although there is not much evidence in either of the enterprises with regard to their current practices, this involves embedding newly tested routines, rules and procedures (that have arisen from individual and team learning) into the organization’s business activity. Thus, even though having individual and team learning practices does not ensure the institutionalization of the knowledge created from it, individual and team learning practices are necessary to create organizational learning.

Moreover, “Organizational Learning” in an AD&HP Ecosystem includes making knowledge flow through Knowledge Management. This happens to be a positive contributor for “Team Learning” and “Individual Learning”. Having an effective system for identifying existing knowledge both within and outside the enterprise would be an interesting input and a reason for organizing individual and team learning practices to disseminate that knowledge. For instance, in the case of Laboral Kutxa S.Coop., this could bring in new knowledge and would be a reason to encourage and support the individuals’ self-driven learning. And, in both cases, it would also encourage the organization of formal team learning practices, along with informal team learning activities.

Concerning “formal and informal learning practices”, informal learning practices are mainly manifest as self-driven learning practices at the individual level and as unstructured knowledge sharing activities in team learning. And in both enterprises, formal learning practices can be seen in the form of the training activities organized by the training team. As already stated previously and at the beginning of this Section 5.1., there is a low-level development of “informal learning activities” in Laboral Kutxa S.Coop and a medium level development in SENER S.A. Neither of the enterprises have shown evidence of two or more unstructured practices.

At first sight, it could be thought that these enterprises will never reach high level development according to the classification suggested in Figure 17 and 18 (at the beginning of Section 5.1.) because this implies having at least two structured practices. Nonetheless, an organization could have structured practices to encourage informal learning activities, since informal learning practices are unstructured and occur on-demand and are naturally embedded into the workflow (Bersin, 2009). However, the organization could work to create the four building blocks[23] of an AD&HP Ecosystem which would create an informal learning-friendly environment.

With regard to the four building blocks of an AD&HP Ecosystem, these form the basis of the other foundations of the ecosystem. And, for the rest of the model to work, these are indispensable. This has been seen throughout the analysis conducted in Section 5.1., from 5.1.5. to 5.1.8., which explicitly addressed how each of the four building blocks has affected the other foundations of the ecosystem in both enterprises.

[23] Consult the four building blocks in Chapter 2, Section 2.4. These have been analyzed in the two enterprises under research in sections 5.1.5. to 5.1.8.

5.1.10. SUMMARIZING FINDINGS ABOUT "THE FOUNDATIONS OF AN AD&HP ECOSYSTEM ARE INTERRELATED"

As observed in the findings above, all the foundations of an AD&HP Ecosystem are interrelated and influence each other. Moreover, these are all key for getting the most out of the ecosystem. The following are some of the key outputs from the analysis in Section 5.1.:

- The learners in Laboral Kutxa S.Coop. would have been more prone to be *self-directed and dynamic* if the organization had explicitly or tacitly encouraged this through the creation of the appropriate environment and leadership.

- *Developing team learning* required both enterprises to have a safe and encouraging learning environment where individuals could openly share and participate in the creation of team intelligence.

- *Knowledge sharing* has worked well with informal activities in both organizations due to the proactivity of managers or individuals, activities that have occurred on demand and are naturally embedded into the workflow attending to the employees' performance needs. In both cases, however, the organization could have provided more encouragement for those activities.

- Although the OLS and all the learning activities within were clearly aligned with the *corporate strategy* of the enterprise, these were not integrated into the workflow and were thus not considered as strategic contributors towards the business activity.

- *Informal learning activities* could increase self-driven learning practices and knowledge sharing in team learning in both enterprises. This could be achieved by creating a safe and encouraging learning environment, as well as having strategic leadership for learning.

- Not having a *safe and encouraging learning environment* paralyzed the proactivity and participation of employees in learning activities within these organizations. This did not positively help to cultivate a culture of inquiry and continuous improvement.

- Having *strategic leadership* is key for the success of the OLS; when people are already motivated and proactive (as in the case of SENER S.A.), they do not need much leadership, but they still need to have the organization's support with recognition and reward. Further, it is key that the leading team shows the active commitment on the part of different roles and management levels of the organization that supports having a learning environment within the workflow.

- Being *user-friendly* is a must for the OLS's systems and resources if these are to support all the learning activities and be the users' place to go for performance and development support. User-friendly means ready to be used, easy to access, and available in the moment of need. The low-level development of this aspect

in both enterprises under impaired the capacity to serve the employees in moments of need.

5.2. THE ORGANIZATION'S CULTURE AFFECTS THE OLS

From the results analyzed in the previous section (5.1) it is clear that the current OLS differs between the two organizations. Although they have a similar development level in regard to the key aspects of the AD&HP Ecosystem displayed as the theoretical model of this thesis, the practices within these are different (Figures 16-17). When analyzing these differences, it was notable that the organizational culture of each enterprise affected those results, as well as the results of Cycle 2 (their desired OLS). This led to the following conclusion:

"The organization's culture affects the OLS, in terms of what occurs deliberately and non-deliberately."

In the following section, five aspects of the organization's culture influencing their OLS are analyzed: the organizational structure and its management; the autonomy of the employees; the assessment of results at work; feedback and recognition practices; and the management of risk-taking in the organization.

5.2.1. THE ORGANIZATION'S STRUCTURE AND MANAGEMENT AFFECT THE OLS

The two enterprises differ with regard to how the tasks and roles are organized. In the case of Laboral Kutxa S.Coop., it is a hierarchically structured organization where people are divided by department. Around 80% of the people work in the offices face to face with customers, offices that are managed by geographical area. In terms of the main tasks to be carried out in the organization, most of the employees have a clear group of tasks for which he/she is responsible, and these are adhered to during their workday.

In SENER S.A., however, a matrixial structure has been established where people are assigned to one knowledge area or discipline and to a department that is composed of people with the same role.

Although organized differently, in managerial terms, both enterprises have expressed an interest in controlling which learning activities are taking place in the organization. They want to keep track and measure what is being accomplished. This has a strong impact when choosing the type of learning activities to encourage and implement; whereas formal learning activities are more easily trackable, informal learning requires that the organization loosens its control, but it achieves a continuous learning workflow where people naturally engage in learning for its use at work (Watkins, 2016b). This

might explain why neither enterprise currently has a high variety of learning activities, with both being strong on formal activities and weaker on those of an informal nature.

Concerning management of the enterprise's activity, the main focus in both enterprises and their managers is the business outcome. In the case of Laboral Kutxa S.Coop., this is the number of sales in each business unit, whereas in SENER S.A., this is fulfilling the objectives of the projects sold to the customers with the agreed time, price, and quality.

Thus, in both cases this aspect is an input that can be used to identify the learning needs of the employees. In addition, they pay attention to the employees' current performance, identifying improvable areas, whilst both enterprises take into account the strategic objectives of the business.

In terms of the desired organizational learning structure, both enterprises require learning resources and activities that are integrated into the workflow, solutions that are closely aligned with their performance needs.

5.2.2. THE LEVEL OF AUTONOMY AFFECTS THE OLS

With regard to the level of autonomy at work, in Laboral Kutxa S.Coop. the tasks to be accomplished by each employee are are highly specific and do not tend to vary. There are procedures to follow when attending to a customer; including the selling arguments and what kind of products or services can be offered to each customer segment.

This characteristic of the enterprise could be affecting the low-level development of their "Individual Learning". This could be particularly related to the fact that its employees do not have a lifelong learning mindset and in general have a passive attitude towards learning; people expect the enterprise to tell them what to learn and when to do so. And whilst they will ask for help from their nearest colleague whenever they face an obstacle or problem in a work task, they are not dynamic learners.

In the case of SENER S.A., their main activity is participating in a working team that is responsible for carrying out a project. When an employee joins a project, although the knowledge is related to his/her expertise, each project is unique and tailored to the customer. This implies the emergence of new or highly specific knowledge areas that the employees in charge of the project need to know and excel at. And, from the standpoint of the organization, they are expected to do so; they are responsible for the outcome of the project and all that it implies in the process.

This way of working requires a high degree of autonomy and a sense of responsibility on the part of the employees, an aspect that is also observable in their attitude towards learning. They show a positive attitude towards learning, even proactive, which contributes to their medium level "Individual Learning". They tend to be vigilant with regard to trends and advancements, and some even try to create new solutions and access different resources to be able to perform at the level that it is expected.

Furthermore, this situation can be reflected in the types of learning activities that take place in the enterprise. Whilst the organization is primarily responsible for formal learning activities, there is evidence that some informal learning is going on, due mainly to the proactive attitude of individual employees. Some disciplines informally set aside some days where they have lunch together in the enterprise's dining room and they talk about a certain technology or new discovery.

Some departments come together whenever they have a problem and have a discussion in order to reach the best solution. And there are some individuals that use digital platforms such as WhatsApp to solve problems between them and support each other. This has evolved naturally and by virtue of the proactivity of individuals. Moreover, previous attempts to make other individuals communicate with colleagues through these platforms have been unsuccessful.

Moreover, some project teams are taking advantage of digital tools such as Microsoft Teams or Sharepoint, for carrying out this knowledge sharing. Another common practice is to hold formal internal knowledge-sharing sessions where an employee shares a new discovery in a particular technical aspect, new ways of working efficiently, or a new technical tool he/she has developed.

5.2.3. ASSESSMENT OF RESULTS AT WORK AFFECTS THE OLS

In Laboral Kutxa S.Coop., performance and business outcomes are not assessed individually; the organization aims to have a team approach due to its Cooperative profile and so the business results are set and assessed on a team basis, usually according to office and geographical area.

The fact that the results are measured on a team basis already shows that the organization prioritized a collective outcome over individual achievements. And, as stated previously, in Laboral Kutxa S.Coop, the employees show an aligned attitude concerning knowledge sharing. Individuals — culturally and informally — tend to support each other and share their knowledge when a colleague asks for help (usually the one in closest proximity), all of which positively contributes to the organization's "Team learning" aspect.

Nevertheless, this might also have a negative impact; individuals are not proactive in their learning process. This may be influenced by the fact that they are not directly assessed with regard to their performance and thus they may not see the need to put in the effort, which, in turn, negatively affects the "Individual learning" aspect of the organization.

In SENER S.A., the results of their performance and business outcomes are measured by the success of the project. As previously stated, this success is based on the fulfillment of the time, price, and quality that was agreed with the customer. And, although the performance and business outcomes are not team-focused as in Laboral Kutxa S.Coop., neither are they individually-focused. And this is also reflected in the employees' attitude towards knowledge sharing; they proactively support each other in problem

solving, some even using digital platforms such as WhatsApp to solve problems between them. This is a positive observation that contributes towards the organization's "Team learning" aspect.

Although results are measured by achievement, that is, the outcome of each project, in SENER S.A. individuals show a proactive attitude towards learning. This may be influenced by the fact that each individual has a particular role within a project team, and that he/she has responsibility over his/her tasks in order to achieve the expected results.

5.2.4. FEEDBACK AND RECOGNITION AFFECT THE OLS

Neither of the enterprises have a feedback culture. There is no structured system or procedure where people can give and receive feedback on a regular basis. Moreover, little evidence has been found for the existence of recognition in either of the enterprises.

In Laboral Kutxa S.Coop., there are some annual meetings where managers gather individually with their team members to discuss their performance and the team's objectives, but no explicit reference is made to their progression, upskilling, or re-skilling as professionals. Moreover, they do not receive any ongoing personal feedback about their performance or development.

In SENER S.A., once a year, each manager individually meets with each of his/her employees to talk about their performance throughout the year. Both sides share impressions and, if appropriate, the employee addresses what new knowledge or skills he/she thinks they need to develop.

Nonetheless, in both enterprises there is a career-plan program for specific people, those who stand out for their performance, which could be considered as recognition.

This situation concerning feedback and recognition directly influences the results of both enterprises concerning the aspects of "Strategic Leadership" and "Safe and Encouraging Learning Environment". One of the key pillars of strategic leadership is encouraging the employees to learn as part of their work and to provide a safe space for such learning. And a safe and encouraging environment includes using feedback for individuals to assess how they are doing with their learning goals and to keep track of their progress. When there are no regular procedures for feedback and recognition, the employees do not know whether they are performing and developing as expected, in either work or the field of learning.

5.2.5. THE RISK-TAKING CULTURE AFFECTS THE OLS

Laboral Kutxa S.Coop. is not particularly prone to risk-taking. When someone makes a mistake, this is addresses and the person is reprimanded. Most of the errors are

involuntary and unintentional and so no drastic action is taken; instead it is discussed and the person is asked to avoid repeating the error. There is also a tendency to label people for their mistakes. So generally, it is perceived that people do not want to make mistakes in order to avoid being castigated. Moreover, they do not want to stand out — for either the worse or for the better.

This general attitude towards risk also has an impact on risk-taking when learning. For instance, when carrying out knowledge sharing practices as part of the organization's "Team learning" aspect; managers tend to identify good practice and include these in training session organized for the employees, with the aim of spreading these among other teams and employees. But this is not easy, since those people who stand out for their performance do not always want this exposure, as they are afraid of what other colleagues will say.

Furthermore, this affects the creation of a "Safe and Encouraging Learning Environment", an environment where people continuously try to improve and question how things are done, based on a climate of openness and trust.

However, SENER S.A. does accept risk-taking, albeit in a controlled environment, that is, it must not affect the results of the projects. It is common practice for employees to have the opportunity to proactively create new software or test new technology. The outputs are shared with their discipline or department managers and they take them into consideration for their incorporation into the workflow. In other cases, the managers identify uncertain areas in the management process or an interesting technology in the market and they ask an employee or a group of employees to work on these and develop a solution. These are suggestions and never compulsory, but employees tend to accept and participate.

This attitude towards risk-taking affects the creation of a "Safe and Encouraging Learning Environment". It directly contributes to the aspect of people looking for improvement and trying out new things in an environment of openness and trust, where it is accepted that not all the tools tested, researched, or created will be suitable for the organization.

5.3. MAKING TANGIBLE AN AD&HP ECOSYTEM REQUIRES CERTAIN STEPS

This section of the discussion aims to contribute to the fourth Specific Objective; "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

As shown in the narrative of results (Chapter 4), each enterprise wants to improve certain aspects of their current OLS. As can be seen in detail in Appendix 52, they both want to improve in most of the aspects under analysis, and at least one specific aspect from all the topics except for SENER S.A., who seem quite satisfied with their employees' learning. All those elements are part of an AD&HP Ecosystem and, improving them would bring them closer to having such an ecosystem.

When an organization wants to change its current OLS, it is necessary to analyze the design and creative process that led to the current output or structure. Applying this analysis to both enterprises led to the finding below.

"The current process for creating the OLS is not appropriate for create the new structure they wish to have."

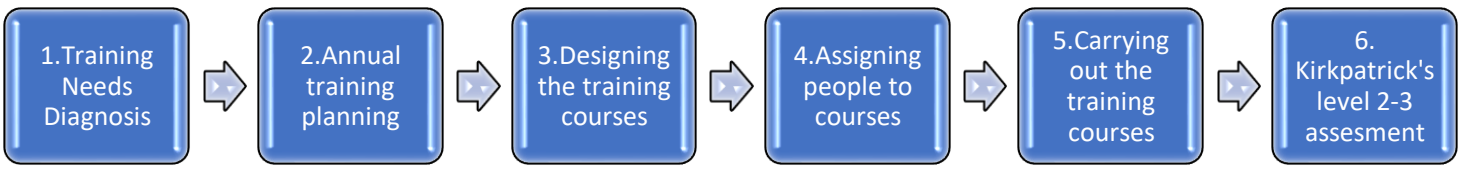
Currently, in both enterprises the only structured process concerning the creation of an OLS is the one led by the training team, which identifies and defines the training needs (not learning needs), which results in an annual training course plan composed of formal learning activities. This plan is not integrated into the workflow and involves little participation of the users in the process of defining the learning needs and learning activities. This is a training focused approach, rather than a user-centered one with a holistic view of the employees' learning needs.

The rest of the learning activities that occur in the organization led by managers or by the proactivity of the employees are not structured. Those practices occur in different areas of the organizations and depend on the proactivity of the managers and employees.

There are certain requirements that need to be met in order to establish a process for creating an AD&HP Ecosystem and achieving the desired changes. To identify the changes that should be made, the current structured process for creating the OLS has been analyzed in both enterprises. Figure 18 presents the process followed by both enterprises. Whilst the main six steps are the same, each of these is approached differently by each organization. These steps are as follows: diagnosis of training needs; planning of annual training; designing the training courses; assigning people to the courses; communicating with the participants about their assigned course; carrying out the training courses; and assessing the KPIs, the annual hours of training and Kirkpatrick's level 2-3 assessment.

It should be noted that the analysis conducted so far has not included who does what, who is responsible for what. Although previously the focus was particularly directed towards what was going on, this is also included in the following analysis. This is mainly due to the fact that it is considered interesting and necessary to do so when analyzing a process, in this case, the process used to design and create the OLS in these enterprises.

Figure 18: Current OLS creation process in both enterprises.



Source: the author

5.3.1. THE TRAINING NEEDS DIAGNOSIS

In Laboral Kutxa S.Coop., the department managers and office managers are in charge of following up the employees. These managers identify the training needs of the team members based on their current performance and the strategic objectives of the business. In addition to assessing their team based on their current and expected professional performance, they check if the strategic plan is being properly carried out or, if it has not yet been implemented, whether the team is prepared for this. But there is no evidence for the existence od a structured process where the managers are connected to the external environment and identify learning needs for their team's development and performance.

The identification of the learning needs itself is not structured, each person responsible intuitively identifies the needs by considering not just the business results of the team but also the working conditions within the group during the year. Some talk to their team members to ask them to identify their training needs.

In addition to this, these managers identify the knowledge or skills within their team that could be useful or interesting for other people in the organization. If they do so, they include this in the learning needs identified for their people and communicate it to the training team in their annual meeting. Each year, they share with the training team the knowledge and skills needed by his/her professionals in order to achieve better performance. This information communication is structured, since both parties know that around the month of November, they will have a personal meeting to discuss the issue.

Another important aspect to discuss in this first step of identifying the training needs, is that related to legal issues. Due to the industry in which the enterprise operates, since the 2008 crisis employees have been legally required to hold certain certifications, which are obtained through specific official courses that take up most of the time that has been allocated to employee training. The training team is in constant communication with the relevant external agents, as well as an association of enterprises from the same industry who come together and discuss the latest legal requirements.

Concerning the user's participation in identifying their learning needs, this depends on the manager, as this is done at their discretion. Whilst some do this at the annual individual performance meeting, others do not, whilst some informally discuss the issue throughout the year.

This way of diagnosing the training needs in the organization constrains the individuals' proactivity, since they have little input with regard to their training options for the following year, and they are not asked for their opinions. Their managers and the training team decide for them. This procedure is sending the message of; "do not worry, we will think about your training needs". This does not contribute to the new OLS that the organizations wish to have, that is, one where employees are co-responsible for their development and proactive in learning activities.

In SENER S.A., the department managers are the ones in charge of the follow up of their team members' performance and development. Aside from keeping track of their team's performance, they talk to different managers in the enterprise to address the training needs based on future projects, as well as the strategic needs of the business. The discipline managers are responsible for keeping the organization up to date in the areas and topics of interest. This can sometimes create a conflict of interests as each manager may identify different learning needs.

There is no structured process in place for identifying knowledge needs, and so each manager decides how to proceed in this regard. The main determinants of the knowledge and skills needed by employees are the new projects that come in, those that have been sold to a customer and need to be developed, usually in the mid-term, along with the business objectives of the department and the discipline, which are aligned with the strategic objectives of the enterprise.

Whenever an individual feels the need to acquire new knowledge or develop a new skill, he/she can address this with the department manager so that it is considered in the training team's annual training plan. In addition to doing this in their annual performance assessment meeting with their department manager, a structured approach towards the diagnosis of training needs is required.

As in Laboral Kutxa S.Coop., in SENER S.A. the employees' opinion on their training needs is considered but they are not, in fact, involved in the process. They are not required to adopt a proactive attitude in this step, which, as in Laboral Kutxa S.Coop., has the effect of discouraging individuals from being proactive and responsible for their learning process.

5.3.2. MAKING THE ANNUAL TRAINING PLAN AND DESIGNING THE COURSES

Once the training needs have been identified in Laboral Kutxa S.Coop., the training team leaders gather all the training needs and prioritize them based on the strategic business areas of the enterprise in order to adjust to that year's budget. Based on this prioritization, the training team defines the training courses that need to be delivered during the following year. This plan is forwarded to the CEO team and, once it is accepted, the training team start to work on the courses, contacting external training providers, co-designing the courses, creating the materials, and inviting the participants to the course.

The training team expects to receive information on training needs, and not learning needs "the training-team leaders gather all the training needs […]". What is more, the primary learning activities in the organization are formal training courses. Moreover, the employees receive learning support from three main sources: courses provided by the training team, formal sessions organized by higher level managers who gather information on training needs related to performance issues, and formal sessions organized by the new product and services creation department.

This shows that there is no holistic approach to attend to the employee's learning needs. Rather, the training-team is focused on offering training courses, without a general view of the learning needs of the employees, which go beyond training needs. Furthermore, the development of the employees is managed by another team, which, although works alongside the training team, operates independently. According to Senge's (1990) fifth discipline "Systemic Thinking", in a learning organization people should have an awareness of how their actions impact others in the organization, since an organization is an inter-connected system. Thus, adopting a holistic approach to individual learning would be helpful in this regard.

As can be seen by the terminology, the output of the training needs identification is focused on creating training solutions, not learning solutions. Training solutions are considered as formal learning opportunities and, as Marsick, Watkins, Callahan, & Volpe, (2009) argued, for the employee's development it is necessary to develop a learning structure or architecture that includes formal, informal and incidental learning opportunities. As Nurmala (2014) stated, formal learning can contribute to an individual's knowledge and skills acquisition, but it does not support dialogue and inquiry, and does not include embedded systems to capture and share learning.

The previous training activities that the organization offered to the individuals contributed to the individuals' learning and their upskilling and re-skilling. Nonetheless, the fact that there is a high focus on formal training solutions means that they are unable to take advantage of informal and incidental learning activities, that is, types of learning that attend to real time work problems or needs and that are only limited by the time and capacities of those engaged in that learning (Watkins, 2016b).

The same occurs in the performance support provided to the employees. The main criteria used to design the training courses is the individual's performance, but with training courses these needs are not attended to in the precise moment of need. And, there are five moments of need: Learning for the first time; expanding the knowledge base; remembering and applying learned concepts; when things do not go according to plan; and when change occurs (Gottfredson & Mosher, 2010).

In this case, the aim of the learning activities is to contribute towards supporting the individuals' performance, that is their exploitation activity. There is, however, no approach for contributing to exploration activities.

In SENER S.A., for designing the annual training plan, the training team gathers all the training needs from the department manager and builds the plan between September and December in order to begin its implementation in the following January. The work of the discipline manager concerning their team's training is not included in this structured process for designing the annual training plan. Nonetheless, there is usually a conversation between the discipline and department managers to share opinions. The final input to the training team is the department manager's opinion.

When designing the formal learning activities, there is a need to consider that the people who work at this enterprise must enter with a high level of knowledge in the field, that is, they are highly qualified. All enter with a bachelor's degree in engineering, most of

them have a master's degree, whilst some have a doctoral qualification. In order to keep up to date with technical knowledge in such a fast-changing market, they attend formal training courses (organized exclusively for the enterprise) or open courses. They have already identified the main course suppliers, that is, those most advanced in the topic in which they are specialized.

The situation in SENER S.A. is similar to that of Laboral Kutxa S.Coop. Here, the focus is on creating an annual training plan for attending to the employees' training needs rather than learning needs. Nonetheless, the employees have access to other learning sources, including those found by themselves, motivated by their performance needs for a project, along with the formal team learning sessions organized by their discipline manager or department manager. But there is no systemic thinking approach towards the employees' learning needs in order to support their performance and development (Senge, 1990).

This approach of the training team is focused on formal learning activities when, in fact, an OLS should offer formal, informal and incidental learning opportunities (Marsick et al., 2009). Taking advantage of informal and incidental learning opportunities would contribute to supporting the employees in their moment of need (Gottfredson & Mosher, 2010) apart from their upskilling and re-skilling. In order to address this aspect, it would be interesting to further develop informal learning activities and, for instance, to implement activities that enable the transfer and co-creation of knowledge among individuals, groups and the whole organization, with internal and external agents or communities (Fuller & Unwin, 2004; Wenger, 1998), all of which would significantly contribute to team learning.

With regard to the role of the training team in both enterprises, they are course creators rather than being in charge of people who have high-quality opportunities to learn through various learning practices and knowledge sources. In order to take on a more strategic role in the organization, they should be expert consultants about everything related to learning, including performance support, sharing opportunities, courses, and user-friendly online learning platforms (Matthews, 2013). And to do this successfully requires the ability to talk business language and show alignment with the needs of the business, shifting from the learning paradigm to the business paradigm (Arets, 2017; Gottfredson & Mosher, 2010).

Concerning how the training courses are prioritized in SENER S.A., there is no evidence related to this issue in the data gathered.

5.3.3. ASSIGNING PEOPLE TO COURSES

In Laboral Kutxa S.Coop., once the courses are ready to be delivered, the department and office managers decide who should attend which course. This is based on who the manager considers to be in most need, along with their current workload. This is usually done as an invitation, without obligation, but highly recommended.

Similarly, in SENER S.A., once the annual training plan is created, people are usually assigned to courses according to the projects on which they are working on or expected to work on (which determines the required knowledge and skills) along with the workload the person has at that moment. Those with a lighter workload attend the training courses. This decision is made by the department managers.

Concerning individuals' autonomy to choose which learning activity they want to participate, in both enterprises the assignation of people to courses is done by the direct manager and so the individual is not able to choose. Nevertheless, in the case of Laboral Kutxa S.Coop. for online courses (around 50% of all the courses), they can decide when they want to or can do it, either in the workplace or at home. In SENER S.A., however, most of the courses are face to face at the workplace so there is less flexibility.

This flexible aspect is important because when we talk about learning organizations, the individuals are adults and their engagement and satisfaction as learners increases when they have more autonomy to learn in the way they want and on topics that they find useful for work. Having some flexibility and autonomy results in a higher ability to learn, innovate and adapt to external changes (Matthews, 2013). Nevertheless, the type of the learning activities (formal training courses) and their assignment is somewhat too rigid for truly offering an on-demand learning service to the employees.

Furthermore, this level of rigidity is not suitable for either self-directed learners (Knowles, 1975) or for the agile and dynamic development of employees. It is not useful for developing dynamic learners who are fast, and ready to adapt, collaborate and learn in a self-directed way in each moment of need (Matthews, 2013). Moreover, it does not encourage individuals to be empowered, to actively share their knowledge and show the sufficient level of inquiry to create team intelligence (Fuller & Unwin, 2004; Wenger, 1998).

5.3.4. CARRYING OUT THE TRAINING COURSES

In both enterprises, the annual training plan is usually implemented as set out in the plan. The training team is in charge of organizing the physical spaces for the courses and, if the course requires, to upload digital material or information onto the internal e-learning platform in Laboral Kutxa S.Coop. and to send it by email to the participants in the case of SENER S.A. While in Laboral Kutxa S.Coop. the face-to-face courses are delivered in the headquarters (in Arrasate), in SENER S.A. these tend to be held in either of the three main locations — Bilbao, Barcelona, or Madrid.

Those training plans are not integrated into the workflow. They do not offer the employees a 24/7/360 real-time access to the learning resources, to usable and relevant information and knowledge, guidelines, templates, experts in subjects, tools, colleagues, or external institutions. In short, it does not offer a learning-on-demand service (Boud & Garrick, 1999; Craig, 1996; DeNisi & Kluger, 2000; Matthews, 2013; Rosenberg, 2013; Rossett & Schafer, 2006).

The training plan should become a learning structure that is integrated into the workflow to support learning at the three main levels: individual, team and organizational. If not, the learning resources will not support the employees in their moment of need. It should become a natural part of work. What is more, this integration into the workflow would facilitate the capturing and sharing of that knowledge that is transferred and co-created among individuals and teams, and with internal and external agents or communities (Fuller & Unwin, 2004; Wenger, 1998). This would not only contribute to individual and team learning, but to organizational learning (Watkins & Marsick, 1993, 1996).

5.3.5. KIRKPATRICK'S 2-3 LEVEL ASSESSMENT

In Laboral Kutxa S.Coop., once a training course is finished, participants are asked to assess the course following Kirkpatrick's 2nd level, although they are now assessing the possibility of upgrading to Kirkpatrick's 3rd level to assess the the impact of the course in the workplace.

In SENER S.A., the training courses are expected to be applicable in the workplace, although this is not measured effectively. What is measured is the number of hours each employee has attended training courses throughout the year. Further, they assess Kirkpatrick's 3rd level where, after a period of six months they ask the participants and their managers how useful it has been for their workplace. But this is not easy to assess after such a long period of time, particularly for the managers. And, usually attendees tend to find the courses difficult to apply to their work and feel like they need more assistance to do so.

Once again, with this tracking process it is notable that the focus is directed towards training courses. Kirkpatrick's assessment is well known in the organizational training field, but it is limited to training courses. If an organization offers a complete holistic service centered on supporting the employee's performance and development needs, the KPIs should be aligned with measuring the impact. What is more, a recent well-known publication by Pedler and Burgoyne (2017) argued that "The emphasis on high performance in organizations has tended to diminish the learning aspects."

With regard to the individuals receiving feedback about their progress, in Laboral Kutxa S.Coop. they do not receive such feedback regarding their learning from a course they have attended or how they are transferring that knowledge to the workplace.

Similarly, in SENER S.A. there is no ongoing feedback practice. Once a year, each manager individually meets with his/her employees to discuss their performance throughout the year. Both sides share impressions and the employee addresses what new knowledge or skills he/she thinks they need to develop, if necessary.

In a learning organization, one building block of the OLS is to have a strategic leader in charge of encouraging a feedback culture, that is, of giving and asking for feedback. The employees should ask for feedback on their goals and they should keep track of their progress (London & Smither, 1999). Even team learning requires feedback, as when they

make a collective decision to change and improve, they act and adapt by reflecting on the feedback they receive (Edmondson, 2003). Moreover, guidance and feedback are key when learning from experience (Isaacs, 1993; Nevis et al., 1995; Senge, 1994; Yeganeh & Kolb, 2009).

5.3.6. SUMMARIZING FINDINGS ABOUT "MAKING TANGIBLE THE FOUNDATIONS OF AN AD&HP ECOSYSTEM REQUIRES CERTAIN STEPS"

Analysis of the current OLS creation process of these organizations has revealed how this influences the creation of an OLS:

- If no final users are included in the process, then these are less likely to feel empowered within that structure. And, if people from the business (outside the HR team) take part, it is easier for the OLS to more closely address the business needs, although simply having them present does not ensure that this will be the case.

- If the training or learning plan does not include informal learning practices and these are not actively encouraged, when these occur naturally in the workplace people do not consider them as learning. Therefore, this is not helpful for creating a holistic view of employees performance and development.

- If people are always assigned to the learning activities, they will not be empowered in their development and will not become self-directed learners that are responsible for their own learning journey.

- Unless the learning activities are designed or thought to be part of work, that is, integrated into the workflow, learning will not be part of work and it will be more difficult to make it a habit and not something to be done when there is free time.

- The KPIs need to evaluate the true aim of the OLS, and its desired impact. Otherwise, it is not possible to properly assess the success of the OLS and it will not be possible to achieve ongoing improvement.

5.4. THE PROCESS TO MAKE TANGIBLE AN AD&HP ECOSYSTEM NEEDS TO BE HOLISTIC AND USER FOCUSED

This section aims to contribute to Specific Objective no.4: "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem".

From the analysis in the previous section (5.3) it has been observed that the process followed by each of the enterprises for designing and creating their current OLS is not expected to achieve the desired outcomes of their OLS. This led to the following conclusion:

“In the process of designing and creating the AD&HP Ecosystem it is necessary to adopt a holistic approach where the users are at the center of the structure and everyone in the organization is responsible for learning”

Taking into account their current process for creating the OLS, the outcome this has led to, and the new structure they wish to have, a new process has been suggested (Figure 19). The outcome of this process will be the design and creation of a personalized AD&HP Ecosystem that will attend to the employees’ learning needs, which, in turn, will enhance the competitiveness of the enterprise.

The new organizational learning structure — the AD&HP Ecosystem — meets the requirements of the new structure that both enterprises wish to have; it is an **agile and adaptable learning structure**, adaptable to changes based on the needs of both the individuals and the organization, and is people-focused, as required by Laboral Kutxa S.Coop. and SENER S.A.

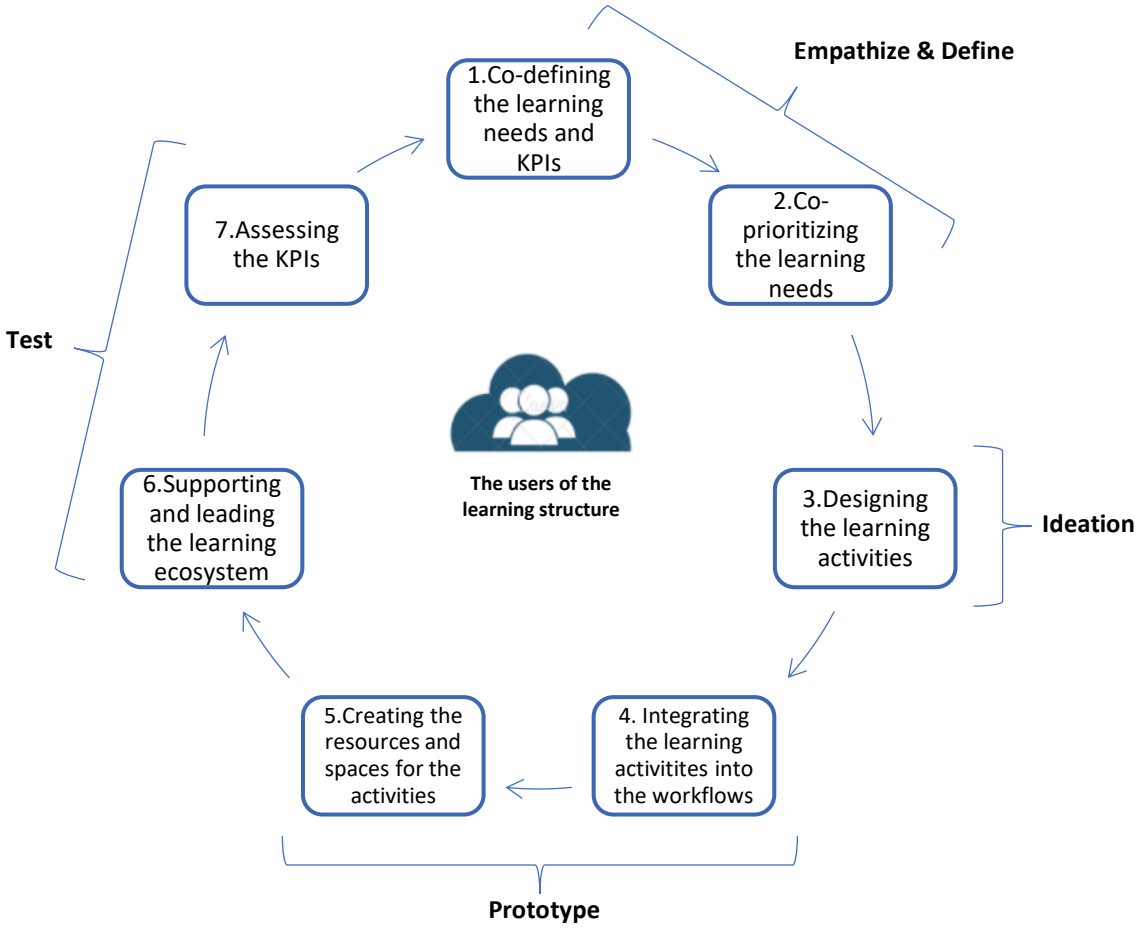
The new suggested process for creating the OLS is a cyclical process based on seven steps: co-defining the learning needs and KPIs; co-prioritizing the learning needs; designing the learning activities; integrating the learning activities into the workflow; creating the resources and spaces for the activities; supporting and leading the learning structure; and assessing the KPIs. It is a user-focused process and highly cooperative.

Furthermore, in Figure 19, the four main stages of Design Thinking are integrated where the first two steps are part of the empathizing and defining stage; step three is the ideation stage; step four and five are the prototyping stage; and step six and seven constitute the test stage. As stated in Chapter 3 when explaining the methodology of this thesis, a Design Thinking approach enables us to create a high level of empathy with the future users of the design and to implement a faster design process than when using a traditional approach. This is beneficial as it allows for creating an OLS that will really suit the needs of the users whilst being fast and agile in order to readily adapt to the changing needs of the users or the organization.

The process should be carried out with the users in mind, the people who are going to be using the learning structure or ecosystem under design. That is why, when beginning to carry out this process, it is first recommended to divide the employees of the organization according to role. Whilst employees have different learning needs, grouping them in this way allows the design process to be carried out for each group.

Nevertheless, when using this process for the first time, it is recommended to start with one or two segments of users and to examine the results before addressing the whole organization, otherwise it can become unmanageable since we first need to assess what improvements need to be made in each step, bearing in mind what type of OLS they wish to achieve. It is recommended that the “early adopters” of the enterprise are identified, and to begin with them, because they will be willing to take part in this new learning structure and any small gains achieved during the process will set a positive example to the rest of the employees. Furthermore, in Step 6 it is recommended to bring them into the leaders team.

Figure 19: "AD&HP Ecosystem" creation process



Source: the author.

5.4.1. CO-DEFINING THE LEARNING NEEDS AND KPI-S

This first step consists of diagnosing the learning needs of the users of the learning structure under design.

When diagnosing the learning needs, this should be done by thinking about two levels: the learning needs of the user for their exploitation activity, for improving their current performance; and their exploration activity, for starting to fulfil their future performance needs and to contribute to the organization's innovative exploration activity. Here it is recommended that a balance is achieved between both levels. Although the organization may decide to concentrate the exploration activity on certain people within or outside the organization without bringing in all the employees, it should be considered the contribution that these could make to that activity due to their role and their knowledge. Further, learning needs concerning the exploitation activity should be diagnosed for all employees.

Concerning the people participating in this first step, it is suggested to actively bring in the users of this learning structure. Defining the learning needs by co-working with the actual users of the learning structure shifts the focus from the content or the learning activity and directs it towards the user, making him/her responsible for his her/learning (Matthews, 2013). The objective is to gather them together and run co-designing working sessions with them (without the presence of their managers, if it is considered that this may affect their participation), similar to those that have been carried out in this research project in Cycle 3 of Action Research.

It is likely that during these working sessions, the learning needs that will arise are those concerning the users' current performance. But it is also necessary to bear in mind future learning needs, those that will be required to contribute to the organization's strategic lines and goals. In that case, it is necessary to bring to the working sessions as an input the strategic goals to which the users are expected to contribute (as done in Cycle 3 in Laboral Kutxa S.Coop).

In this same step, this is the time to define the KPIs that will be used to track the success of the learning structure, along with what is going to be tracked in order to assess whether the learning needs have been covered. These can either be quantitative or qualitative, depending on the learning needs and what contribution these are expected to make. It is recommended that some thought is given to the work or business aspects that will benefit from the learning, and the learning structure and associated activities should be aligned with work or business needs and also contribute to them.

Nonetheless, it should be borne in mind that this learning structure will include formal and informal learning activities (to be defined in Step 3), which are not usually trackable. Here, the organization needs to loosen its control over these and instead provide support for them to occur. Although these are not easily trackable and measurable, they contribute a continuous learning workflow where people naturally engage in learning for its use in the workplace, that is, a type of learning that attends to real time work problems or needs and that is only limited by the time and capacities of those engaged in that learning (Watkins, 2016b).

5.4.2. CO-PRIORITIZING THE LEARNING NEEDS[24]

When co-defining the learning needs in Step 1, it is likely that a high volume of learning needs will emerge, which are focused on a particular group of users, although there are more employees with needs that require attention. Moreover, given that neither the resources available for learning or the employees' time is limitless, it is necessary to prioritized those learning needs that should be addressed first. For this, the opinions of the users should be considered, since these are the ones who have identified the learning needs and know what should be given priority.

Since these users tend to focus on their current performance needs, then it is most likely that the prioritized needs will be those that contribute to performance. Knowing this,

[24] See the template for Step 2 in Appendix 53.

and taking into account that a learning structure should contribute to current and future learning needs aligned with business strategy, it is once again necessary to consider the strategic lines and objectives of the enterprise.

By the time we began working together, both enterprises had a pre-conceived notion of which aspects they wanted to address first. This has been reflected in the results on the foundations of their desired OLS, where they defined which aspects of their OLS they wanted to improve. In this step, the learning needs were not prioritized but rather the aspects of the structure that should be improved, including the learning activities. This prioritization influenced the next step, Step 3, where the learning activities were designed.

5.4.3. DESIGNING THE LEARNING ACTIVITIES[25]

The aim of this third step in the process was to define and design the learning activities and resources that will address the prioritized learning needs of the users.

In this sense, an AD&HP Ecosystem needs to ensure that learning takes place at three levels: individual, team and organizational. So, when designing the learning activities of the learning structure, this needs to be taken into consideration. Furthermore, they are all connected and, they all affect and contribute to each other, that is, it is an inter-connected system.

While individual learning is about personal mastery and having a lifelong learning mindset (Nevis et al., 1995; Senge, 1990) and is focused on developing individual skills and knowledge to better perform in the workplace both currently and in the future (Argyris & Schon, 1978, 1981; Matthews, 2013; Nevis et al., 1995), team learning is about developing a team intelligence and abilities and creating new knowledge (Fiol & Lyles, 1985; Senge, 1994). This requires conversations and collective thinking (Senge, 1990) where individuals share their knowledge.

Organizational learning instead occurs when individual knowledge is shared and stored in organizational memory in such a way that it may be transmitted and accessed, and used for organizational goals (Cyert & March, 1963, 1992; Kim, 1993b).

When defining the learning activities of the learning structure, thought must be given to formal and informal activities, not just formal training courses. As seen in the literature review, both make a contribution to learning (Marsick, Watkins, Callahan, & Volpe, 2009). Before getting started, it is recommended that new learning activities are designed for thinking about and asking the users about what has previously been done that was successful in fulfilling the learning needs. This is a way of taking advantage of previous positive experiences.

The two types of activities require a different design approach. When designing formal learning activities, these require a complete design of the activity as it is highly

[25] See the template for Step 3 in Appendix 54.

structured, including the contents, the time, the place, the participants, the dynamics and the resources or materials needed. Informal learning, however, it less rigid; this third step needs to define the resources (digital and non-digital), time, and physical spaces required for the users of the learning structure to voluntarily participate in the activities. The level of specificity can vary and tends to be led by the users, whilst the organization encourages and supports it by providing the required resources and spaces.

It is likely that informal learning practices already occur naturally across the organization, which is one of the reasons why in this research project we first carried out a diagnosis of the learning structure of the organizations. Nevertheless, there may be some working groups or areas in the organizations where these do not occur, or where these should be increased and where various methodologies could be exploited to support their learning needs. So, when defining what informal learning activities could work, those activities that should be selected are the successful ones that could contribute to the users learning needs.

Nonetheless, these may need to be adapted to these users in order to integrate them into their workflow. When thinking about the learning activities, apart from taking existing successful activities within the enterprise, it would be interesting to look for inspiration and take advantage of other existing learning opportunities. To do so, it is recommended that the 70:20:10 model is consulted to find suggested activities (Arets et al., 2016).

Although the learning activities are designed for the users of the learning structure, there may be more agents implicated in them; people from other departments or working groups within the organization, along with external key agents such as suppliers, customers, universities or other enterprises. These may be important sources of valuable knowledge. A learning structure is alive, in constant movement, and connects the organization and its employees with external agents.

It is recommended that an equilibrium is achieved between the different types of learning in order to take advantage of all their benefits, and to view them as inter-connected activities in which a given person may take part. Nevertheless, it is difficult to include multiple learning activities at the same time. For this reason it would be advisable to carry out a previous step where the learning needs are prioritized in order to define which learning needs should be addressed first, which, in turn, will determine what type of learning activities are to be designed.

5.4.4. INTEGRATING THE LEARNING ACTIVITIES INTO THE WORKFLOW[26]

The learning structure needs to be integrated into the flow of work to ensure that a person or working team has access to learning resources in their moment of need.

To achieve this, it is first necessary to establish what a typical day at work looks like for the user. This will allow for identifying which moments can be used to integrate learning

[26] See the template for Step 5 in Appendix 16.

activities and what could be useful (or not) for their workflow. To do so, it is recommended to draw a "Day in the Life" (a Design Thinking technique) with the users of the learning structure (this was done in Cycle 3 in both enterprises, when co-creating the new OLS). In this research, this was done in both enterprises even before designing the learning activities (Step 3), which enabled them to have in mind a typical day at work of the user when thinking about possible learning activities, both formal and informal.

Nevertheless, informal learning activities should not be set within a strict time frame. As stated in Step 1, the organization needs to loosen control over this and allow it be led by the users themselves, for them to carry them out when they find it necessary. But the employees need to know that they are supported by the organization to include informal learning practices as part of their work. And the organization also needs to contribute with the required resources and spaces (as explained previously in Step 4).

5.4.5. CREATING THE RESOURCES AND SPACES FOR THE LEARNING ACTIVITIES

Once the learning activities have been designed and integrated (design wise) into the workflow, the next step would be to create the necessary resources and spaces for those learning activities to be put into practice.

As mentioned in Step 3, formal learning activities require a complete design as they are highly structured and are managed with a "mechanistic" system[27]; including the contents, the time, the place, the participants, the dynamics, and the resources or materials needed.

Once those aspects have been designed, in this step they need to be created. This includes the contents, in whatever format they need to be depending on the activity they are part of (written, audio, video), when the activity is going to occur (date and time), defining and preparing the physical or digital space (to book the place if needed, or to prepare or activate a digital resource), defining who the participants will be (from within the users of the learning structure, although someone from outside may also be invited), and what dynamics or activities are going to occur during the time that this learning activity lasts (before, during, or after the sessions or main activities).

Informal learning activities demand a lower level of specificity, since they are managed by a more "organic" system[28]. For these activities, the resources (digital and non-digital) need to be created, along with time and physical spaces that will be needed to support and encourage the users to voluntarily take part. First, they should be offered the opportunity to use part of their worktime to take part in these activities, after which they must have the physical spaces needed to carry out informal learning activities as individuals or teams.

And, last but not least, digital and non-digital resources should be easy to use and accessible anywhere and at any time (which creates more flexibility and makes it easier

[27] See Chapter 2, Section 2.2.5.4. for further details on "mechanistic systems".
[28] See Chapter 2, Section 2.2.5.4. for further details on "organic systems".

to take part). The resources and the spaces created for these learning activities to occur need to be user-friendly, since this will encourage participation in them. In this step, the role of the IT team is critical, since these are the ones who will support and help in the implementation of the new digital resources, if needed.

This user-friendly approach of the resources and spaces is one of the building blocks that will form the foundations of the AD&HP Ecosystem, that is, user-friendly systems and resources[29]. This building block also includes the quality of the content to which the users will have access. The content that is created for the learning activities must first attend to the learning needs identified in the first step. And second, it needs to be reliable, updated, easy to use and close to the needs of the users. Unless the content is valuable, the learning activities that have been designed will not be successful because, they will not truly attend to the users' learning needs.

5.4.6. SUPPORTING AND LEADING THE LEARNING STRUCTURE

Once the learning activities have been integrated into the workflow, in order to keep the learning structure functioning as expected, it requires support and leadership.

When a change is being made in an organization where learning is being integrated into the workflow, the employees need to be informed and encouraged to actively take part in learning activities that are now part of their work. To do so, someone has to take the leading role. It is recommended that the direct managers of the employees are part of the leading team because they are the ones who supervise their work; the ones who will support and encourage learning as something that is part of work, and the ones who will act as a role model for the employees.

Nevertheless, it is also recommended that a more powerful team of leaders is created by including the "early adopters" in the organization. These will already be part of an AD&HP Ecosystem and their role will be to share with the colleagues the benefits of being involved in such an ecosystem and their experience of it. Additionally, the senior leaders and managers need to be on board with the vision of organizational learning, since this will create a positive climate for learning (Paine, 2019a).

One of the building blocks of an AD&HP Ecosystem is having a "Safe and Encouraging Environment". The leading team is responsible for ensuring that this is the case; people must be given have the opportunity to share their opinion, ask questions and ask for feedback in a place where diversity is accepted (Hicks-Clarke & Iles, 2000) and mistakes are considered part of learning. Leaders need to encourage inquiry, openness, and trust (Davenport & Prusak, 1998; Popper & Lipshitz, 1998; Stata, 1989).

Furthermore, the following words and expressions need to be natural to the people and need to be present in the workflow: Optimism, Empowerment, Collaboration, Experimentation and, the question "What did you learn today?" (Paine, 2019b). These terms "…widespread curiosity, radical questioning of what we do and how we do it, to

[29] User-friendly systems and processes are addressed in Section 5.4.5.

share and collaborate, to experiment and articulate, this way, you generate ideas and new knowledge that emerge from both inside and outside." (Paine, 2019b)

Moreover, leaders need to guide the users of the AD&HP Ecosystem to know what can be done and what needs to be promoted by the organization. And, last but not least, the leading team needs to ensure the users receive appropriate feedback about their progress, as well as recognition and reward when the users are proactive in their learning process and actively take part in formal and informal learning activities.

5.4.7. ASSESSING THE KPIS

The assessment carried out in this 7th step leads to the beginning of the cycle again with Step 1, the co-definition of learning needs. It is advisable to continuously monitor how the AD&HP Ecosystem is doing in order to ensure it is working as expected and that the learning needs of the users are covered.

It is recommended that around four meetings are held during the year with a representative of each role taking part in the process: the users, the training or L&D team, the managers, people who are designing or creating the resources and spaces for the learning activities (including the IT team), and those involved in the assessment of the KPIs. This will support the maintenance of holistic and systemic thinking.

The cyclical process for designing the AD&HP Ecosystem should be agile and fast, since it needs to quickly adapt to the users' needs. Otherwise, it will not serve its function and users will lose interest in being part of the ecosystem.

It is to be said that this 5.4.7. section is shorter compared to the rest of the sections in this chapter. This is due to the fact that the research and the intervention within the two enterprises did not enable to go in depth in the topic of "Assessing KPIs". Although it is considered a fundamental last step for the AD&HP Ecosystem creation-process, the companies where the intervention occurred required some time to digest what had been changed so far before getting into redefining the KPIs for tracking.

5.5. THE SUGGESTED PROCESS FOR MAKING TANGIBLE THE AD&HP ECOSYTEM HAS BEEN QUITE SUCCESSFUL

This section of the discussion aims to address the fourth Specific Objective; "To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem." This analysis has allowed for verifying whether the first three steps of the process (suggested in Section 5.4.) have been successful in the two enterprises: Step 1, Co-defining the learning needs and KPIs; Step 2, Co-prioritizing the learning needs; and Step 3, Designing the learning activities.

As can be seen in Table 12, not all the outcomes were as expected. The results in step one and two differed between both enterprises; in Laboral Kutxa S.Coop., apart from

not completing the second step, in step one the first activity of "choosing one segment of people for whom to create an AD&HP Ecosystem" was accomplished differently although some KPI-s have been suggested, unlike in SENER S.A. Further, KPI-s were not identified in either of the enterprises.

Concerning the third step, whilst the results in both cases were not 100% the same as expected, the results of the two organizations are quite similar; the learning activities are mostly focused on individual learning and knowledge sharing activities, there is no equilibrium between formal and informal activities (greater focus on formal activities in both cases) and their designs attend to the the users' needs (although not completely).

Table 12: The expected and obtained outcomes in the first three steps of the process: Laboral Kutxa S.Coop. and SENER S.A.

EXPECTED AND OBTAINED OUTCOMES OF THE PROCESS OF CO-CREATING THE OLS				
	EXPECTED OUTCOME		**OBTAINED OUTCOME IN LABORAL KUTXA S.COOP.**	**OBTAINED OUTCOME IN SENER S.A.**
STEP 1	Choosing one segment of people for whom to create an AD&HP Ecosystem.	→	Chose strategic knowledge areas that most of the employees could learn about, for whom an AD&HP Ecosystem will be created.	Chose two segments of people for whom to create an AD&HP Ecosystem.
	Co-defining the learning needs of the users of the AD&HP ECOSYSTEM with them; Learning needs for current and future performance.	→	Defined the learning needs of the users of the AD&HP Ecosystem with different level managers and topic experts. Learning needs for current and near future performance.	Co-defined the learning needs of the users of the AD&HP Ecosystem with them (a group representing the users). Learning needs for current performance.
	Defining the KPIs that will be used to monitor the success of the AD&HP Ecosystem.	→	No KPIs were suggested.	No KPIs were suggested.
STEP 2	Co-prioritizing the learning needs based on urgency and importance, rather than just urgency.	→	No prioritizing was done.	The learning needs were co-prioritized based on urgency and importance.
STEP 3	Learning activities cover the three levels of learning: individual, team and organizational.	→	Learning activities were focused on individual learning and knowledge sharing.	Learning activities were focused on individual learning and knowledge sharing.
	There is an equilibrium between formal and informal learning activities.	→	Most of the suggested learning activities were formal.	Most of the suggested learning activities were formal.
	The two above outcomes attend to the learning needs prioritized in the previous step.	→	The two outcomes above do not fully attend to the learning needs prioritized in the previous step.	The two outcomes above do not fully attend to the learning needs prioritized in the previous step.

Source: the author

5.5.1. CO-DEFINING THE LEARNING NEEDS AND KPI-S: FIRST STEP

The main difference between the expected outcome and the obtained outcome if we compare both cases is based on the fact that the participants in Laboral Kutxa S.Coop. were not the actual users of the AD&HP Ecosystem under construction:

In Laboral Kutxa S.Coop. the third cycle was motivated by strategic needs in four business units, or four knowledge areas. A strategic requirement came to the training-team from the strategic HR partner of the organization; there were four business units that required a training plan for the following year (2020) in order to support the fulfillment of the strategic objectives of the business, an increase in sales. Each of those business units represented a different knowledge area. So, instead of taking the initial approach suggested in the new process of focusing on a group of people with similar roles or learning needs and building a learning structure for and with them, the focus was directed to those four knowledge areas.

The AD&HP Ecosystem was aimed at 1700 employees, those working in the offices face to face with the customers. And, as the focus was established on the knowledge areas to be developed (rather than a certain group of employees), it was decided to create four working teams, one for each knowledge area, composed of internal experts in the topic that are close to the end users of the learning structure. Thus, the end users of the AD&HP Ecosystem under construction did not actively take part in the working sessions.

In SENER S.A. the third cycle began by the need to support and develop people with two particular roles, Project Managers and Team Managers. And thus, some of the end users of the AD&HP Ecosystem being designed were invited to the working sessions, and they represented the rest of their colleagues with the same role.

This had an impact when defining the learning needs and resulted in a different outcome. Thus, whilst the result of Laboral Kutxa S.Coop. was focused on the "knowledge" to be acquired (Appendices 36-39), in SENER S.A. the focal point was the "user" and his/her learning needs (Appendices 44-45). This is reflected in the actual outcome. In SENER S.A., the outcome was one table for each segment of users with a group of knowledge needs from a variety of knowledge areas that the user needs, whereas in Laboral Kutxa S.Coop. the outcome was four tables, each with different learning needs (separated by knowledge area).

In the case of Laboral Kutxa S.Coop. this outcome is not aligned with the new OLS they wanted. During Cycle 2 they specified that in the OLS the identification of the learning needs of individuals is done with the active participation of the individual, that is, it is co-identified with them. The aim is to support the individuals' objectives with learning activities and resources applicable to work.

With regard to the co-definition of current and future performance needs, this was better achieved in Laboral Kutxa S.Coop. than in SENER S.A. In Laboral Kutxa S.Coop., the fact that there was a strategic need to improve learning in four business areas meant that it was highly present in the four working teams when diagnosing the learning needs

of the users of the AD&HP Ecosystem. In contrast, in SENER S.A., although the participants were asked to think about current and future responsibilities and main tasks, the output indicates that they were highly focused on their current learning needs.

Taking this situation into account, it would be recommendable to clearly bring to the table the future learning needs that are aligned with the corporate strategy. There is a need to include more input and reflection activities about their organization's strategic business objectives and to reflect on what the users (from their role) consider what their needs are and will be.

Last but not least, there was the task of defining the KPIs of the AD&HP Ecosystem to keep track of its success. This was not accomplished in either of the enterprises and was not given any thought. However, this issue was discussed in Laboral Kutxa S.Coop. in the closing meeting where the steering team and the working-team leaders came together to share the results.

Nevertheless, it was considered necessary to include the definition of the KPIs in the first step of the process in order to contribute to having all the people implicated in the process of an AD&HP Ecosystem working towards a common goal. Furthermore, this has been one of the "lessons learned" from the Action Research itself (Section 5.6.).

5.5.2. CO-PRIORITIZING THE LEARNING NEEDS: SECOND STEP

This was not accomplished in Laboral Kutxa S.Coop.; each of the four groups finished with a table containing all the learning needs of their users. Then, in the final meeting were the organization's steering-team, the researchers, and the co-leaders from the four business units came together, the results of each group were presented, and the common learning needs were identified with the aim of creating one unique table from the four outputs in order to prioritize these afterwards.

The idea of holding that final meeting was to identify the common users in the four groups along with the user-segments in order to create an AD&HP Ecosystem based on this as opposed to the knowledge areas.

Nevertheless, this approach was not successful because it was extremely difficult to come to a consensus in each of the decisions to be made. The leaders of each working group had imagined a training plan to attend to the learning needs identified in their knowledge area and found it difficult to identify common learning needs.

This shows how in this enterprise each business unit has one focal point — their business unit. Nonetheless, the employees for whom the ecosystem is being designed must manage the products and services from different business units, which requires the appropriate knowledge and skills in all those units. And so, the lack of a more holistic view of the employees/technicians does not allow for having a broader perspective about their learning needs.

Compared with Laboral Kutxa S.Coop., the participants in SENER S.A. were different; they were the future users of the ecosystem under design. This aspect eliminates the factor that caused an issue in Laboral Kutxa S.Coop. when aiming for a consensus regarding learning needs and prioritization. The participants in SENER S.A. analyzed and identified the learning needs from their own perspective, that of the user, who experiences the learning needs from the perspective of different knowledge areas and projects. This is why their output did not differentiate the learning needs according to business unit but knowledge areas.

This situation highlights the fact that an OLS in which the user is the focal point is needed to work in a system from the very beginning of its design. This should be a system where the people participating in the identification of the learning needs are aligned and understand each other's perspective. This approach would positively contribute towards reaching a consensus regarding learning needs.

In the case of SENER S.A., whilst the prioritizing action was carried out, each of the groups used the suggested prioritization matrix based on the urgency and importance of those learning needs (Tables 10-11 and Appendices 48-49). Despite this, it was observed that the knowledge and skills identified when co-defining the learning needs were not always the same as those that appeared in the matrix. In the matrix, although they used the work completed in the previous session, they gave more thought to the everyday tasks of the average Project Manager and Team Manager and located them in the matrix. This shows how they focused more on the current performance needs and rather less on any learning needs they might have in the future.

5.5.3. DESIGNING THE LEARNING ACTIVITIES: THIRD STEP

In relation to the levels of learning, in both enterprise the suggested learning activities contribute mainly to individual learning and some aspects of team learning, but not so much to organizational learning.

As presented in the results of Cycle 2, each of the enterprises wanted to improve certain aspects of their OLS. Nevertheless, in neither of the cases do the suggested learning activities contribute to all the foundations of their OLS (Appendices 36-39 and 50-51) in terms of the learning levels.

In the case of Laboral Kutxa S.Coop., the learning activities they suggest are aligned with the aim of improving individual performance support and a learning-on-demand service. And with regard to team learning, they do contribute to the improvement in sharing tacit knowledge and having more knowledge sharing technologies. In terms of organizational learning, however, they do not contribute to the aspects they want to improve in that regard, that is, having a learning structure that is integrated into the workflow, transferring the knowledge of individuals to the job and integrating knowledge management as part of the OLS.

In SENER S.A., all the learning activities they suggest are closely related to the individuals' work tasks and their performance needs. The activities they suggest are highly practical and as close as possible to their real need for better knowledge transfer to the workplace. With this approach, they support their desire to improve the learning-on-demand service as part of individual learning. Concerning team learning, most of the learning activities they suggest do not contribute to inter-organizational learning or to having a learning structure that is integrated into the workflow.

This is highly influenced by the type of learning activities they have suggested; more formal activities over informal ones; informal learning activities contribute to the employees' dynamic attitude towards learning and towards having a personal mastery mindset. Informal learning activities are more readily integrated into the workflow, and even offer a learning-on-demand service. The activities suggested are not integrated into the workflow, since most of them required leaving the workflow in order to learn.

In both enterprises, most of the learning activities they have suggested are formal, rather than informal. Although they go beyond formal training courses (the main learning structure of their organization), most of the suggestions were formal learning activities. There were no suggestions for creating the environment, circumstances, or the space to support and enable natural informal learning to occur, which is necessary if they wish individuals to be responsible and proactive in their learning process.

In order to help them have a more balanced proposal for formal and informal learning activities that will contribute to the three levels of learning, it would be useful to have a checklist (Appendix 54). This, along with the foundations of their new OLS, would help to achieve a more effective AD&HP Ecosystem.

5.5.4. SUMMARIZING FINDINGS ABOUT "THE SUGGESTED PROCESS FOR MAKING TANGIBLE A NEW AD&HP ECOSYSTEM HAS BEEN QUITE SUCCESSFUL"

Next, a summary is provided of the main aspects analyzed in Section 5.5. regarding the success of the suggested process for making tangible a new AD&HP Ecosystem:

- In the first step of identifying the learning needs, it is essential to think about current needs to support performance and about future needs based on the strategic track of the business, which will define the future performance requirements. This is how both performance and development will be supported.

- A process of prioritizing, implemented by the users, will allow for identifying what learning needs should be attended to first and will contribute to the success of the OLS along with the satisfaction of its users. Nevertheless, there is the risk of simply focusing on the current performance needs and neglecting those of the future.

- When defining the learning activities, it is necessary to avoid losing sight of the learning needs identified in the first step of the process. Otherwise, they will not attend to what the users need for their performance and development.

5.6. PARTICIPATORY ACTION RESEARCH WAS USEFUL FOR MAKING TANGIBLE THE FOUNDATIONS OF AN AD&HP ECOSYSTEM

This section presents the results obtained from analyzing the Participatory Action Research process carried out in this work, by evaluating which aspects have worked as expected and what could be improved. From this analysis, the following conclusion was drawn:

"The Participatory Action Research carried out with the active participation of the enterprises has been successful for deliberately changing the design of the OLS."

The methodology used in this Action Research has been useful for co-defining the foundations of a new OLS for both enterprises actively participating in this research. Nonetheless, it has been more effective in certain aspects than in others and some actions could be improved.

Next, the analysis is presented of the whole Action Research process carried out in both enterprises.

Concerning the first approach of the research, that is, ***defining the current OLS*** of the organizations, this has been successful. The objective was achieved, that is, to identify in depth how the organization's current learning structure was arranged in order to understand what was going on[30]. The results were aligned with what the steering team expected. Furthermore, interviewing people with different roles within the enterprise allowed for gathering more in depth knowledge about the initial organizational learning structure.

Nevertheless, the final users of the OLS were not interviewed, and most of them were managers. This could have influenced the results obtained, since although the interviewees were informally asked about learning practices that occur in the enterprise and not guided by the enterprise, interviewing the actual promoters of those activities may have resulted in gathering information on more practices taking place within the enterprise.

With regard to the intervention for ***co-defining the foundations of their new OLS***, the steering teams of both enterprises considered it useful to collaboratively define the foundations of the organization's new learning structure. The following discussed topics

[30] See Sections 4.2.1.1. and 4.2.2.1. in Chapter 4 for further details on the current OLS of the enterprises.

will be presented next: (1) Using Design Thinking techniques; (2) The participants' role in the sessions; (3) Creating a PLE; (4) The number of participants; (5) Next steps after co-defining the new OLS.

(1) Using Design Thinking techniques has been useful in both enterprises for thinking about the user of the new OLS and to design it so that it responds to their real learning needs in the workplace. It has mostly helped the participants in the working sessions to empathize with the users of the OLS. Concerning the usage of "Lego Serious Play" managed by an expert, this has been extremely useful; in a 2-hour activity they were able to define the initial proposal for the foundations of their OLS. Furthermore, this enabled the working sessions to be dynamic and agile.

(2) The participants' role in the sessions. In Laboral Kutxa S.Coop., some of the participants, those who were not directly involved with the creation of the learning structure, were not clear with regard to their role in the sessions. In SENER S.A., whilst they were clear on their role in the sessions, they did not have such a clear idea of their role in this project once the working sessions had ended.

The reason why the participants were in the session was different in both cases, and this was transmitted to the participants; in Laboral Kutxa S.Coop. they were told that the perspective of the whole HR team was needed for co-designing the foundations of the new OLS. Their experience and opinions about the current organizational learning activities and resources were valuable. Moreover, they were going to be the first ones to begin developing their self-driven learning habits by creating their digital PLE.

In SENER S.A., the participants were expected to co-design the OLS by bringing in their experience and opinions about the current organizational learning activities and resources, not just theirs but that of their teams. During and after the working session, they were expected to spread the word about the change that was coming to the OLS and start sensitizing colleagues. In addition to this, as managers, the aimed was to inspire and encourage them to start making changes in how they support learning in their team, and to start making it part of work. Further, as in Laboral Kutxa S.Coop., they were going to be the first ones to begin developing their self-driven learning habits by creating their digital PLE.

One root cause of the different status of the participants concerning their role in the working sessions could be linked to the fact that in SENER S.A., most of the participants were in charge of a team and one of their roles is to support their learning process. In Laboral Kutxa S.Coop., however, most of the participants were not responsible for a team. Thus the ones that did have a team were less confused about their role.

(3) Creating a PLE. In Laboral Kutxa S.Coop., working on the PLE distracted the participants; they did not see its connection with the rest of the sessions. Furthermore, most of them were not very enthusiastic about creating one for themselves, since they did not really see the need for it. They did not see how it could contribute to their work. Thus, one of the objectives of this second cycle was not fully achieved, that is, to start creating some changes regarding the self-responsibility for learning within the HR team. The reason for this may be the organization's culture and management structure. With

regard to employee autonomy, in Laboral Kutxa S.Coop., the tasks to be accomplished by each employee are specific and do not tend to vary.

Instead, in SENER S.A., this activity of developing the participants' PLE was successful. They even considered it useful to show other colleagues how to create their own PLE.

The reason behind these different reactions towards the digital PLE between both enterprises may be the organization's culture concerning autonomy. As stated previously (Sub-section 5.4.1.), autonomy is directly related to the lifelong learning mindset and having a proactive or reactive attitude towards learning. People may (or may not) be expecting the enterprise to tell them what to learn and when to do so.

In Laboral Kutxa S.Coop. employees have less autonomy than in SENER S.A., and they are less proactive in their learning process. In the former enterprise, the tasks to be done by each employee are highly specific and do not vary to a great extent, whereas in the latter the employees' main activity is to work within a team responsible for delivering a particular project. And from the viewpoint of the organization, they are expected to know and excel in new knowledge areas that a project requires, that is, they are responsible for the outcome of the project and all that it implies in the process.

Focusing on digital PLE has been acceptable as a first approach for encouraging self-directed learning, but it should be managed as a process which requires the provision of ongoing support to the individuals**.** For encouraging self-directed learning, we have now focused on teaching how to use certain digital tools to manage the information sought, along with the automation of its reception. We have just begun to show some of the available opportunities for supporting their self-directed learning activity. Nevertheless, we should work further and address other aspects involved in supporting self-directed learning other than digital tools, such as particular actions or new habits that can be incorporated into their workflow.

Furthermore, in the case of Laboral Kutxa S.Coop., we could have explained more clearly the context for discussing the creation of a digital PLE and its relationship with self-directed learning. Too much information was given regarding PLEs, but not enough that was specific to their learning needs. And, as the participants did not feel the need to improve their self-directed learning practices, they did not find the PLE workshop to be applicable to themselves, even less so when they were told they could learn whatever they wanted, particularly when most of them think it is the responsibility of the organization to tell them what should be learned. Perhaps, in hindsight, it was too soon to start talking about PLE with them.

(4) The number of participants differed between the two enterprises; in Laboral Kutxa S.Coop. there were 20 people and most of them knew each other, whereas in SENER S.A. there were eight and most of them did not know each other.

Having 20 participants made it less participative when we were all working together. Rather, the sessions were more participative, and all people had the opportunity to talk, when we worked in smaller groups of six people (this was done in Laboral Kutxa S.Coop. during the working session).

In SENER S.A., however, everyone participated equally and were given the opportunity and the time to be involved and offer their opinion. It should also be noted that in none of the cases was any manager of any participant in the room (so that their participation was not affected).

(5) Next steps after co-defining the new OLS. In Laboral Kutxa S.Coop., participants ended this stage expecting to know how we are going to actually create an OLS of the sort that they had co-designed. Concerning the next steps of the research, most of the participants in this second cycle did not take part in the third cycle. Thus, due to their interest in following up the project, it would be interesting to keep them updated on its development.

In SENER S.A., they have shown a similar interest and have even warned about certain difficulties that might be encountered during the course of the project, including the importance of keeping track of the advancements made when the AD&HP Ecosystem is implemented, otherwise it will be impossible to ascertain whether results are being generated. Also, since it looks like a large and ambitious project, it would be necessary to begin with small changes integrated in the workflow and increase them gradually in order for the project to grow naturally. Finally, for the project to succeed, there is much work to be done in terms of motivating the employees to jump to commit to being involved by showing them the benefits of the project.

With regard to the intervention for ***co-creating the new OLS,*** this has generally been a success. All the initial objectives have been achieved and the steering teams of both enterprises positively valued the working sessions.

The whole process was assessed in Section 5.1.3., which presents the outcomes that were expected and those that were actually achieved.

5.7. THE SUGGESTED THEORETICAL MODEL MAY BE OF USE TO OTHER ORGANIZATIONS WHEN DESIGNING THEIR OWN AD&HP ECOSYSTEM

This section aims to address Specific Objective no. 1 “To develop a theoretical AD&HP Ecosystem and define its foundations” and no. 4 “To define the steps to be followed for making tangible the foundations of an AD&HP Ecosystem”.

This contribution is expressed in the following statement:

“The theoretical model suggested in this thesis and the process for its creation can be useful for organizations to reflect on their current OLS and make improvements by shifting towards a more holistic and agile OLS.”

The suggested theoretical model outlined in Chapter 2 includes the key aspects of an OLS for any organization that wants to become a learning organization and use the organizational learning as a strategic asset for achieving a sustainable competitive advantage. This OLS is referred to as an "Agile Development & High-Performance Ecosystem" (AD&HP Ecosystem) that aims to contribute to the agile development and high-performance of both the organization and its employees.

Such a framework is based on the idea of OLSs as ecosystems for the people of the organization; the users of the Ecosystem participate in formal and informal learning activities and experience development at an individual level whilst receiving performance support. Furthermore, they actively participate in team learning practices and contribute to organizational learning. These practices and activities contribute to the business exploration and exploitation when seeking to achieve agile development and high performance of the organization.

Further, this whole ecosystem is based on four building blocks that make this experience possible: a safe and encouraging learning environment; strategic leadership; an ecosystem integrated into the workflow; and user-friendly systems and resources, all of which are under the premise that "learning is everyone's responsibility".

If an organization wants to build its own AD&HP Ecosystem, it is suggested that the process to design an OLS based on such a framework is the one described in Section 5.4. "The AD&HP Ecosystem design and creation needs to be holistic and user-focused". The seven steps are necessary and unnegotiable. This process contemplates the design and creation of all the foundations of the AD&HP Ecosystem, the suggested OLS. Nevertheless, each organization is different and has its own needs and objectives, and thus each enterprise may spend more time or attention on certain steps than on others.

Furthermore, the starting point for each enterprise will be different, so the changes to be made to each foundation of the OLS will depend on how far the organization's OLS is from the one they wish to design. This same situation has been seen in the two enterprises under research in this thesis; each of them had a different starting point and they wanted to emphasize different aspects of the OLS. For instance, Laboral Kutxa S.Coop. had a special interest in working on the individuals' proactive attitude towards learning whereas in SENER S.A. they were highly interested in improving the management and flow of knowledge.

Nevertheless, the process followed for changing the OLS has been similar in both organizations, although not the same. And the following is recommended for any other enterprise that wishes to improve its current OLS by shifting towards an AD&HP Ecosystem:

First, a diagnosis of the initial situation was made through several interviews, with the aim of assessing the current development level of their OLS compared with an AD&HP Ecosystem. It is important that this diagnosis has been made because it is necessary to identify what they already have and what they want to keep or improve. And with regard to its comparison with the AD&HP Ecosystem, this has been done because both organizations were happy with that theoretical model and it was aligned with their idea

about Organizational Learning and the OLS they aspired to have. This is key because, if an organization's vision of their Organizational Learning approach is not aligned with this framework, it is not suitable for them.

After this, we proceeded with the process suggested in Section 5.4. The first two steps were carried out in both enterprises and it is recommended that these are also completed in any other enterprise wishing to use this process. Those two steps include ***co-defining the learning needs and KPIs by empathizing and co-prioritizing*** these. These two steps are needed in any organization involved in this process. If the aim is to create an OLS where its user and their experience are central to it (one of the foundations of an AD&HP Ecosystem), it is necessary to empathize with them and thoroughly identify their needs. The second step comes in because not all learning needs can be attended to at once due to resources or time restrictions, so it is necessary to identify those learning needs that require immediate attention.

The third step -***Designing the learning activities***- is when the major differences may emerge between one company and the other. These are the learning practices and activities that will attend to the learning needs previously identified and these may vary depending on the organization's previous experience with learning activities, their organizational culture, their awareness of the types of learning activities that exist, the type of activities they have tended to set up in previous years, and the resources they may have available for it. As could be seen in this research, each enterprise has suggested different learning activities.

Nonetheless, it is necessary that all organizations fulfill some premises in this step; they need to ensure they define learning practices at the three levels of learning (individual, team and organizational); the group of all learning practices should contribute to the exploration and exploitation of the business (the number of practices that contribute to one or the other will vary depending on the organization's interests but, both should be addressed); and there should be formal and informal learning activities, as explained previously in this thesis, since both types of learning are important.

Step four -***Integrating the learning activities into the workflows***- will instead depend on the learning activities that have been designed in the previous step and the actual workflows that exist in the organization and in which the users of the AD&HP Ecosystem are participating. However, in any enterprise, it is key to do so by following the process of having the OLS integrated into the workflow, which is one of the four building blocks of the AD&HP Ecosystem. If this is not done, it is difficult to make learning an intrinsic part of work and to consider it a strategic asset for the high performance and agile development of both the employees and the organization.

Concerning the fifth step -***Creating the resources and spaces for the activities***- once again, this will depend on the activities designed in step three. Nevertheless, they all have to fulfill some requirements, that is, all contents, resources and digital or non-digital systems need to be user-friendly, which will facilitate the usage and participation in them.

In regard to the sixth step -***Supporting and leading the learning structure***- it is crucial that an OLS is lead with a strategic leadership, particularly when a new OLS is being implemented, as is the case here. When an organization decides to implement an AD&HP Ecosystem as its OLS, this entails a collective responsibility towards learning, that is, everyone in the organization is responsible for the organizational learning. Nevertheless, this attitude may represent a change in the organization and this needs to be led. Furthermore, the activities to be done in an AD&HP Ecosystem may require certain cultural changes in the organization, which will also need support. These are the reasons why strategic leadership is key in every organization taking part in this process.

The leadership role may be shared and different roles from the enterprise may be involved, depending on the organization and its structure. However, under the premise that each individual in the organization is co-responsible for his/her learning process, this should at least include the following roles; the direct managers, senior leaders, business unit managers and the L&D (Learning & Development) members.

The leading team needs to ensure a "Safe and encouraging learning environment" (one of the four building blocks of the AD&HP Ecosystem). The direct managers are those who work daily with the majority of the employees and the ones who will have the strongest influence on the integration of the ecosystem into the workflow. Senior leaders are key as they will support an OLS that will contribute towards using the organization's learning capacity as a strategic asset. This gives support and strength to the project of changing the current OLS in the organization.

The business unit managers will instead bring in the business view of the enterprise, in order to help clearly determine the AD&HP Ecosystem's contribution to the exploration and exploitation of the business. And, last but not least, the L&D team is usually responsible for the training plan and talent management of the employees. These will be the main leaders of change regarding the OLS and the ones who will work more closely within the AD&HP Ecosystem to ensure its success.

Once the AD&HP Ecosystem has been implemented, it is recommended to bring the "early adopters" of the ecosystem into the leading team, those who are already in and can share the benefits of being part of it.

Finally, the seventh step -***Assessing the KPIs***- will depend on what KPIs have been defined in the first step of the process. Nonetheless, at least some of those KPIs need to be focused on what impacts the AD&HP Ecosystem will have on the enterprise, and specifically how it will contribute to having high-performance enterprise and employees that are developing in an agile way. This is the main aim of such an OLS.

These KPIs will allow for keeping track of the AD&HP Ecosystem's success and will be crucial for continuously improving and adapting the ecosystem based on both its successful and improvable areas. Changes will be required over time either because some aspects of the ecosystem are not working as expected or, because the learning needs of the users have changed as the organization and its context are evolving.

5.8. THE ORGANIZATION'S CULTURE INFLUENCES MAKING TANGIBLE AN AD&HP ECOSYSTEM

This last section aims to address the third Specific Objective of this thesis; "To assess how the organizational culture affects making tangible the foundations of an AD&HP Ecosystem". This contribution is based on the following statement:

"The organization's culture will include both detractors and supporters when it comes to changing the key aspects of their OLS in order to create a new one."

As mentioned previously, all organizations that wish to successfully build an AD&HP Ecosystem should follow the process suggested in this thesis. All steps are necessary although the output will be different for each, particularly in the third step; Designing the learning activities.

Nevertheless, as already stated, in that third step they should all fulfill the following minimum requirements: define the learning practices at the three levels of learning (individual, team and organizational); contribute to the exploration and exploitation of the business; and have formal and informal learning activities.

However, depending on the organization's culture it will be more or less difficult to vary or change the learning activities that are currently encouraged by their OLS. For instance, if an organization tends to only design and encourage the implementation of formal learning activities, then the organization and its members will tend to associate organizational learning with formal learning activities (a situation that was evidently occurring in the two enterprises studied here). It is therefore a big change for them to introduce informal learning activities in their OLS and the transition to this may not be so smooth. Instead, if the OLS already supports formal and informal learning activities and more of any of these is needed, the change will be less dramatic.

Another situation could be as follows. In Laboral Kutxa S.Coop. they reward team achievements rather than those of individuals. Thus, in this case it will be easier to encourage team learning practices than in an organization where individual achievement are rewarded over team goals. Further aspects of the organizational culture that could affect the OLS are described in Sub-section 5.2. "The organization's culture affects the OLS".

Moreover, one of the foundations of the AD&HP Ecosystem is its alignment with the organization's culture. If this is not the case, then it will be complicated for such an OLS to be successful in the long term. Even so, this does not mean that the AD&HP Ecosystem needs to be designed strictly under that culture's premises; the AD&HP Ecosystem may contribute towards the change and evolution of the organization's culture for ensuring that the organization has the appropriate atmosphere to be a learning organization, along with an OLS that will support such an organization.

In this situation, apart from designing all key aspects of the new OLS — the AD&HP Ecosystem — it is necessary to take into account the organization's culture in order to identify the possible difficulties and easier aspects that may be encountered when implementing the new design. Ultimately, any change process needs to be managed. To do so, the six archetypes of organizational culture suggested by Taylor (2015) (Appendices 1-6) have been analyzed, including the detractors and supporters that might be encountered, as well as some recommendations based on those (Table 13).

Nevertheless, as addressed in the theoretical model (Chapter 2), a company does not usually fulfill 100% of the aspects of each of the culture archetypes. Thus, the observations made below about the detractors and supporters that may be encountered will not necessarily be entirely applicable to the enterprise. However, it could be useful to take those observations into consideration when dealing with a new OLS.

Table 13: AD&HP Ecosystems and Organizational Cultures, more and less comfortable practices

AD&HP ECOSYSTEM AND ORGANIZATIONAL CULTURE ARCHETYPES		
CULTURE ARCHETYPES	**MORE COMFORTABLE WITH:**	**LESS COMFORTABLE WITH:**
ACHIEVEMENT	• Individual Learning • Organizational Learning • Formal learning practices • Contributing to "exploitation"	• Team Learning • Informal learning practices • Contributing to "exploration"
CUSTOMER-CENTRIC	• Individual Learning • Organizational Learning • Informal learning practices	n.a.
ONE-TEAM	• Team Learning • Informal learning practices	• Individual Learning
INNOVATIVE	• Individual Learning • Team Learning • Organizational Learning • Contributing to "exploration"	• Contributing to "exploitation"
PEOPLE-FIRST	• Individual Learning • Team Learning	n.a.
GREATER-GOOD	• Individual Learning • Team Learning • Organizational Learning • Contributing to "exploration"	n.a.

Source: the author

In the case of those organizations that predominantly have an ***Achievement*** culture, since their metrics and milestones are based on individual performance, along with the reward system, this can interfere with the implementation of *team learning* practices. This level of learning requires a safe environment where individuals share their tacit knowledge and aim for team intelligence. But, if the organization is assessing individual

results, employees may be hesitant to share what they know. Nevertheless, one of the key behaviors in such cultures is to reveal and explicitly resolve trade-offs in teams, which would positively contribute to the development of team intelligence.

Instead, it may be more natural for these organizations to carry out *individual learning* practices and to encourage self-directed dynamic learners who contribute to lifelong learning for competitiveness. Further, the fact that the bar is raised every year ensures their continued need to be competitive. With regard to *organizational learning*, one of its key aspects is its alignment with the corporate strategy and, in organizations with an achievement culture this should proceed smoothly since their vision, strategy and priorities are highly visible, and these are agreed and communicated within the organization. Moreover, the individuals' contribution to the strategy is explicitly defined.

Moreover, since the organization is all about results and achievements, they may find it more difficult to carry out *informal learning practices*. These require the organization to loosen control over those practices (Watkins, 2016b) and this may be difficult when they focus on achievement and measurement, as it is highly difficult to assess informal learning activities in isolation and to relate them to objective and measurable outcomes (Nonaka & Takeuchi, 1995).

Concerning the contribution of organizational learning to the business's *exploration and exploitation* activity, due to their interest in tracking performance, it would be more natural for these organizations to build an OLS that supports exploitation activities. Nevertheless, as addressed so far during this thesis, it is necessary to maintain an equilibrium between both.

With regard to those organizations with a predominantly ***Customer-Centric*** culture, one common behavior in these organizations is listening and relating, which could positively contribute to *team learning* when sharing and creating a common understanding. Moreover, offering support to colleagues is a high priority, which is another positive contribution to team learning and, particularly, expertise development.

One key aspect of *organizational learning* is the connection between the organization and its employees with external stakeholders or strategic agents. These organizations may have no problem with this in the case of the customers as they naturally spend time with them to speak about their needs and to achieve customer satisfaction. And they even bring them to the table for decision making.

In relation to *formal and informal learning* activities, they tend to have highly flexible structures in order to be responsive to current and future customer needs and so they may be comfortable with informal learning practices which happen to be context and experience based, and much more flexible and unstructured than formal activities.

Concerning these organization's OLS's contribution to business *exploration and exploitation*, taking into account their focus on the customer, this will depend on their competitive strategy; if they are following a low-cost strategy, it will be natural that their OLS and learning activities within it will support the exploitation of their business. If,

however, they have a differentiation strategy where high-value offering is key, they will be more prone to support the exploration of business.

In relation to those organizations with a predominantly ***One-Team*** culture, as the name itself suggests, the team is the core. Work is done by one group on behalf of the whole and the remuneration system encourages people to facilitate the success of others. This clearly contributes to *team learning*, both in creating team intelligence and in sharing knowledge. They even use peer review as part of the performance evaluation and generosity and co-operation are core values.

This high focus on the team could make it more difficult to support *individual learning,* particularly self-directed learning attitudes, because this requires commitment and willingness from the individual and if it is not recognized and rewarded by the organization, it is difficult to encourage.

With respect to *formal and informal learning practices*, due to their interest in empowering teams, it may be easier for them to have informal learning practices where team learning is supported and the teams themselves are empowered in their learning process.

Concerning the contribution of these organizations' OLS to business *exploration and exploitation*, no evidence has been found to suggest that it acts as either a barrier or supporter.

With regard to those organizations with a predominantly ***Innovative*** culture, some common behaviors include the following: the identification of best practices that can be transferred across the business, and the tendency for people to ask for help. These are aligned with *team learning* and even with having a lifelong learning mindset, which contributes to *individual learning*. Furthermore, there are rituals associated with learning, such as post-implementation reviews, quality circles and help meetings, which are positive for all three levels of learning: individual, team and *organizational*.

With regard to their systems, having structures designed to encourage the delegation of authority, empowerment and non-hierarchy is a supporter for *individuals* to be self-directed dynamic learners, as well as having a lifelong learning mindset. Their extensive and well used knowledge-management system clearly support *organizational learning* and help to make knowledge flow. Moreover, encouraging every form of feedback and communication tools undoubtedly set the appropriate starting point for encouraging team learning.

Concerning the contribution of these organizations' OLS to business *exploration and exploitation*, the name of this culture already indicates a predisposition toward business *exploration* so, their OLS would naturally support learning that enables this contribution. Furthermore, their behaviors are a key demonstration of this; they encourage experimentation; new ideas are challenged, people are asked to speak their minds; and mistakes are considered as opportunities for learning.

Furthermore, their beliefs set the right environment for encouraging learning at all levels, including: you are not always right, not knowing is a sign of strength, mistakes

are an opportunity to learn and senior people are not the keepers of wisdom, not to mention their values of curiosity, the pursuit of excellence, openness, and courage.

For those organizations with a predominantly ***People-First*** culture, the care that is provided supports all forms of learning. For instance, the coaching and listening offered by leaders and the feedback received supports *individual learning* and development. They have the support and guidance needed to carry out self-directed learning. Moreover, juniors and seniors are treated equally and constructive challenge is encouraged while not tolerating any form of disrespectful behavior, all of which supports *individual and team development*.

Other than that, there is no evidence to suggest whether these organizations would b improved by *formal or informal* learning practices, or if their OLS would naturally support *exploitation or exploration* activities.

With regard to those organizations with a predominantly ***Greater-Good*** culture, there is no explicit evidence of how they would react towards different levels and activities of learning. Nonetheless, there is a common sense of purpose and willingness to do good to others and so they already have attributes that could positively contribute to *team learning*. This organization and its people thrive on having a purpose, which is a key aspect for being self-directed learners, and an intrinsic part of *individual learning*.

Moreover, making a difference is one of their values and this requires being vigilant outside the organization and so they may already have systems or practices in place that connect the enterprise and its members with the environment. This would be a positive asset for *organizational learning*.

Concerning the contribution of the organization's OLS to business *exploration and exploitation*, due to their long-term vision and perspective it appears that it would be more natural to them to contribute to exploration, rather than exploitation, activities.

Concerning the building blocks[31] of the AD&HP Ecosystem, these have not been analyzed separately in each culture as these are not considered to have an impact. Instead, the culture depends on the organization's attitude towards learning, how strategic it is for the enterprise, and its place as a strategic asset for supporting long-term competitiveness.

If they do not have a high regard for organizational learning, it is unlikely that they will develop the building blocks that are strong enough to fulfill all the requirements defined in Chapter 2 (sub-section 2.4., Theoretical model). Those building blocks are undeniably crucial for the sustained success of the AD&HP Ecosystem, and thus every organization wanting to create one for themselves needs to give organizational learning the place it deserves in their long-term strategy.

In this research there has been an opportunity to test the theoretical model, that is, the AD&HP Ecosystem in the real context of two enterprises with different organizational

[31] The building blocks of the AD&HP Ecosystem: Safe and encouraging learning environment; Strategic leadership; Ecosystem integrated into the workflow; and User-friendly systems and resources.

cultures. From the information gathered in this thesis, SENER S.A.'s organizational culture could be classified as "**Achievement**" with a hint of "**One-Team**", particularly because their work is project and team-based and the results are assessed at a team level. And, in the case of Laboral Kutxa S.Coop., they have predominantly a "**One-team**" culture but they do have some aspects of an "**Achievement"** culture, mostly due to their high focus on the exploitation of the business, the annual performance results, and business KPIs.

It has been observed that in both cases they have struggled with "Informal learning activities". Their high need to control and keep track of everything being done in the organization has led to this situation. Furthermore, this does not allow them to have a more permissive attitude towards learning and tolerate errors as part of the learning experience. Nonetheless, informal learning activities have occurred naturally across both organizations, on account of the proactive attitude of the employees.

To address this situation, various approaches could be adopted. For instance, managers at all levels (including seniors) could be made to realize the benefits of informal learning and allowing errors to be part of a safe and encouraging learning environment, along with showing them the benefits of loosening their control.

Further, to improve the three levels of learning (individual, team and organizational), it could be helpful to begin incorporating more activities where people can proactively and voluntarily take part. This initiative could be supported by structured learning practices where the participants are central to the activities and have the freedom to participate when and how they wish. It is a structured practice but not 100% formal, as the participants have freedom within this structure.

Furthermore, the activities that are designed as "formal" or highly structured could be blended or combined with more informal activities. This could be a way of gradually incorporating informality into learning activities. But the way to do so should be with a less structured mindset, that is, with the goal of setting the resources and tools for those informal activities to occur but without completely defining who will participate and how, or what the output should be. This does not simply eliminate the essence of these types of learning activities, but makes their organization much more slow and rigid, and far removed from the agility that an AD&HP Ecosystem should provide.

With the aim of supporting the needed agility in the design and to kick start the learning activities, it is recommended that a Design Thinking process is followed (as the one followed in the interventions process of this thesis, further explained in Chapter 3, sub-section 3.3.). This allows for thinking about and designing learning activities faster, and to test them more dynamically and asses their success and suitability for facilitating continued improvement. Along with this, it is recommended that this is done in small select groups to reduce the risk of failure, before taking it to the rest of the targeted people in the organization.

As mentioned previously, having a "**One-Team" culture** could make it more difficult or uncomfortable for these organizations to encourage individual learning practices. To tackle this problem, the main recommendation is to link the individual development and

self-driven learning practices to team benefits. That is, to explicitly demonstrate how individual learning positively contributes to team learning. As explained in Chapter 2 (Sub-section 2.4., Theoretical Model), both levels of learning (individual and team) are interrelated, an idea that is captured in Sub-section 5.1. with the title “The foundations of an AD&HP Ecosystem are interrelated”.

In general terms, it is recommended that every organization should begin working on those aspects of the AD&HP Ecosystem with which they will feel most comfortable but have yet to devolve or improve. And they should also begin to complement these with less comfortable aspects, thereby creating a blended or hybrid approach.

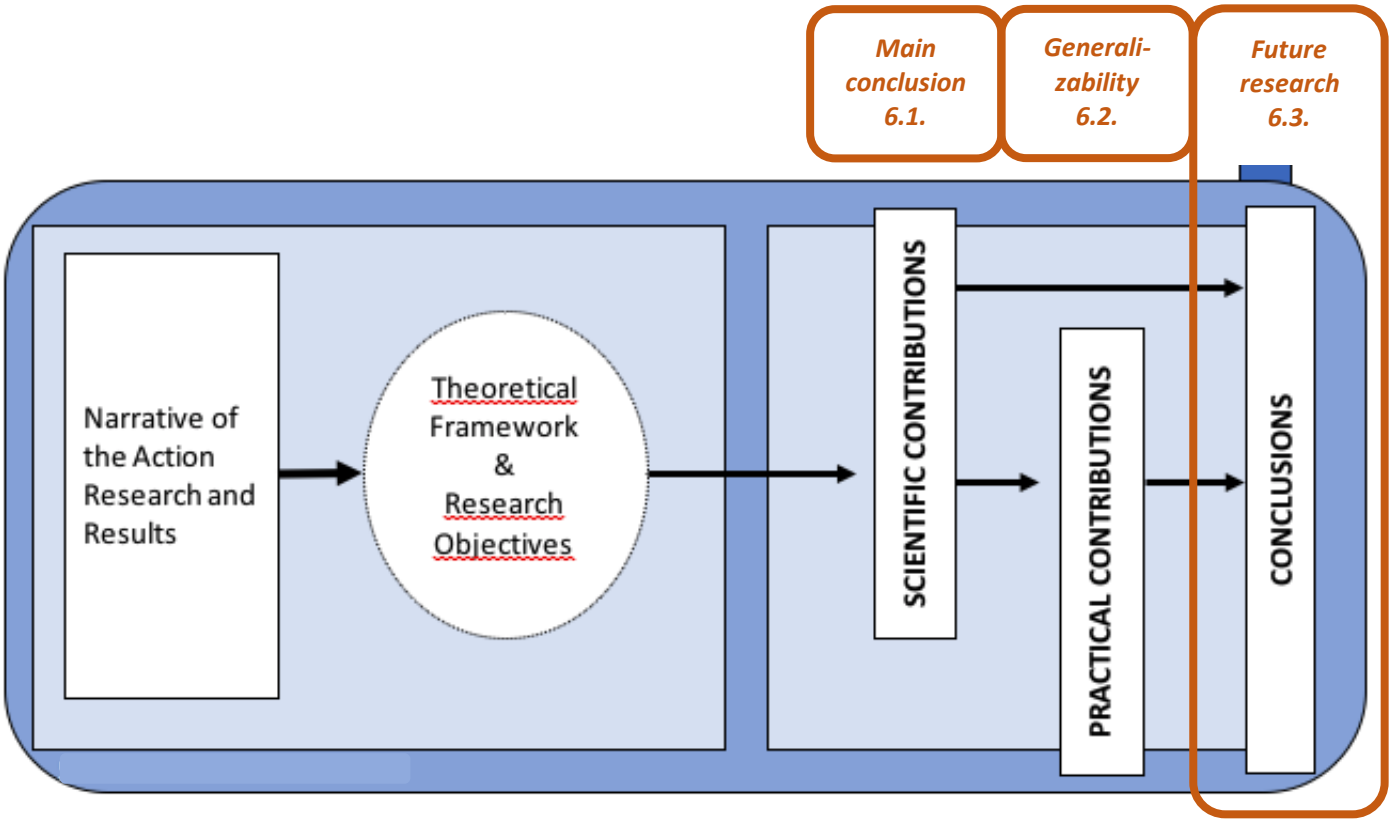
CHAPTER 06

CONCLUSIONS

6. CONCLUSIONS

This final chapter is divided into three sections (Figure 20). First, the main conclusion of the thesis is presented (Section 6.1.), followed by the generalizability of the research (Section 6.2) and, finally, some suggestions are provided for future research based on the findings and conclusions of this thesis (Section 6.3).

Figure 20: Methodological approach: conclusions



Source: the author.

6.1. MAIN CONCLUSION

This thesis was motivated by the need to address a gap in the scientific literature on organizational learning; "How do organizations make the transition to be a learning organization?" (Tuggle, 2016, p. 456). This contribution has been made under two premises. First, "Developing a learning organization is not random chance but a deliberate intervention by leaders to establish the necessary internal conditions for the organization to operate in a learning mode." (Goh & Richards, 1997, p. 577), and second "building architectures that encourage, facilitate and support learning is an organizational imperative" (Watkins & Kim, 2018). That is how this thesis has focused on analyzing how the key foundations of a particular OLS (see Section 2.2.) are made tangible.

The research began by searching the related literature, starting with the most known theories of Organizational Learning, which was followed by a more in-depth exploration of Organizational Learning Structures and their key aspects. But, as Tuggle stated back in 2016, we did not find any explicit research to show how organizations deliberately make the transition towards becoming a learning organization.

In order to cover this gap in the literature, there was need to work with an organization that deliberately wanted to improve their current OLS, and not one but two organizations looking for change have participated in this research. The fact that two enterprises have took part in this work has brought some benefits, including the fact that is has enabled us to go into depth with regard to their challenge or desire for change and to obtain real time information. Moreover, the fact that there were two and not one enterprise has enriched the research process since the profiles of the two enterprises were markedly different and it was possible to analyse their differences and similarities, which has generated some interesting findings and conclusions.

Nevertheless, the fact that two enterprises were involved made it more challenging for the researchers; they had to ensure that the solutions co-designed with both organizations responded to their particular needs and characteristics, rather than creating a solution that was replicated in both.

To cover the gap in the literature, the main objective of the thesis has been fulfilled; “To determine how the key foundations of an AD&HP Ecosystem are made tangible”.

To do so, a participatory Action Research process was used as the methodological approach. Participatory Action Research is often applied in an organization with the aim of generating a change and requires the active participation of the organization itself (Dick, 2002; McNiff, 1988), which has been the case in this research. This way of working in the process has had a positive impact on the outcomes obtained; the research in both cases has been carried out through a coordinated and collaborative effort between both parties, the steering team, and the researchers.

Action Research is based on cyclical processes of action and reflection. In this case, three cycles were completed in both enterprises. This allowed for making progress in the research by reflecting during the process, whilst the outcome of a cycle provided the input for the next one. And the findings that were obtained during each cycle required us to continue completing the theoretical model of the research.

The role of the researchers has been crucial in this work because they were not just observers but key actors who aimed to contribute to the enterprise whilst also gathering knowledge that could make a novel contribution to the literature. It was necessary to manage both of these objectives as they can be supported and encouraged through an efficient OLS.

The contribution of this thesis could be summarized in the following five main findings:

(1) The organization’s culture affects the OLS, what occurs deliberately and non-deliberately.

It has been seen that there are five aspects of the organization's culture that affect their OLS: the organizational structure and its management; the autonomy of the employees; the assessment of results at work; feedback and recognition practices; and the management of risk-taking within the organization.

(2) In the process of designing and creating the AD&HP Ecosystem it is necessary to adopt a holistic approach where the users are at the center of the structure and everyone in the organization is responsible for learning.

In order to have an OLS with the characteristics that each organization wants to have (which differs from what they currently have), it is necessary to change their process for designing and creating their OLS. By following a newly suggested process, the outcome is the design and creation of a personalized AD&HP Ecosystem that will attend to the learning needs of the employees within an organization, which will contribute to the enterprise's competitiveness, that is, a people-focused, agile, and adaptable OLS. The first three steps of this process have been tested in the third cycle of this research.

One key aspect of an AD&HP Ecosystem is the fact that it integrates the two areas to which an OLS should contribute, which, in this research, were observed to have been managed separately without considering both parts of the employee's learning process: support for employee development, and their performance needs.

An efficient OLS can and should support both development — which replaces the just "training" approach by including more forms of learning — and performance, as all learning activities should aim to contribute to their current and future performance at three levels: individual, team. and organizational. For this, formal and informal learning activities are encouraged by designing them or offering the needed resources and spaces for them to occur naturally or by virtue of the proactivity of the employees.

(3) The Participatory Action Research carried out with the active involvement of the enterprises has been successful for deliberately changing the design of the OLS.

To be more specific, it has been useful for co-defining the foundations of a new OLS for both enterprises actively participating in this research. Furthermore, the process that was suggested for designing the new OLS was successful. albeit with some improvable aspects.

(4) The theoretical model suggested in this thesis and the process for its creation can be useful for organizations to reflect on their current OLS and progress towards a more holistic and agile OLS.

This finding suggests that if an organization wishes to change their current OLS towards an AD&HP Ecosystem, which is based on the theoretical model of this thesis, it is recommended to follow all the steps suggested in Section 5.4. This process already includes the adaptation of the Ecosystem to the enterprise's requirements and it is necessary for developing all the key aspects of the Ecosystem.

(5) The organization's culture will include both barriers and facilitators when it comes to changing the key aspects of their OLS in order to create a new one.

This finding suggests that there are certain key aspects of an AD&HP Ecosystem that may be more or less natural for an enterprise to incorporate due to their organizational culture. The people at the organization may feel more or less comfortable with certain practices due to "how things are done" in the enterprise so far.

To end with the conclusions, these final lines will describe the relevance of this research, which has increased even more than when it began. For the last 30 years the organizational learning has been viewed as an important strategic asset for obtaining sustainable competitive advantage, since it is difficult to be copied by competitors (Azmi, 2008). Moreover, the need for an organization to be a learning organization that evolves in an agile way has become even more obvious this year with the Covid-19 situation.

This unexpected and disruptive macro-environmental factor has undoubtedly affected how workforces perform and how these are managed., not to mention the need it has created for reskilling the professionals within organizations.

There have been some changes that could be better managed with an efficient and agile structure that supports a learning organization. For instance, employees have seen high rates of unemployment in their environment or even at their workplaces, which has increased the willingness to upskill and to continue being competitive and "unreplaceable". This has enhanced the anxiety that some professionals were already experiencing due to the upcoming automatization of their job position (Pwc, 2018).

Moreover, remote working has become "the new normal" in many companies during the pandemic. This has required the professionals in the enterprise to adapt rapidly to working online and to familiarize themselves with digital tools they may have never used before in order to continue working. And this has been necessary not only for performing their tasks but also for keeping in touch with their colleagues and remotely managing teams and stakeholders, from customers to suppliers. This digitalization has not only allowed employees to continue working but in many cases has changed the way customers are attended to and the services that are being offered (Meister, 2020).

Whilst discussion had already begun regarding the skills gap that was about to emerge by 2030, Covid-19 has accelerated this situation. Back in 2017 it was estimated that around 14% of the world's workforce would have to change occupation or acquire new skills due to the integration of automation and artificial intelligence (Agrawal et al., 2020). Nevertheless, a survey carried out by the consultancy McKinsey shows that around 87% of executives are already experiencing this skill gap, although over half of them do not know how to tackle the problem (McKinsey & Company, 2020).

From now on it will be key for organizational leaders to know how to "reskill and upskill the workforce to deliver new business models in the post-pandemic era" (Agrawal et al., 2020).

6.2. GENERALIZABILITY OF THE RESEARCH

Carrying out qualitative research makes it difficult to generalize the results obtained to other contexts or situations (Baxter & Jack, 2008; Maxwell, 2013; Whittemore et al., 2001). In this case, the output corresponds to the two enterprises that have been under study within the timeframe in which this research was carried out. Even so, this approach was chosen because it was considered the most appropriate way to cover the literature gap, that is, "How do organizations make the transition to become a learning organization?"

This approach has permitted the in-depth study of the practices of two enterprises within Organizational Learning along with a detailed analysis of their OLS. Becoming familiar with the "how" of the topic under research is one of the strengths of a case study with a qualitative research approach (Yin, 2018). And the findings could inspire further research or even prompt other enterprises under similar circumstances to implement a process of OLS change.

The methodology itself, Action Research, has its particularities that the researcher was aware of and managed during the research (Alfaro Tanco & Avella Camarero, 2013):

- ***The researcher as the main research instrument***: This methodology implies the active participation of the researcher, that is, he/she is one of the actors generating change in the organization. In these circumstances, it is extremely important for the researcher to remain impartial and to avoid losing sight of the research objectives.

  To do so, the researcher has constantly compared the progress and results from the research with the theoretical model and literature. Further, she has ensured that in all the data gathering activities, the data was obtained from various sources (interviewees, participants, and documents).

- ***Amount of information in Action Research***: A further challenge involves managing the large amount of information that is created when working with a participative Action Research process. For this purpose, a clear and systematic information processing system has been maintained to keep track of all information and to have all the necessary data available for later analysis.

- ***Ensuring practical and scientific contributions***: Another challenge or limitation of this methodology is that the researcher needs to ensure that two main outcomes are obtained through the research. The first is to respond to the needs of the enterprise and, second, it is important to not just focus on working as a consultancy service, but he/she needs to ensure that new knowledge is created from the research in order to make a contribution to science.

  In this case, the researcher has had this premise in mind during the whole process. In parallel with the intervention process, a meta-learning was conducted on all the actions and outcomes with the aim of identifying new findings. This meta-learning was kept in a journal where the researcher recorded her reflections on the content, the process, and the premise.

6.3. FUTURE RESEARCH

Having concluded this research thesis, eight future research areas were identified for continued work that could build on the results reported here. These are outlined next.

- ***Follow up the two enterprises in this research***: The first future research area would be to keep in touch with the two enterprises who actively took part in this research to assess their progress. It would be of interest to continue with the rest of the steps in the process that has begun in order to fully test this to completion. Moreover, new discoveries could be made when analyzing how the new OLS, the AD&HP Ecosystem, is working, including what works, what needs to be improved, and what barriers and detractors can be identified when it is "up and running".

- ***Further research on the relationship between an organizational culture and its OLS***: One of the ways in which this thesis has contributed to science is the following: "The organization's culture affects the OLS, which occurs deliberately and non-deliberately." Specifically five aspects have been found to affect the OLS: the organizational structure and its management; the autonomy of the employees; the assessment of results at work; feedback and recognition practices; and the management of risk-taking within the organization. A further finding is that "The organization's culture will include both barriers and facilitators when it comes to changing the key aspects of their OLS in order to create a new one". It would be interesting to test this in other enterprises to determine if a similar trend can be observed.

- ***Improving the AD&HP Ecosystem and the suggested process for its design and creation***: Based on the literature reviewed in this thesis, it was possible to define key features that should be part of any AD&HP Ecosystem. Nevertheless, the literature and research in this field will continue and so it is necessary to keep up to date and to continue improving this OLS in future years. Integrating new discoveries and advancements will improve this OLS.

  To do so, it would be interesting to keep track of key journals in the field, such as The Learning Organization", "Development and Learning in Organizations" or the "Journal of Knowledge Management".

  Moreover, a seven-step process has been suggested for co-designing a new OLS known as an AD&HP Ecosystem. Nevertheless, in this research only the first three steps of the process were implemented and tested in practice. It would thus be highly interesting to test the remaining steps with the aim of assessing their usefulness and to make the necessary adjustments for obtaining optimal results.

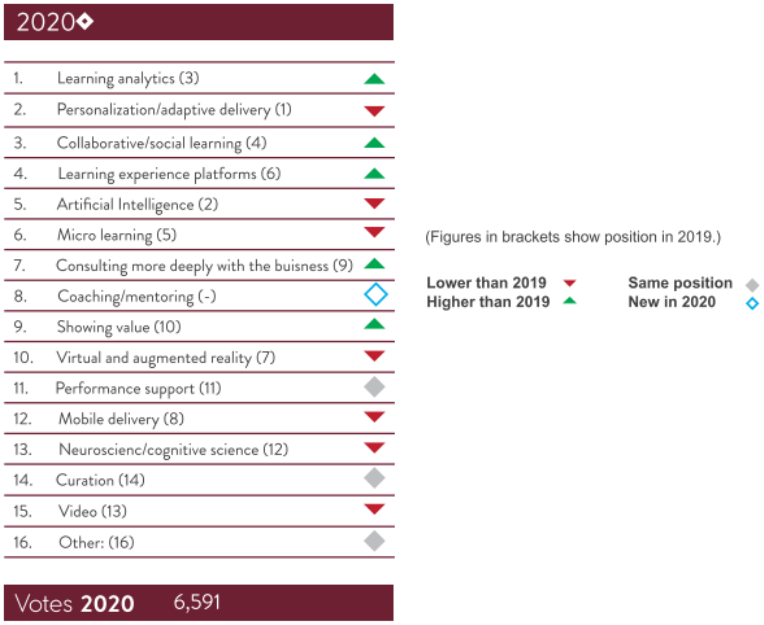
- ***Action Research in other enterprises****:* This research has adopted a qualitative approach, the results of which are strictly applicable to the precise context in which the research was carried out. This does not permit generalization of the findings. Thus, given the scientific and practical contributions of the work described in this thesis, it would be of interest to conduct this research in other

enterprises to assess what aspects need to be personalized to each case along with others that could be standardized.

- ***Trends in the L&D area:*** This topic of Organizational Learning and the role of the L&D departments within it is of great interest to the non-scientific public. Furthermore, in recent years, various international conferences have been held in different parts of the world, some of which have been attended by the author of this thesis. In Europe, the most well-known conference is the "Learning & Technologies" conference, which is held annually in London, Paris and Berlin (in Berlin it is organized in collaboration and known as the OEB). The leaders and organizers of those conferences is the "Learning and Performance Institute", the chairman of which is Donald Taylor.

Since 2016, Taylor annually publishes a report known as "Global Sentiment Survey" on Learning and Development where participants worldwide are asked about which issues are of concern to them from a list of topics. According to the latest report published in March 2020 (Taylor, 2020) the top five topics of interest were the following (in order of interest) (Figure 21): Learning analytics; Personalization/adaptive delivery; Collaborative/social learning; Learning experience platforms and; Artificial intelligence.

Figure 21: Global Sentiment Survey in L&D, 2020



Source: Taylor (2020)

Moreover, there is a Spanish consultancy company known as "Overlap" which bi-annually publishes an informative report of the international trends in the field of Learning & Development. In their report for the period of 2019-2021 they have stated that the major trends areas follows (Rubio, 2019): Robotization of the L&D area, Adaptive Learning; Learning Content Strategy and Curation; and Evolution of the Roles in L&D.

It would be extremely interesting to conduct research on those topics for integrating them into the AD&HP Ecosystem. This could be an interesting way of continuing to improve and update the OLS whilst analyzing the impact of those aspects on the OLS using a scientific approach.

- ***Exploratory research in the Basque Country**:* This research has been carried out in two specific enterprises and, when analyzing the **research context**, no existing studies have been found to show the current state of Basque enterprises concerning the efficacy levels of their OLSs or their attitude towards having an OLS that will support their competitiveness and strategic needs. Thus, further research is needed in this field.

  Further, it would be of great interest for public institutions in the region to have access to the results of this thesis, since these findings could be of use to other enterprises in the area.

  To do so, it is suggested to first conduct an exploratory research study by using Watkins & Marsick's (2003) questionnaire about the "Dimensions of Learning Organization Questionnaire" (DLOQ). No evidence has been found to suggest that this questionnaire has been used for research purposes in this geographical area. This is a well-known and internationally tested multi-dimensional framework where seven dimensions are assessed (Kim, Egan & Tolson, 2015): leadership for learning, system connection, embedded system, continuous learning, dialogue and inquiry, empowerment, and team learning.

- ***AD&HP Ecosystem as a contributor to ambidexterity**:* It would be interesting to explore whether an AD&HP Ecosystem could help the organization to create new capabilities by efficiently managing the organization's learning process.

  The term ambidexterity was first used by Duncan (1976) where he suggested that a company should work on both its efficiency and innovation. An ambidextrous organization seeks to achieve a balance between exploring and exploiting, which requires the development of the organizational capabilities needed to compete in new, dynamic, and changing scenarios (March, 1991; O'Reilly & Tushman, 2013). "Exploration and exploitation need not always be competing activities, but can and should be complementary" (Chen & Katila, 2008, p. 208).

  It has been seen that an efficient OLS can contribute to the organization's business exploration and exploitation (March, 1991). But the pursuit of an ambidextrous organization requires two capabilities: dynamic capabilities and intellectual capital architecture.

  Dynamic capabilities are "a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness" (Zollo & Winter, 2002,

p. 340). These are a set of stable routines and behaviors that manage the existing resources to create new capabilities (Eisenhardt & Martin, 2000). When these dynamic capabilities are used to manage all organizational resources (financial, human, information and infrastructural) to create new resources, this allows the organization to rapidly adapt to the changing environment (Teece, 2007).

- ***AD&HP Ecosystem as a contributor to organizational agility****:* It would be interesting to research whether an AD&HP Ecosystem could contribute towards the development of the required dynamic capabilities of sensing and searching.

  Organizational agility represents a highly significant competitive advantage in a fast-changing market where disruptive technologies are becoming mainstream (Pérez-bustamante, 1999; Rigby et al., 2016). Those who are not responding quick enough to the market will lose market share (Chandler, 2018). According to Oliva et al., (2019) "…in the organizational context, one can understand by agility the ability to respond flexibly to changes in the environment, adjusting the offerings of products and services quickly."

  Various authors have shown that being a LO positively contributes to being an agile organization. A learning organization, apart from having a continuous learning process (which is its philosophy), includes learning practices that contribute to the enterprise's ability to be agile (Teece, 2007). Baskarada & Koronios (2018) suggest that agile organizations, apart from having a specific organizational structure, require five dynamic capabilities (known as the "5S organizational agility framework"): sensing, searching, seizing, shifting, and shaping. Among these dynamic capabilities, sensing and searching are strongly related to organizational learning (Baskarada & Koronios, 2018; Teece, 2007).

  Sensing is about having the ability to "detect new opportunities and threats from the external environment" (Baskarada & Koronios, 2018, p. 337). For Teece (2007), sensing is about external organizational learning, and detecting new opportunities and threats in the environment. One of the learning levels in a learning organization occurs between the organization and external agents (e.g., customers, competitors, suppliers, and universities). Learning organizations are open and connected to their environment (Garvin, 1993; Nevis et al., 1995; Nonaka, 1991; Nonaka & Takeuchi, 1995; Pedler et al., 1989, 1991; Senge, 1990; Watkins & Marsick, 1996).

  Searching, instead, is having the ability to "create new opportunities within the organization" (Baskarada & Koronios, 2018, p. 337), it is strongly related to the organization's exploitation and exploration approach. It involves challenging the deep-rooted assumptions and expanding the existing mental models in the organization. This same approach exists within learning organizations, as stated by various authors (Argyris & Schon 1981; Argyris & Schön, 1978; Garvin, 1993; Garvin et al., 2008; Senge, 1990).

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APPENDICES

APPENDICES

Appendix 1: Achievement Organizational Culture, characteristics

ACHIEVEMENT CULTURE	
BEHAVIORS	• **Vision, strategy and a priorities framework are agreed and communicated.** • **Trade-offs are surfaced and explicitly resolved in teams**. • Rigorous debate and decisions occur prior to sign-off of targets, not afterwards. • **The bar is raised every year, with the support of the organization.** • The line is held on non-delivery – no excuses. Individuals do what they say they will and deliver on promises. • No surprises – mistakes and non-delivery are communicated.
SYMBOLS	• Vision, strategy and priorities remain consistent for long enough to determine their success. • **Individual performance is transparent to others – including metrics and milestones.** • Meetings start and end on time, and end in agreed actions, which are followed up. • Individuals who do not meet targets are expelled; **no more than one year of non-performance.**
SYSTEMS	• **Individual contributions to strategy and team targets are explicitly defined.** • **Top-down stretch targets are communicated at the commencement of the budgeting process** • **Simple, assessable Management Information System for each major metric against which individuals perform** • **Information used is fact-based, realistic, and straightforward** • Reward structure allows for large variation between top and bottom performers • **Complete alignment between reward and performance.**
BUSINESS BENEFITS	• Increases the overall performance capability of your organization. • Decreases the risk that you will not achieve performance targets. • Increases speed of decision-making and execution. • Makes you more focused, doing fewer things very well and completing them. • Makes you the employer of choice for high achievers.
BELIEFS TO LEAD BY	• That there are no excuses – by taking personal responsibility you can find a way around obstacles in order to deliver • That the employment contract is a contract for outputs, not just effort. • That transparency of both individual performance and its consequences is fair.
VALUES	• Meritocracy • My word is my bond • Truthfulness
WHICH ORGANIZATIONS PURSUE IT	• "…often operate in an environment where growth is not easy to come by, and performance depends on squeezing every ounce of value from the existing business. Such organizations are under strong pressure to continually perform to higher standards; they know costs are too high and are not confident of exceptional revenue growth."

Source: the author, adapted from Taylor, 2015

Appendix 2: Customer-Centric Organizational Culture, characteristics

CUSTOMER-CENTRIC	
BEHAVIORS	• **Management spends enough time with customers to speak with authority about their needs and individuals go the extra mile to satisfy customers** • **Listening and relating are common behaviors** • **Supporting and delivering to colleagues is a high priority, and the hand-over points work well** • **Customers are discussed as decisions are reached at every meeting**
SYMBOLS	• Top of the investment priorities are initiatives that will improve the customer experience and prepare for their future needs • Untrained staff are not put in front of the customer • Stories and legends of exceeding customer experience are widespread.
SYSTEMS	• **Structure allows for the maximum amount of flexibility and responsiveness to the various customer groups and needs** • Customer research and satisfaction measures have equal weighting to financial performance • Customer satisfaction is driven through process improvement, as well as face-to-face contact, and is embedded in the design of the organizational procedure • **Training is extensive** • People are rotated through customer-facing positions • Processes demonstrate trust in staff and in customers.
BUSINESS BENEFITS	• Facilitates customer loyalty, allowing the business to win at customer retention • Positions you to quickly pick up on and respond to customer needs • Builds pride at every level, particularly on the front line • Forces empowerment and simplicity, which, in turn reduces cost.
BELIEFS TO LEAD BY	• That those closest to the customer know more about their needs than you do • That it is possible to satisfy customers and have low costs • That customer perception is the truth (the customer is always right) • That one day a competitor will emerge who cracks the customer satisfaction code and challenges your industry.
VALUES	• Listening • Honor • Relationship • **Learning** • Reliability.
WHICH ORGANIZATIONS PURSUE IT	• n.a.

Source: the author, adapted from Taylor, 2015.

Appendix 3: One-Team Organizational Culture, characteristics

ONE-TEAM CULTURE	
BEHAVIORS	• Problems are resolved with the big picture in mind; units do not design short-term solutions which create difficulties for the broader business. • Conflicting priorities caused by the matrix are resolved openly and constructively. • When a decision is made, individuals speak and act in support of it.
SYMBOLS	• Work is done by one group, on behalf of the whole, unless there are strong reasons for variation. • **People are moved across the business; managers give up their good people to other units and receive others in return**. • **Common rituals and language are used across the business**.
SYSTEMS	• **The remuneration system encourages people to facilitate the success of others.** • Structures and reporting lines recognize dual citizenship; people are held to account by different people for different deliverables. • People are not penalized financially for giving up something for the greater good. • **Peer review is an important part of performance evaluation.**
BUSINESS BENEFITS	• Customers experience a seamless service and cross-business processes work effectively; customers have access to a global knowledge base. • **Cross-referrals occur between different sales and service teams.** • Best practice is picked up quickly across the group, so that standards rise quickly. • Resources are easily focused where most needed, including underperforming areas and opportunities for quick wins in the market. • Mergers between companies, divisions, or teams can occur quickly, and planned synergies are realized.
BELIEFS TO LEAD BY	• That what goes around, comes around – helping others succeed will facilitate your own success. • That most people are well intentioned – their actions have a worthy motive, even if you have not quite figured it out yet. • That people can be accountable for things they do not control.
VALUES	• **Generosity, sharing** • **Co-operation** • Trustworthiness • **Openness** • **Diversity**
WHICH ORGANIZATIONS PURSUE IT	n.a.

Source: the author, adapted from Taylor, 2015.

Appendix 4: Innovative Organizational Culture, characteristics

INNOVATION	
BEHAVIORS	• **Experimentation is encouraged** • **Ideas are challenged; people speak their minds** • **Mistakes are considered as opportunities for learning** • **Best practice is transferred across the business** • **People ask for help.**
SYMBOLS	• **Rituals associated with learning are common (post-implementation reviews, quality circles, help meetings)** • Resources are assigned to think tanks for development of embryonic entrepreneurial ideas • Experience is valued and held onto, but, at the same time, new blood is always introduced • Physical workplace and use of technology reflect leading-edge practice.
SYSTEMS	• Rigorous measurement is implemented (inputs, pilots, tests and small chunks of process) for the purpose of improvement • **Knowledge-management systems are extensive and well-used** • **Use of every form of feedback and communication tools is encouraged** • Innovation and idea-generation are embedded in performance management • **Structure is designed to encourage delegated authority, empowerment, and non-hierarchy.**
BUSINESS BENEFITS	• Delivers product innovation and industry leadership; delivers to customers what they did not even know they wanted until they saw it • Attracts and keeps unconventional people with original ideas Removes the costs associated with 'not invented here' • Allows early correction of mistakes, reducing escalating costs of unsuccessful strategies, projects, or new products.
BELIEFS TO LEAD BY	• **That there is always a better way (if it ain't broke, break it anyway)** • **That you are not always right** • **That not knowing is a sign of strength, not a weakness** • **That mistakes are an opportunity to learn** • **That senior people are not the keepers of all wisdom**.
VALUES	• **Curiosity** • **The pursuit of excellence** • **Openness** • **Courage**
WHICH ORGANIZATIONS PURSUE IT	• "…often from industries where product innovation is a real potential source of differentiation, for example technology or pharmaceutical. Smaller organizations seeking to carve a niche for themselves against much larger players can often do so through this approach. Creative and artistic people are at home in this environment, and their organizations tend naturally towards this type of culture."

Source: the author, adapted from Taylor, 2015.

Appendix 5: People-First Organizational Culture, characteristics

PEOPLE-FIRST	
BEHAVIORS	• **Leaders coach, support, and listen to their people** • **Junior people are treated with the same level of respect and interest as their senior colleagues** • **Any form of disrespectful behavior (bullying, lack of performance feedback, aloofness, taking credit for the work of others) is stamped out very quickly** • **Constructive challenge is encouraged – everyone's opinions are valued**
SYMBOLS	• Non-traditional and diverse people are chosen for key roles • People are given an opportunity by being handed responsibility and the chance to prove themselves (with safety nets in place) • Employee benefits are equally spread across the whole hierarchy • Symbols of status are rare (large offices, differentiated travel policies).
SYSTEMS	• **Performance management is treated seriously and based on the importance of giving feedback, learning, and development** • **Training is broad and well-resourced** • Work-life balance policies are well developed • Diversity is built into all HR policies, and is visible and measured • Employee well-being metrics are robust and meeting standards is expected (safety, employee satisfaction, etc.) • Trusted mechanisms exist to report non-compliant behavior (sexual discrimination, stealing, etc.)
BUSINESS BENEFITS	• A strong employee brand, a reputation as an employer of choice • Enhanced performance from individual employees • Reduced turnover and recruitment fees • Access to the total spectrum of talent – a true meritocracy • Compliance with policy, which allows empowerment within defined limits • Outstanding commitment on the front line, which customers love • Abundant, high-quality communication, including access to problems (no surprises) • Reduced unethical behavior (stealing, etc.) • Reduction or elimination of cases of unfair dismissal, discrimination, or sexual harassment.
BELIEFS TO LEAD BY	• That people are inherently trustworthy • That other people can always add to my original ideas • That diversity of age, gender, race and sexual orientation add to a team's effectiveness.
VALUES	• Trust • Egalitarianism • Diversity
WHICH ORGANIZATIONS PURSUE IT	• n.a.

Source: the author, adapted from Taylor, 2015.

Appendix 6: Greater-Good Organizational Culture, characteristics

GREATER-GOOD	
BEHAVIORS	• Employees are passionate about a cause; they go beyond the immediate needs to ensure this cause is fulfilled • Partnerships and memberships of philanthropic organizations • Giving time and effort to help the well-being of others • **Acting with a longer-term perspective than others** • The good of the whole is considered in day-to-day decisions.
SYMBOLS	• Sponsorship and financial contribution to causes which benefit the greater good • Staff time dedicated to volunteer work • Using the organization's voice and power to influence at a societal level for the good of the whole • Investment in the longer term, influencing those who might one day become customers, or whose support might one day be important.
SYSTEMS	• Metrics that consider the broader community impact of the organization's footprint, both environmental and social • Research into the future, providing insights into the longer term, and satisfaction measures carry equal weighting as financial performance.
BUSINESS BENEFITS	• Motivates and attracts employees and creates commitment to your organization, which is not connected to remuneration • Enhances reputation and can provide a point of differentiation from competitors • Enhances reputation with government and other influential stakeholders • Produces a future-oriented organization, more in touch with emerging trends and future customers.
BELIEFS TO LEAD BY	• **That what goes around, comes around ('karma')** • That a business has a responsibility to the community in which it operates • That those who change the world also benefit from it • That it is not just about profit
VALUES	• Generous Citizenship • **Making a difference** • Contribution • Stewardship (for future generations)
WHICH ORGANIZATIONS PURSUE IT	• "…sometimes operate in business sectors whose products or services impact many, and whose reputation has been for greed or lack of consideration for others. Others were set up with a strong sense of purpose which involved the Greater-Good right from the start."

Source: the author, adapted from Taylor, 2015.

Appendix 7: Semi-structured interviews in Laboral Kutxa S.Coop.

Semi-structured interviews in Laboral Kutxa S.Coop.			
DATE	**ROLE**	**CODE**	**DURATION**
16/1/19	Manager of the talent team (Training and Development)	COD1	1h 13'
18/1/19	Manager of the training team	COD2	1h 11'
18/1/19	Technician in the training team	COD3	46'
23/1/19	Manager of a front office	COD4	45'
23/1/19	Technician of a front office	COD5	46'
23/1/19	Manager of the HR team	COD6	56'
25/1/19	HR Manager in the headquarters	COD7	1h
25/1/19	Manager of a department	COD8	50'
28/1/19	HR Manager in a geographical area	COD9	57'
29/1/19	Technician of a headquarters' department	COD10	46'
29/1/19	Business manager of a geographical area	COD11	52'
1/2/19	Business manager of a wider geographical area	COD12	45'
19/2/19	CEO of the enterprise	COD13	1h 12'
20/2/19	Technician in the training-team	COD14	57'
21/2/19	HR Manager in a business area	COD15	1h 4'

Source: the author.

Appendix 8: Interview guide used in Cycle 1 in, Laboral Kutxa S.Coop. and SENER S.A.

Laboral Kutxa S.Coop. and SENER S.A.
Cycle 1, Interview guide

1. ¿Qué rol tienen (decir su rol) en la selección y priorización de los conocimientos, contenidos y formaciones?
2. ¿Cómo se identifican los conocimientos y habilidades necesarios en la disciplina? Y, ¿cara a necesidades de futuro? ¿Van alineadas con las líneas estratégicas de LK?
3. ¿Cómo se detecta quién necesita aprender qué?
4. Más allá de cursos de formación externas, internamente, ¿qué acciones de aprendizaje se llevan a cabo? Por ejemplo; sesiones para compartir buenas prácticas en persona o por medios digitales.
5. ¿Qué tan autónomos son las personas de tu equipo en su desarrollo y aprendizaje?
6. ¿Son personas proactivas y comprometidas con su aprendizaje?
7. ¿Se establecen objetivos anuales de desarrollo individual con los responsables?
8. ¿Disponéis alguna plataforma digital donde compartir el conocimiento y la información?
9. ¿Cómo mantenéis la relación cuando el equipo está distribuido en diferentes zonas geográficas?
10. La persona que participa en una acción de aprendizaje, ¿recibe algún tipo de feedback sobre cómo va avanzando y/o mejorando? O, ¿se le pregunta sobre ello?
11. Cuando se comete un error en el lugar de trabajo, ¿cómo reaccionan los responsables? Y, ¿los compañeros?

Source: the author, 2019

Appendix 9: Participants of the four working sessions in Laboral Kutxa S.Coop., Cycle 2

THE PARTICIPANTS OF THE FOUR WORKING SESSIONS IN LABORAL KUTXA S.COOP., CYCLE 2
Five managers of a geographical area, out of the headquarters.
Two people that comprise the talent-management team.
One technician of the training team within HR
One main manager of the HR administrative staff
Eight administrative technicians of the HR team
Three people, the leading group of this project in the company (The talent and training team manager + two Training-team technicians).

Source: the author.

Appendix 10: The participants of the eight working sessions in Laboral Kutxa S.Coop., Cycle 3

THE PARTICIPANTS OF THE 8 WORKING SESSIONS IN LABORAL KUTXA S.COOP., CYCLE 3	
Knowledge area no.1	Four experts in the knowledge area (product/service) + four managers of the technicians using the learning structure under construction.
Knowledge area no.2	Three experts in the knowledge area (product/service) + four managers of the technicians using the learning structure under construction.
Knowledge area no.3	Three experts in the knowledge area (product/service) + four managers of the technicians using the learning structure under construction.
Knowledge area no.4	Two experts in the knowledge area (product/service) + four managers of the technicians using the learning structure under construction.

Source: the author.

Appendix 11: Semi-structured interviews in SENER S.A.

Semi-structured interviews in SENER S.A.			
DATE	**ROLE**	**CODE**	**DURATION**
12/6/19	Lead manager of knowledge area no.1	COD1	1h
18/6/19	Lead manager of knowledge area no.2	COD2	45'
4/7/19	Lead manager of knowledge area no.3	COD3	46'
4/7/19	Lead manager of knowledge area no.4	COD4	46'
4/7/19	Lead manager of knowledge area no.5	COD5	50'
4/7/19	Lead manager of knowledge area no.6	COD6	1h 15'
4/7/19	Lead manager of knowledge area no.7	COD7	1h
4/7/19	Lead manager of knowledge area no.8	COD8	45'
15/7/19	Lead manager of knowledge area no.9	COD9	45'
15/7/19	Lead manager of knowledge area no.10	COD10	1h 10'
15/7/19	Lead manager of knowledge area no.11	COD11	1h
15/7/19	Lead manager of knowledge area no.12	COD12	1h
15/7/19	Lead manager of knowledge area no.13	COD13	1h
15/7/19	Lead manager of knowledge area no.14	COD14	47'
15/7/19	Lead manager of knowledge area no.15	COD15	45'
15/7/19	Lead manager of knowledge area no.16	COD16	1h 15'
15/7/19	Lead manager of knowledge area no.17	COD17	45'
15/7/19	Lead manager of knowledge area no.18	COD18	1h
15/7/19	Lead manager of knowledge area no.19	COD19	1h 20'
5/9/19	Lead manager of knowledge area no.20	COD20	1h
25/9/19	Lead manager of knowledge area no.21	COD21	48'
25/9/19	Lead manager of knowledge area no.22	COD22	1h
25/9/19	Lead manager of knowledge area no.23	COD23	1h
25/9/19	Lead manager of knowledge area no.24	COD24	1h 10'
25/9/19	Lead manager of knowledge area no.25	COD25	45'
25/9/19	Lead manager of knowledge area no.26	COD26	48'
25/9/19	Lead manager of knowledge area no.27	COD27	1h

Source: the author.

Appendix 12: The participants of the eight working sessions in SENER S.A., Cycle 2

THE PARTICIPANTS OF THE EIGHT WORKING SESSIONS IN SENER S.A., CYCLE 2	
Knowledge area no.1	Eight Project managers.
Knowledge area no.2	Seven Project managers.
Others	One IT technician from the Headquarters' IT team.
	Three people, the leading group of this project in the company (HR manager + HR technician + Engineer technician).

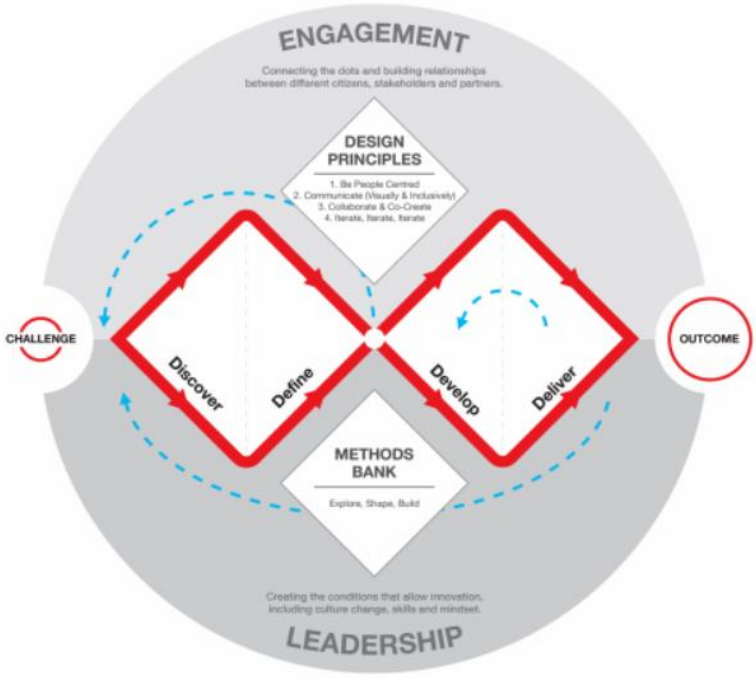
Source: the author.

Appendix 13: The participants of the six co-creation sessions in SENER S.A., Cycle 3

THE PARTICIPANTS OF THE 6 CO-CREATION SESSIONS IN SENER S.A., CYCLE 3
Seven Team-managers
Eight Project-managers
Three people, the leading group of this project in the company (HR manager + HR technician + Engineer technician)

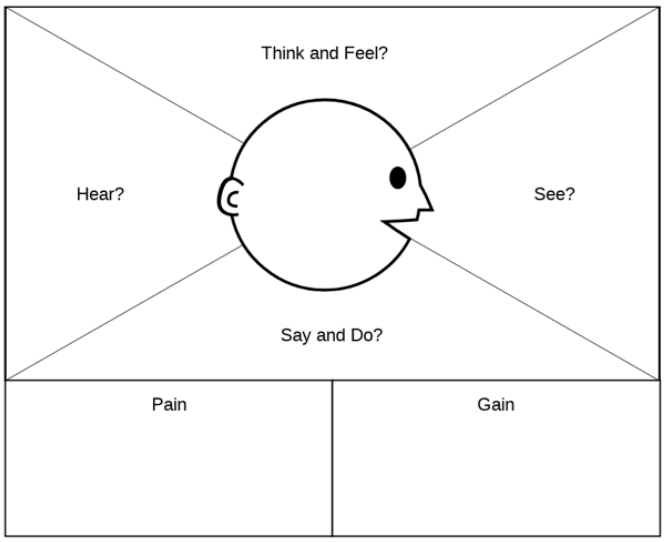
Source: the author.

Appendix 14: Double Diamond, Design Thinking method



Source: Design Council, 2020.

Appendix 15: Empathy Map, template



Source: Online Visual-Paradigm, 2019.

Appendix 16: Day in the Life template

Getting to work	**Time of day**	**Time of day**	**Time of day***	**End of the day**
	Task	*Task*	…	
	With whom	*With whom*	…	
	With what tools and resources	*With what tools and resources*	…	
	*Worries***	*Worries*	…	
	*Motivator***	*Motivator*	…	

**Do not forget those work tasks completed outside the workday.*

***Worries and motivators are optional, although recommended.*

Source: the author, adapted from Toolshero, 2018.

Appendix 17: Data Processing System used in this thesis

DATA PROCESSING SYSTEM USED IN THIS THESIS

As previously mentioned in the text (Chapter 3, Methodology), in this Appendix the data processing system used for this research is presented. The same system was used for gathering data in both enterprises.

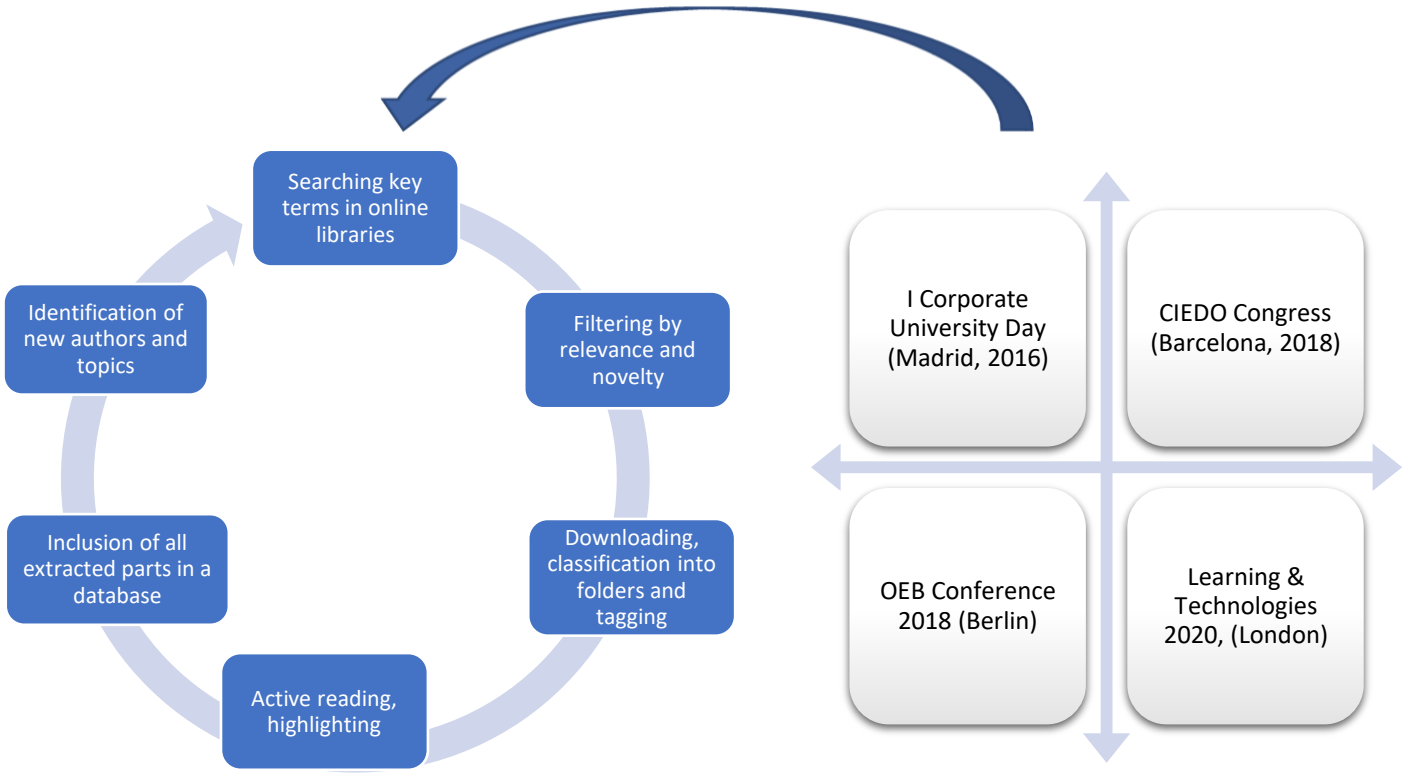
To **keep track of all the actions in the research**, one Excel sheet has been created and completed during the research for each enterprise, where a chronology of the actions was recorded: Action carried out -> participants -> data.

Concerning the three cycles of the intervention process carried out in each enterprise, the following procedure was used:

- **Cycle 1**: the interviews and focus groups were recorded and transcribed. These transcriptions were registered in an Excel file where they have been organized by theme; vertically for theme, and horizontally for individual answers.

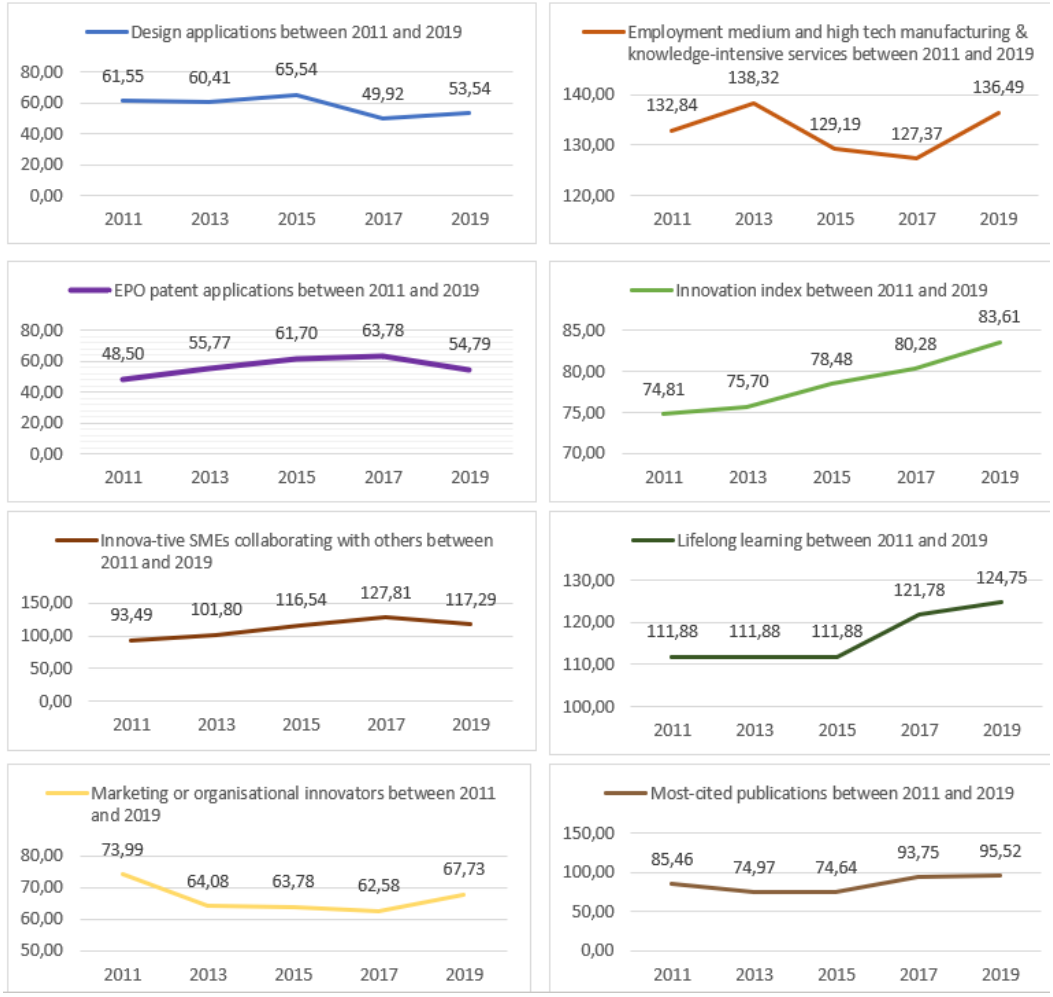
- **Cycles 2 and 3**: the working sessions were not recorded in order to avoid intimidating the participants and for them to fully engage in the sessions. The results of Cycle 2 were recorded in one Excel file, with one sheet for each session.

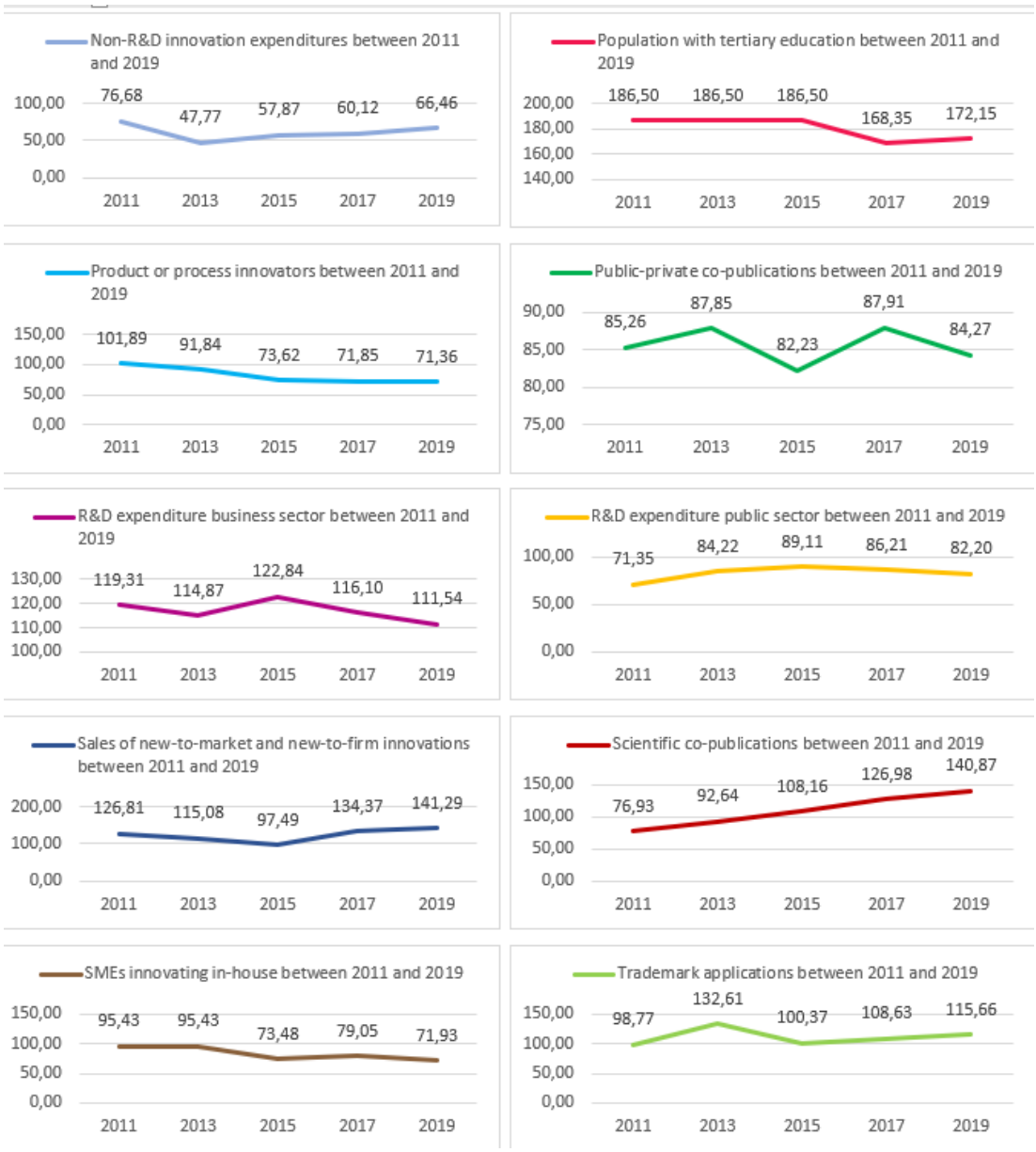
Appendix 18: Data gathering, processing and analysis for the 1st Specific Objective: "To develop a theoretical AD&HP Ecosystem and define its foundations".



Source: the author

Appendix 19: Regional innovation scoreboard 2011-2019, Basque Country (graphics per indicator)





Source: the author, adapted from European Commission (2019b)

Appendix 20: Detailed narrative of Action Research in Laboral Kutxa S.Coop.

DETAILED NARRATIVE OF ACTION RESEARCH IN LABORAL KUTXA S.COOP.

In this appendix the four steps carried out in each of the three cycles of Action Research in Laboral Kutxa S.Coop are presented in detail; construction, planning action, taking action and evaluating action.

CYCLE 1: CONSTRUCTION:

We held two face-to-face meetings where the organization's steering-team and the researchers came together to talk generally about how the project was going to be approached and, what would be the first step.

This first meeting enabled the research team to understand what the organization's problem was and the areas they wanted to change and improve. They wanted to improve their current organizational learning structure, particularly with regard to two aspects: first, the promotion of self-driven learning and, second, the enhacement of social learning practices.

Nevertheless, before making any changes in the organization, we realized we needed more in-depth knowledge of the organization's current learning structure in order to understand what was going on. We wanted to identify the strengths and weaknesses of the current organizational learning structure. Hence, we started to plan the first action.

CYCLE 1: ACTION PLANNING:

Once the initial construct was made, the first action was planned, that is, what is going to be done, when, and who does what.

As previously described in the methodology in Chapter 3, we decided to carry out 14 individual semi-structured interviews with managers of different levels (Appendix 7); from the general manager of the enterprise, to one responsible for a front-office team. These were chosen because the aim of this first cycle was to characterize their current organizational learning structure and, to do so, it was necessary to obtain information from people with different roles and perspectives within the enterprise. And, from those managers involved with HR, we expected to extract more information about how the process of building the learning structure took place each year.

All of the interviews were face-to-face and lasted around one hour. The questionnaire included 11 questions to guide the interview (Appendix 8), but the aim was to obtain as much information as possible from the interviewees about the current organizational learning structure. The questions were based on the literature and the objective of this thesis.

CYCLE 1: TAKING ACTION:

For implementing the planned action, the interviewees were called for an interview which was carried out in their own office. The researchers went there and conducted each individual interview. The results from those interviews are presented next, and organized by theme, that is, those that comprise the theoretical model of this thesis (Chapter 2). Nevertheless, the first theme in an "extra" one where the process for creating their current organizational learning structure is described.

CYCLE 1: EVALUATING ACTION:

To close this first cycle, a face-to-face meeting was carried out between the organization's steering-team and the researchers.

It was considered that the action taken was useful and enabled us to gather more details of the organization's initial situation with regard to its learning structure. The results did not surprise the organization's steering-team, since the "picture" was aligned with their initial appraisal of the situation.

The evaluation and results of this first cycle encouraged us to think about what the next step should be, that is, the beginning of the second cycle.

CYCLE 2: CONSTRUCTION:

In the same meeting in which Cycle 1 was closed, this construction step of Cycle 2 was carried out.

Analysis of the results obtained in Cycle 1 revealed improvable areas in team learning practices and in having self-driven learning habits in the organization, which are the areas in which they wanted to improve the most. Both were the organization's main focus in this project.

In this scenario, the next action to be taken was to define the foundations of the new organization's learning structure that will contribute towards achieving the enterprise's objectives (as mentioned above). We analyzed the possibility of defining it between us, the steering-team and the researchers. The organization's steering-team, however, shared with the researchers the importance of making this a collaborative project. They wanted this project to be a joint effort — not just a project of the steering-team but of the whole HR department.

Moreover, this allowed us to gather different perspectives on the topic and to identify the needs of the organization's learning structure. And, from a research perspective, this approach was more enriching and more aligned with an Action Research methodology. Furthermore, the steering-team indicated that they already wanted to start

implementing some changes with regard to self-responsibility for learning in the HR team.

Taking these premises as our starting point, we began the planning.

CYCLE 2, ACTION PLANNING:

Once the situation was analyzed and it was decided that the foundations of the organizational learning structure should be defined in a collaborative manner, the action was planned for its co-definition.

It was decided that the next action would be to conduct **four working sessions with the whole HR department**. These participants would bring to the table their experience and opinions about the current organizational learning activities and resources. Further, they would co-define the foundations of a new organizational learning approach, and how it should be in order to truly address the organization's learning needs.

First working session. This consisted of presenting the project and its strategic rational, followed by the creation of a sense of urgency for change by showing their industry's fast-changing situation.

Second working session. In this session we worked on the notion of self-responsibility for their learning and development. To do so, it was suggested that they could begin to create new learning habits at the individual level; create their own digital Personal Learning Environment (PLE), that is, take advantage of digital tools for obtaining automatized information of the users' interest and for sharing his/her knowledge or interesting information with 3rd parties.

Third working session; This session consisted of sharing the results of Cycle 1 with the team and creating the first proposal for the foundations of the new learning structure. For the analysis of results, the main findings were explained, and in teams, they gave their opinion on these (they all agreed with the "picture" revealed by the results, and it did not surprise them). The initial proposal for the foundations of the new learning structure was made by using the "airplane metaphor"; that is, how should the new structure be, who will be the supporters and detractors in the organization for its success and, and who should drive the change.

To create a final version, the **Lego Serious Play** methodology was employed, which, in teams, enabled them to be more precise and symbolically construct their abstract thoughts through Lego building blocks (Mccusker, 2014).

Fourth working session. This enabled the users to empathize with the new learning structure. To do so, they worked in teams and drew an **Empathy Map** of the two main segments of employees: those working in the headquarters (around 500 employees) and those working face to face with the customers in the offices in various geographical locations (around 1700 employees). Afterwards, they mapped out a **Day in the Life** of them, in order to put themselves in the place of the person and his/her day at work and

to identify their main performance difficulties, their current learning habits, and the moments of the day in which there was potential for new learning

The closing session was semi-presential (some of the participants attended in person whilst others connected live online). This was held after the step of "Evaluating Action" and was used to share with all the participants the results obtained through the sessions, to recognize their effort and contribution and to explain the next steps of the project and their role in it.

CYCLE 2: TAKING ACTION:

For implementing the planned action, the participants were called to take part in four working sessions. These were face-to-face and took place in the headquarters of the organization. The four working sessions with the HR team were conducted within the expected timeframe and with the activities planned for each session.

The working sessions required the participants to write in a word or Excel document or draw on paper and post-its. The Excel and word documents were collected and the paper documents were photographed. These data were used for subsequent analysis.

CYCLE 2: EVALUATING ACTION:

After each session of the implementation, a meeting was held to **assess and discuss** the outcomes of the session and adjust the next session accordingly. The organization's steering-team and the researchers reflected on the outcomes and verified if the aim of the session had been achieved. In addition, to close this first cycle, a face-to-face meeting was held between both parties.

Overall, it was considered that the action taken was useful and enabled us to collaboratively define the foundations of the organization's new learning structure. Nevertheless, the following improvable aspects were identified:

- Participants were expecting to know how we were going to create an organizational learning structure like the one they have co-designed.
- Some of the participants — those not directly involved with the creation of the learning structure — were not clear about their role in the sessions.
- Working with the PLE was distracting, since they did not see its connection with the rest of the sessions.
- PLE: most of the participants were not enthusiastic about creating one for themselves, and they did not really see the need for it. They did not see how it could contribute to their work.
- Having 20 participants did not make it as participative when we were all working together. In contrast, it was more participative, and all people had the opportunity to talk when we worked in smaller groups of six people.

CYCLE 3: CONSTRUCTION:

In the final step of the previous cycle, we realized the importance of having an appropriate process to create the new organizational learning structure. And therefore, such a process was designed in Chapter 5, Section 5.4. This is why we decided that a third cycle would be carried out to begin implementing such a process. Thus, the first three steps of the process were implemented; "Co-defining the learning-needs and KPIs"; "Co-prioritizing the learning needs"; and "Designing the learning activities".

To do so, we initially thought about doing it for the whole organization, and to start changing the current process from that moment. This was a new approach, however, and tackling the organization as a whole may have been too ambitious and many people would be involved who did not yet know about the project. That is why it was decided to begin with specific groups of people, designing a learning structure for them and with them.

At this point a strategic requirement was communicated to the training-team from the strategic HR partner of the organization; there were four business units that required a training plan for the following year (2020) in order to support the fulfillment of the business strategic objectives, that is, an increase in sales. Each of those business units constituted a different knowledge area. Thus, instead of taking the initial approach suggested in the new process of focusing on a group of people with a similar role or learning needs and building a learning structure for and with them, the focus was instead directed towards those four knowledge areas.

The next step was to plan the action in this third cycle.

CYCLE 3: PLANNING ACTION:

For defining a training plan for supporting four knowledge areas following the new process, the first step was "Co-defining the learning-needs and KPIs", an action that required collaboration with the users of the learning structure being created. Nevertheless, in this case the structure was created for almost 1700 people, that is, those working in the offices face to face with the customers. And, as stated in the "Construction" step, the focus was directed towards the knowledge areas to be developed, rather than developing and supporting a particular group of employees. That is why we decided to create four working teams, one for each knowledge area, composed of internal experts in the topic that are close to the final users of the learning structure.

The aim was to analyze what the learning needs were in each of the four knowledge areas among the people in charge of selling them. To do so, we conducted **two co-creation sessions with each team** (each team had been working separately). There were six to eight participants in each team; half of these were experts in the product or knowledge area and, the other half were direct managers of the final users of the

learning structure. These took place within a **timeframe** of three weeks. As in the previous cycle, the timeframe was chosen by the steering team, adapting it to the availability of the attendees.

The First session involved presentation of the project; explaining its origin (strategic request), what the strategic board was asking for in that knowledge area (the increase in sales), its importance, and the role of the people in the sessions. As homework for the next session, they were asked to gather information from the team they were in charge of and those with whom they have a professional relationship that will be the users of the learning structure to be created.

The second session started by bringing to the table all the information gathered about the learning needs (the homework). And, in order to bring them in organized and with a clear user-focus, the **Empathy Map** was drawn of a typical user of the learning structure. Once they had the person in mind, their particular learning needs (the knowledge and skills to be learned or acquired) were written down.

Next, with the aim of analyzing the supporters and barriers to integrating learning actions into the workflow, a **Day in the Life** of a typical user at work was drawn up.

After getting to know the final user in more depth, and in order to take further advantage of having all those people together in one room, we discussed possible methodologies or learning activities that could work. To do so, a **Brainstorming** activity was carried out to identify those learning methodologies or activities they had already used to develop that knowledge area that had previously been successful and, those which had not been successful. This enabled them to learn from previous experiences in order to design new learning activities.

Concerning the **roles of the project team**, in comparison with the two previous cycles, in this cycle the organization's steering team played a more active role in the intervention sessions. In particular, they co-lead the sessions alongside the researchers. Furthermore, one leader from the business area also co-lead the sessions. The aim of this change was to start transferring the leadership to these people in these kinds of sessions, particularly as preparation for when the researchers left the company. Nevertheless, since it was their first time doing so, a researcher was with them during the working sessions to support and intervene when necessary.

CYCLE 3: TAKING ACTION:

For implementing the planned action, the participants were called to take part in four working sessions. These were face to face and took place in the headquarters of the organization. The four working sessions with the participants were carried out within the expected timeframe and with the activities planned for each session (Figure 12).

As in Cycle 2, the working session required the participants to write in a word or Excel document or draw on paper and post-its. The Excel and word documents were collected and the paper documents were photographed.

CYCLE 3: EVALUATING ACTION:

After all the working sessions were complete, the organization's steering-team, the researchers and the co-leaders from the four business units came together and reflected on the outcomes and verified whether the aim of the sessions had been achieved.

The sessions were positively assessed. The methodology used enabled them to truly empathize with the users and identify their learning needs. Furthermore, using the Day in the Life was considered useful for empathizing even more and being even more aware of what kind of day in which the learning structure needed to be integrated. Furthermore, conducting a Brainstorming activity about previous experiences in learning activities had been extremely useful for considering the participants' knowledge about what had and had not worked previously in the organization. This was a useful source of input for the design of new learning activities in the learning structure.

With regard to the output, this was considered to be sufficiently detailed to move on onto the next step in the learning structure creation process (this is not included in this thesis).

Appendix 21: Detailed narrative of Action Research in SENER S.A.

DETAILED NARRATIVE OF ACTION RESEARCH IN SENER S.A.

In this appendix the four steps carried out in each of the three cycles of Action Research in SENER S.A. are presented in detail: construction, planning action, taking action, and evaluating action.

CYCLE 1: CONSTRUCTION:

We held a face-to-face meeting where the organization's steering-team and the researchers came together to talk generally about how the project was going to be approached and what the first step would be.

This first meeting enabled the research team to understand what the organization's problem and the areas they wanted to change and improve. They wanted to improve their current organizational learning structure, particularly in two aspects; first, to identify the existing informal learning practices for sharing the best practices with them and, second, to increase socially learned practices by making the existing knowledge flow among the employees.

Nevertheless, before making any changes in the organization, we needed in-depth knowledge of the organization's current learning structure in order to understand what was going on. We wanted to identify the strengths and weaknesses of the current organizational learning structure, and so we started to plann the first action.

CYCLE 1: ACTION PLANNING:

Once the initial construct was created, we planned what the first action would be, that is, what is going to be done, when, and, by who.

As previously described in the methodology, Chapter 3, we decided to conduct 27 individual semi-structured interviews with mid-level managers; 27 out of the 30 managers of the organization's knowledge areas and participants in the identification of learning needs of their team. These were chosen because the aim of this first cycle was to characterize their current organizational learning structure and, to do so, it was necessary to obtain the information from those directly involved in the process of building the learning structure each year.

All of the interviews were face-to-face or online and lasted around one hour. The questionnaire included 11 questions to guide the interview (Appendix 8), but the aim was to extract as much information as possible from the interviewees about the current organizational learning structure. The questions were based on the literature and the objective of this thesis.

CYCLE 1: TAKING ACTION:

For implementing the planned action, the interviewees were called for an interview which was carried out in their own office. The researchers went there and conducted each individual interview. The results from those interviews are presented next and organized by theme, that is, those that comprise the theoretical model of this thesis (Chapter 3). Nevertheless, the first theme in an "extra" one where the process for creating their current organizational learning structure is described.

CYCLE 1: EVALUATING ACTION:

In order to close this first cycle, a face-to-face meeting was held between the organization's steering-team and the researchers.

It was considered that the action taken was useful and allowed for gathering more details on the organization's initial situation in regard to the organizational learning structure. Although in general the results did not surprise the organization's steering-team, they did see that some managers are more active than others when organizing or encouraging informal learning practices within their team.

The data analysis revealed that the initial objectives of the project made sense. There were some best learning practices going on that were worth sharing with other teams in the organization, with many highly-qualified people with much knowledge that can be of interest to others for better performance or even upskilling, although the current knowledge sharing practices (particularly among departments) were improvable.

The evaluation and results of this first cycle encouraged us to think about what the next step should be, that is, the beginning of the second cycle.

CYCLE 2: CONSTRUCTING

In the same meeting in which Cycle 1 was closed, this construction step of Cycle 2 was carried out.

Through the analysis of results in Cycle 1 it was established that there are improvable areas in knowledge sharing practices for making knowledge flow among the employees and, there are some good informal learning practices that would be interesting to share with the rest of the organization in case it may be useful for others, which was the main focus of this project for both organizations.

In this scenario, the next action to be taken would be to define the foundations of the new organization's learning structure that will contribute to the enterprise's objectives (as mentioned above). From the beginning of the project, both the steering team and researchers considered it necessary to have a high involvement of the employees in this project, that is, for them to be part of the project from the beginning and for this not to be an isolated project involving just a few people from HR. This was the main premise when choosing the participants[32].

Furthermore, when talking about an organizational learning structure, the employees are the ones who are going to experience the change in how learning proceeds in the organization. And, for them to actively participate in it, it is necessary to engage them from the beginning. Moreover, they are the ones who really know what their learning needs and difficulties are, and so their participation would be of high value.

Under this premise, it was time for planning the next step, and the next action.

CYCLE 2: PLANNING ACTION:

Once the situation was analyzed and it was decided that the foundations of the organizational learning structure should be defined in a collaborative manner, the action was planned for its co-definition.

It was decided that the next action would be to hold four working sessions with a group of project managers from two different knowledge areas, who could spread the change that is coming in the organizational learning structure and begin to sensitize colleagues. Furthermore, as managers, the aim was to inspire them and encourage them to start making changes in how they support learning in their team, and to start making it part of work. These participants would bring to the table their experience and opinions about the current organizational learning activities and resources, not just theirs but those of

[32] Further details in Chapter 3, Methodology.

their teams. Further, they would co-define the foundations of a new organizational learning approach, which is the way to truly attend to the organization's learning needs.

In the **first session**, we tackled the importance of self-directed learning. We worked on the creation of a digital PLE (Personal Learning Environment) by taking a look at various free digital tools that could be used to search for information of interest and how to take advantage of different webpages to automatize and organize the incoming information. Furthermore, in this same session, we talked about the importance of organizational learning and being a lifelong learner in such a fast-changing environment, particularly in the market in which they operate.

In the **second session**, we invited a **Lego Serious Play** expert who carried out a 2h session for leading the team to define the foundations of the learning strategy of the organization. Moreover, we used part of this session to share with them the initial diagnosis we had made about their organization's current learning strategy and structure in order to test this with them and complete it if necessary. This was done immediately after the Lego Serious Play activity as we did not want to influence them before the game.

In the **third session**, taking advantage of **Empathy Map** and **Day in the Life** tools, we chose two different roles (an Engineer and a Project Manager, one from each knowledge area that the participants were representing) and explored their professional profile and everyday tasks in depth. This allowed for creating greater empathy with those people and to identify the supporters and detractors in their workplace when it comes to integrating learning practices into their day.

In the **fourth session**, we addressed the main concern that appeared at the end of the previous session: how to motivate people. So, we explained the different motivation sources of people for learning and how to support it. Moreover, referring back to the "Day in the Life" carried out in the last session, we performed a **brainstorming** activity for them to identify possible learning actions that could fit into the workflow.

CYCLE 2: TAKING ACTION

For implementing the planned action, the participants were called to take part in four working sessions. These were face-to-face and took place at the headquarters of the organization. The four working sessions with the participants were carried out within the expected timeframe and included the activities planned for each session.

The working sessions required the participants to write on a word or Excel document or to draw on paper and post-it notes. The Excel and word documents were collected and those on paper were photographed.

CYCLE 2: EVALUATING ACTION

After each session of the implementation, there was a meeting to assess and discuss the outcomes of the session and adjust the next session accordingly. The organization's steering-team and the researchers reflected on the outcomes and checked if the aim of the session was achieved. And, to close this first cycle, a face-to-face meeting was held between both parties.

Overall, it was considered that the action taken was useful and allowed for collaboratively defining the foundations of the organization's new learning structure. From the steering-team perspective, the working sessions were positive, the participants were committed and contributed significantly with their opinions and ideas.

The participants also acquired the following new knowledge:

- They have seen that there are other ways of learning apart from attending training courses.
- There are other methodologies and digital tools they can take advantage of, which can be readily integrated into their work. Further, it would be useful to show other colleagues how to create their own PLE.
- They have been reassured that the people in the enterprise have potential, that is, they have good people.
- They realized that by having a more flexible approach and a more dynamic mindset, they can become more flexible themselves and learn in new ways.
- They found the "Day in the Life" technique useful for suggesting more realistic learning activities for their workdays.

Noneetheless, some improvable aspects were identified concerning the project and its future:

- The participants were not clear on their role in this project from now on.
- The project looks acceptable and it would solve some of the problems they have when working, such as better communication among departments or knowledge areas. But it is necessary to keep track of the progress made when this project is implemented, otherwise we will not be able to ensure that results are being achieved.
- Since the project appears to be big and ambitious, it would be necessary to begin with small changes integrated in the workflow and increase them gradually for it to evolve and grow naturally.
- For this project to succeed, there is much work to be done in terms of motivating the employees to jump in and to secure their commitment by showing them its benefits.

CYCLE 3: CONSTRUCTING:

In the final step of the previous cycle, as in the case of Laboral Kutxa S.Coop., we realized the importance of having an appropriate process for creating the new organizational learning structure (which is defined in Chapter 5, Section 5.4.). This third cycle is therefore about implementing such a process, and the first three steps of the process are: "Co-defining the learning-needs and KPIs"; "Co-prioritizing the learning needs"; and "Designing the learning activities". Strategically, the organization wanted to tackle two knowledge areas first and so we began to design a learning structure for them and with them.

The next step was to plan the action in this third cycle.

CYCLE 3: PLANNING ACTION

For defining a learning structure following the new process, the first step is "Co-defining the learning-needs and KPIs", an action that needs to be carried out collaboratively with the users of the learning structure being created. To do so, 15 people were invited to take part in five co-creation sessions, seven with the role of Team Managers and eight people with the role of Project Managers. They were all the future users of the learning structure under construction and, they represented the rest of their colleagues with the same role.

The number of participants allowed for gathering a variety of viewpoints but the group was also sufficiently small to ensure that everyone actively took part and had his/her space to talk. Both teams have worked synchronously, one next to each other in the same working sessions:

The purpose of the **First session** was to present the project, and was the opening of this implementation step. It was focused on explaining the origin of the project and its importance (based on theoretical and practical aspects), as well as the role of the people in the sessions and what was expected from them. Each of the groups had to bring to the table their current learning needs and those of people in the same role in the organization. They are the ones that know that role and job position the best since they experience it every day. Furthermore, they know their current learning activities in the job and have an opinion about what works best for their role.

A further aim of this first session was to support their individual self-directed learning by teaching them how to start creating their digital PLE (Personal Learning Environment) by looking at various free digital free tools that could be used to search for information of interest and how to take advantage of different webpages to automatize and organize the incoming information.

The **second session** was held online in a webinar format where all participants were connected live. The aim of this session was not to inform but for the users to know why

learning is important in the current era and what other ways of learning are available other than formal training courses (their organization's main current approach).

The third session aimed to identify the users' learning needs, the ones who are going to be using the learning structures we are defining.

First, an **Empathy Map** was drawn of an average user of the learning structure. They had to think about themselves and their colleagues and, in teams, draw the average user. Once they had the person in mind, the particular learning-needs (the knowledge and skills to be learned or acquired) were written down.

In the **Fourth session**, each team drew a "Day in the Life" of the average user they characterized in the previous session, that is, his/her average day at work in order to identify the main performance difficulties, current learning habits, and the potential new learning moments in the day. Furthermore, having it drawn allowed them to identify which moments and activities could be used to integrate learning activities into the workflow, and to identify the facilitators and barriers in their workplace when it comes to integrating learning practices into their day.

The previously identified learning needs were then prioritized by using a prioritizing matrix with the aim of identifying which needs were to be addressed first in order to define which learning activities should first be created for the team.

Last but not least, the fourth session ended by carrying out a brainstorming activity about possible learning activities, methodologies and resources that could attend to those learning needs. To do so, they were asked to think about previous learning experiences that have worked (or not).

The **Fifth session** was focused on reviewing all the work done by each of the teams during the previous four sessions and preparing the final presentation. Several organizational managers were invited (from top managers to colleagues) to this presentation, which was to take place in person in Bilbao but also streamed for the people who could not physically attend.

The aim of this presentation was to show the attendees the new learning approach being taken by the organization, to present what they had been working on in the sessions, the learning needs they had identified and the importance of having efficient learning practices for their work performance and development.

CYCLE 3: TAKING ACTION

For implementing the planned action, the participants were called to take part in four working sessions. These were face-to-face and took place in the headquarters of the organization. The four working sessions with the participants have been carried out within the expected timeframe and included the activities planned for each session (Figure 14).

As in cycle 2, the working session required the participants to write in a word or Excel document or draw on paper and post-it notes. The Excel and word documents have been collected and those on paper were photographed.

CYCLE 3: EVALUATING ACTION

After each session of the implementation, a meeting was held to assess and discuss the outcomes of the session and adjust the next session accordingly. The organization's steering-team and the researchers reflected on the outcomes and checked if the aim of the session had been achieved. And to close this first cycle, a face-to-face meeting was held between both parties.

Overall, it was considered that the action taken was useful and allowed for collaboratively defining the learning needs of both groups for which the learning structure was being created. The participants were able to see that there are other activities for learning and that in SENER things can be done differently as well as the importance of sharing knowledge with colleagues and having access to such knowledge. From the steering-team perspective, the working sessions were positive, the participants where committed and made a significant contribution with their opinions and ideas. Nevertheless, some improvable aspects were identified concerning the project and its future:

- The webinar was too long (2h 30') and participation was difficult since it was not structured. Moreover, the small talks that took place in each location could not be heard and interesting topics or comments may have been missed.

- Now, how are we going to make this real? How are we going to implement these new learning practices at work? The participants missed out on seeing and knowing how all this is going to work.

- Participants thought that these sessions would result in the generation of a clear learning structure ready to be implemented, which is what they expected to be presenting in the final presentation. But this was not the case

- A clearer explanation is needed of how this new learning approach will contribute to the organization for the higher managers to support the project, along with the issue of how time for learning will be integrated into the workflow.

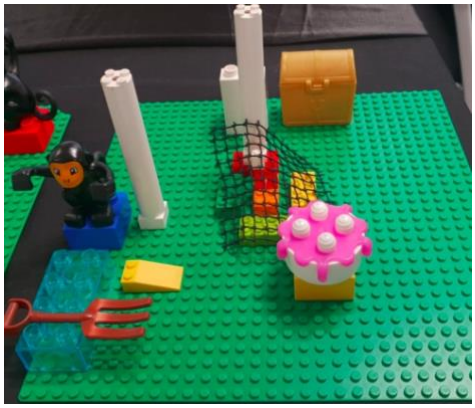
- It would have been positive to work between sessions and advance the project in teams. This could have helped to keep the participants engaged in the project (said by participants).

- A common vision in the whole organization is needed, otherwise it will be difficult to integrate informal learning activities.

- Whilst they have learned much, not all employees will have had the opportunity to take part in these kinds of sessions and so they have doubts about how they are going to engage with the project.

These improbable aspects were addressed by the participants in the last two working sessions, and the steering-team agreed with them. The steering team was expecting to have a specific design of the learning structure ready to be implemented at the beginning of 2020. An important lesson was learned from the evaluation of this cycle: it is essential to clearly co-define the aim of each intervention and what output is expected to be achieved.

Appendix 22: Results from Lego Serious Play, Laboral Kutxa S.Coop.



GROUP 1
Modelo colaborativo, atractivo y motivador. Está orientado a que las personas consigan sus **objetivos** y que supera barreras entre lo profesional y lo personal.

Es un modelo en el que las personas quieren participar voluntariamente y cambiar, que incluye **herramientas** adecuadas (usables) con **metodologías** variadas y de aplicación en el trabajo para lo que se requiere de espacios y tiempos de calidad. Un modelo que es ágil y **adaptable** al cambio.

GROUP 2
Amedio llegó a la ladera donde se encontró seres **felices, satisfechos y protagonistas** de su vida. ¿Por qué será?, se preguntó. Observó que la vaca compartía con el tigre de la sabiduría ancestral de su especie e invitaba a Dora a participar en un proyecto en común. Amedio concluyó que la ladera era un entorno agradable, ilusionante donde se **aceptaban y compartían** todas las ideas. La vida era dinámica, transparente, fluida, ágil, fácil e intruitita, ¡qué felicidad!

Entorno agradable, alegre e ilusionante. **Espacios** y dinámicas para compartir, conexión, entornos colaborativos. Formación **adaptable**, diversa, personalizada y multicolor. Personas felices, satisfechas protagonistas de su desarrollo. Proceso **dinámico, transparent**e, fluido, ágil, fácil e intuitivo.

Source: participants of the working sessions in Cycle 1, Laboral Kutxa S.Coop., 2019

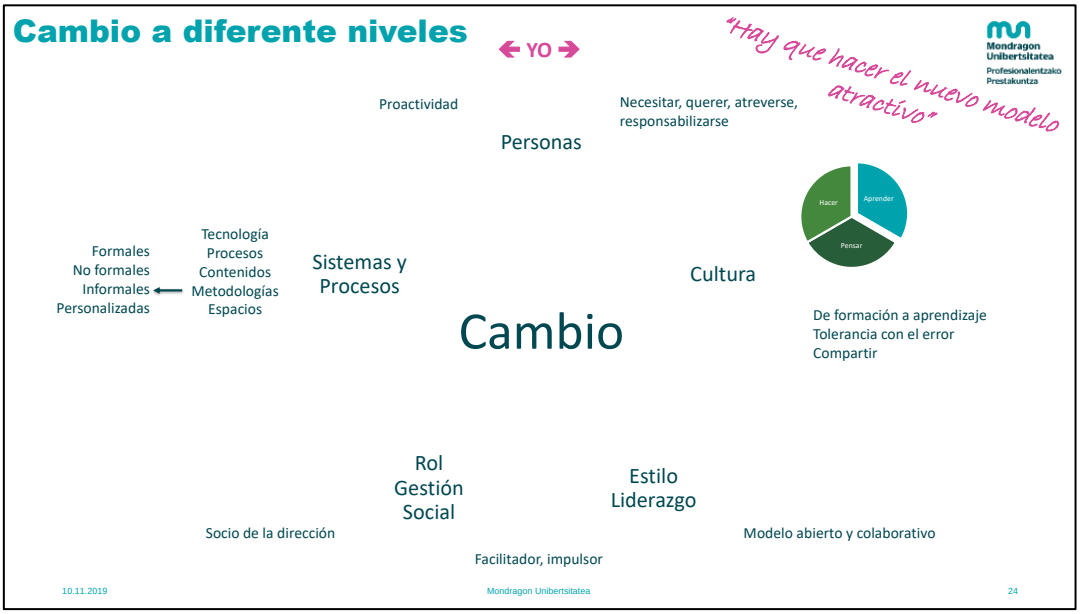
GROUP 3
El modelo de aprendizaje de LK tiene que responder a las necesidades de las personas entendidas como **únicos/as** en la entidad. Un sistema sustentado en la tecnología con los soportes actuales y venideros con **múltiples canales** de información. Asimismo, los contenidos del nuevo modelo serán **coherentes con la visión estratégica** de la entidad, intentando dar respuesta a los retos futuros, con sistemas abiertos, sencillos e innovadores.

Todo ello deberá estar engranado con la cultura que facilite y refuerce el compromiso, la motivación, la ilusión y la proactividad. Con este modelo generamos contenido para la **transformación del conocimiento a los puestos de trabajo.**
Persona como individuo. Colectivo de personas. Abierto al futuro. Sistemas abiertos, sencillos, innovadores, coherentes. Móvil. Motivación. Ilusión y motivación. Entidad-personas como engranaje. Transferencia del conocimiento a la práctica en el puesto de trabajo. Proactividad-compromiso.

Appendix 23: What methodologies should there be in the new organizational learning structure, Laboral Kutxa S.Coop.

Source: participants in the working sessions in cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 24: What should be changed to develop the new organizational learning structure, Laboral Kutxa S.Coop.



Source: participants in the working sessions in cycle 1, Laboral Kutxa S.Coop, 2019

Appendix 25: Learning activities (simulation) team 1, Laboral Kutxa S.Coop.

TEAM 1			
EL NEGOCIO, BANCA			
Acciones, Conocimientos	**70**	**20**	**10**
Hacer conscientes a las personas de la importancia Cta Rtdos negocio mercantil, seguros, diversificación pasivo		DZ sensibilización en CZ	
Impacto Omnicanalidad Negocio	Comunidad de Práctica		
Proactividad	Onenak 4.0	Onenak 4.0	Onenak 4.0
Reciclaje / transformación personas (puestos de trabajo)		Seguimiento personalizado	Plan específico
"Robotización plantilla" -automatización de ciertas funciones-		Networking	
GAP Generacional	A.B.P (análisis basados en proyectos)	Lekuko	
Estrategias de la competencia	MS	Charlas / Congresos / Seminarios	
Nuevos negocios			Curso en U. Deusto Block-Chain
Perfíles lingüisticos	Práctica diaria	BB Helburu	Plan de formación
Planes Carrera Profesional (ofrecer a eventuales un proyecto)	Mentoring		

Source: team 2 from the working sessions in cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 26: Learning activities (simulation) team 2, Laboral Kutxa S.Coop.

TEAM 2			
ORIENTACIÓN AL CLIENTE			
CONOCIMIENTOS	**70**	**20**	**10**
BUSQUEDA DEL CLIENTE	*El Director identifica los grupos de interés de la plaza (instituciones públicas, educativas, asociaciones de comercios, culturales etc..,) para detectar los mecanismos de activación de clientes. *Involucrar al responsable de convenios para que esté más cerca de las sucursales	*Compartir experiencias y buenas prácticas red nueva/red consolidada a través de directores que abrieron oficinas.	*Recoger información sobre los clientes potenciales (bases de datos) y ponerlo a disposición de las oficinas. *Publicitar en la Intranet convenios firmados con distintas asociaciones y colegios profesionales, colgando la relación de asociados
CAPTACION DEL CLIENTE	*Presentarse y darse a conocer.*Iniciar mecanismos activación: realizar presentaciones en foros, realizar visitas, participar en actividades de la plaza...	*Acompañar e ir acompañado a la visita. Se pueden identificar "mentores": gestor empresa/director sucursal, director sucursal senior/junior, gestor Banca Premium/Banca Personal, Director/Gestor PRO, GES/Gestor PRO...*Que el Director de Zona acompañe al Director Sucursal en presentaciones públicas	*Biblioteca compartida con documentos soporte *Introducirle en el itinerario de cliente correspondiente (y definido con anterioridad). *Formación para la realización de presentaciones.
VINCULACION DEL CLIENTE	*Realizar una gestión de relación recurrente multicanal con seguimiento cuatrimestral. *Trabajar proactivamente las campañas centralizadas.	*Reuniones on-line para compartir experiencias con otros dtores. De oficina. *Generar dinámicas (reuniones) para compartir experiencias entre oficinas del mismo tipo (dimensión, fase madurez responsable...).	*Formación en habilidades y herramientas de comunicación (multicanal: oral, digital, skype...)*Habilidades de negociación *Habilidades de venta
FIDELIZACION DEL CLIENTE	*Realizar una gestión de relación recurrente multicanal con seguimiento semestral		
CLIENTE PRESCRIPTOR			

Source: Team 2 from the working sessions in Cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 27: Learning activities (simulation) team 2, Laboral Kutxa S.Coop.

TEAM 3			
NORMATIVAS Y LEYES EN GESTION SOCIAL			
Conocimientos	**70**	**20**	**10**
NORMATIVAS SOBRE HORARIOS/NORMAS LABORALES		Webinar sobre los cambios. Lo realizamos la primera quincena de febrero. Las herramientas que utilizaremos son LYNK y KAHOOT	
PERMISOS RETRIBUIDOS/NO RETRIBUIDOS	APP sobre permisos, que engloba todo. Ofrece información en el momento que se consulta. Se realizará para octubre 2019		
FISCALIDAD		2: compartir la sesión recibida por las personas de Admón de Personal con el resto del equipo. Utilizaremos la herramienta KAHOOT.	1: Garrigues: Ofrece información actualizada sobre la fiscalidad de los rendimientos de trabajo. Finales de enero. Sesión para las personas de Admón de Personal
CONCILIACION FAMILIAR-LABORAL		1: Tertulias para obtener información sobre posibles nuevas medidas de conciliación, con un relación saludable. Estas tertulias serán anuales. De esta manera conoceremos las necesidades reales del colectivo.	2 : Realizar un video sobre las diferentes medidas de conciliación.
SISTEMA LAGUNARO Y SEG. SOCIAL	APP de LagunAro sobre diferentes prestaciones	Preparatorias de la asamblea de LagunAro (marzo). Desde Admon. Se ofrecerá una charla informativa con la información (en abril)	
CONTRATACION DE EVENTUALES			Video sobre las modalidades de contratación de eventuales (en junio)
CONVENIO UNACC		2: compartir la sesión recibida por las personas de Admón de Personal con el resto del equipo. Utilizaremos la herramienta KAHOOT.	1: Garrigues: Ofrece información actualizada sobre el convenio de la UNACC. Finales de enero.
PRESTACIONES S. SOCIAL		Crear una comunidad sobre normativas de prestaciones	Podcats sobre diferentes temas.
CUMPLIMIENTO NORMATIVO-LOPD			Gamificación bianual. TRIVIAL sobre la LOPD
PREVENCIÓN RIESGOS LABORALES			Gamificación bianual. TRIVIAL sobre Prevención de Riesgos Laborales

Source: Team 3 from the working sessions in Cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 28: Learning activities (simulation) team 4, Laboral Kutxa S.Coop.

TEAM 4			
TENDENCIAS DIGITALES EN BANCA Y SEGUROS			
CONOCIMIENTOS	**70**	**20**	**10**
1.SEGURIDAD DIGITAL BANCARIA – BLOCKCHAIN		Galdegin del departamento de teconología	
2.APLICACIÓN DE SISTEMAS DE SEGURIDAD	Garatuz páginas web		
3.CRIPTOMONEDAS			Webinar con una persona experta
4.RELACIÓN OMNICANALIDAD	Jornadas de alternancia temporal		
5.DISPOSITIVOS DIGITALES (MOVILES, TABLETS, *WEARABLES*)		Sesión interna para compartir conocimeintos. Círculos de aprendizaje. Training sessions.	
6.FINTECH COMPETIDORES		Comunidad de aprendizaje en la que se compartan conocimientos	
7.NUEVAS SEGUROS PARA NUEVOS PRODUCTOS		Compartir los nuevos modelos de seguros para los nuevos productos	
8.CHATBOTS E INTELIGENCIA ARTIFICIAL	Mentoring inverso		
9.METODOLOGIA AGILE		Desayuno con personas de tecnología para que nos cuenten su experiencia	
10.PUBLICIDAD, MARKETING Y VENTA EN REDES SOCIALES		Redes sociales internas	
11.DATA ANALYTICS			Programa “Ik business analytic”

Source: Team 4 from the working sessions in Cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 29: Learning activities (simulation) team 5, Laboral Kutxa S.Coop.

TEAM 5			
REDES SOCIALES EN TU VIDA			
Conocimientos	**70**	**20**	**10**
Conocimiento utilidades RRSS			Módulos multicanalidad. Formación online en marzo.
Aplicación interna RRSS		Garatuz: experto interno. Desayuno en abril.	
Búsqueda talento	Búsqueda candidato, puesto formación		
Aprendizaje			Podcast, blogs,…
Leyes y normativas		Foros	Formación presencial sobre cambios legislativos.
Nuevas tendencias RRHH	Utilizar Linkedin		
Comunicación interna		Comunidad	
Relación jubilados		Comunidad	
Impulso uso Euskera		Desayuno con Kike Amonarriz	
Experiencias saludables	Participación rutas saludables, Wikiloc.		

Source: team 5 from the working sessions in cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 30: Learning activities (simulation) team 6, Laboral Kutxa S.Coop.

EQUIPO 6			
TENDENCIAS EN RRHH			
CONOCIMIENTOS	**70**	**20**	**10**
De la formación al aprendizaje	Comunidades de prácticas		
People analytics	Desarrollo de un proyecto para analizar correlación entre desarrollo y rendimiento		
Employer branding		Storytelling (crear y compartir)	
Desarrollo de competencias digitales	El proyecto interno BIDEAN + Mentoring inverso		
Empresa saludable		Promover grupos de intereses comunes de actividad física (marcha nórdica,…)	
Estructuras y metodologías ágiles	Utilizar la metodología "agile" en los proyectos de gestión social		
Transformación del puesto de trabajo (*job crafting*)	El programa interno Onenak 4.0.		
Gestión del compromiso		Red social interna como vehículo prioritario de comunicación de la alta dirección	
Experiencia del empleado			itinerario formativo teórico-práctico
Cambios en el modelo de liderazgo			Banco de recursos de micro-aprendizaje

Source: Team 6 from the working sessions in Cycle 1, Laboral Kutxa S.Coop., 2019

Appendix 31: Knowledge area no.1, the users' profile, Laboral Kutxa S.Coop.

EMPATHY MAP, Knowledge area no.1				
	Su rol (Role)	**Qué le preocupa (Pains)**	**Qué retos 2020 (Challenges)**	**Qué le motiva (Gains)**
GES	Venta especialista y soporte integral.	Cumplir mis objetivos de venta por mi seguimiento individual. ¿Qué va a ser de mi? ¿Seré socio/a o no? ¿Y si pudiera vender productos financieros? Lo que le preocupa a mi jefe. Que el PRO no me robe masivos…	Cumplir mis objetivos de venta: mantener en masivos y PRO, y aumentar personales. Retención de cartera.	Cumplir con sus objetivos/retos individuales. La posibilidad de ser socio de LK.
GES PRO y Empresa	Venta especialista y soporte técnico (a GES) de productos pro.	Desconocimiento de su puesto (es puesto nuevo), incertidumbre. Necesidad de formarme/aprender para el nuevo puesto. ¿Quién me ofrece soporte a mi (servicio, productos, técnico, …)? Cumplir mis objetivos.	Aumentar de ventas de seguros personales y Micro-PYMEs. Retención y regularización de cartera. Posibilidad de consolidación en LK con este rol.	El cambio de puesto que voy a realizar siendo ahora GES PRO. Este perfil me diferencia, "soy el elegido". Es un rol más profesional. Más flexibilidad en la organización de la jornada.
G Finan Operativo en Oficina grande + En oficina con GES	Caja: Detectar oportunidades de venta y prescribir seguros.	**Caja:** Tener cola de clientes en la oficina. e empieza a oír: reducción de horas en la caja. "Kutxabank abre oficinas mañana y tarde". **Mesa:** el desconocimiento de producto. **Perfil proactivo:** El futuro de su rol, ¿seguirá existiendo? ¿cuál será el rol? Si voy a tener menos horas de caja (empiezo a oírlo), ¿a qué dedicaré ese tiempo "libre"? ¿Tengo los medios para prepararme para ese cambio de rol? ¿Cuál será mi proyección en LK? Falta de motivación en mi puesto.	Asimilar y adaptarme a la evolución que requiere mi puesto. No está del todo asimilado, pero empieza a oírse. Capacitarme para ser más empleable. Progresar dentro de LK.	Jóvenes: progresar dentro de LK.
G Finan Operativo en Oficina pequeña + En oficina sin GES	Detectar oportunidades de venta, prescribir seguros y vender.	Estar más capacitado en el mundo del seguro, "nos toca de todo" Los resultados de la oficina. Mi progresión dentro de LK. La venta de seguros, conseguir los objetivos.	Alcanzar la capacitación que necesito en el tema de seguros.	Ser parte importante de la oficina y conseguir objetivos como oficina. Tener opción de progresar en LK. "He sido capaz de empezar a vender más seguros".
G Financiero en Oficina grande (BP+PRO+Top) + En oficina con GES	BP: gestionar el pasivo + Prescriptor de seguros personales. PRO: gestionar el activo mercantil + prescriptor de seguros mercantiles. TOP: gestión de fuera de balance y asesoramiento puntual. Todos: vender masivos.	BP: tener que vender seguros a sus clientes actuales, puede contaminar la relación. Supone un tiempo extra en la reunión con mi cliente (la reunión de por sí ya dura 1,5h). PRO: ¿prescribo o vendo? Que el GES no me robe masivos… TOP: disponibilidad para hacer gestiones de valor.	Cara a 2020: que todos mis clientes vinculados tengan una oferta de seguros.	Conseguir una mayor vinculación de mi cliente. Me resultará más fácil venderle otros productos a futuro.
Director en Oficina grande (BP+PRO+Top) + En oficina con GES	Supervisión del equipo de la oficina. Dinamización del negocio de seguros en su oficina.	Cumplir el objetivo de seguros de la oficina.	Cumplir con los retos de la entidad e, involucrar a toda su plantilla en el tema de seguros.	

G Financiero en Oficina pequeña + En oficina sin GES o con GES Multi	PRO: gestionar el activo mercantil + prescriptor de seguros mercantiles. (TOP: gestión de fuera de balance y asesoramiento puntual). Vender masivos.	Conocer bien mi producto de seguros y de la competencia para ser capaz para hacer ventas más complejas.	Rentabilizar la oficina en seguros.	Que la oficina funcione bien, que cumpla los objetivos.
Director en Oficina pequeña + En oficina sin GES o con GES Multi	Supervisión del equipo de la oficina. Dinamización del negocio de seguros en su oficina. Tiene un gran peso en la venta por su parte.	Cumplir el objetivo de seguros de la oficina. Tener la capacidad de organizarse bien para llevar bien la gestión y la venta activamente (vender yo).	Cumplir con los retos de la entidad e, involucrar a toda su plantilla en el tema de seguros y motivarlos.	Que su equipo se sienta parte importante de los objetivos.

Source: the participants in the working sessions in Cycle 2, Laboral Kutxa S.Coop, 2019

Appendix 32: Knowledge area no.2, the users' profile, Laboral Kutxa S.Coop.

PFB, Knowledge are no.2	
	EMPATHY MAP
PERFIL (PROFILE, ROLE)	BITTOR, 52 años, Jefe de Zona Red Tradicional
RETOS (CHALLENGES)	Que la gente esté motivada, que se encuentre cómoda en el trabajo que tiene que hacer
	Seguir mensualmente consecución objetivos. Si la gente está cómoda y motivada, saldrán bien
MOTIVATIONS (GAINS)	Cumplimiento Objetivos Comerciales alineando intereses Zona con intereses Entidad
	Quedar en la media en la foto
QUE LE PREOCUPA (PAINS)	Motivar a la gente de la Zona para que venda
	Vender muchas Hipotecas, Seguros, Fondos……

Source: the participants in the working sessions in Cycle 2, Laboral Kutxa S.Coop, 2019

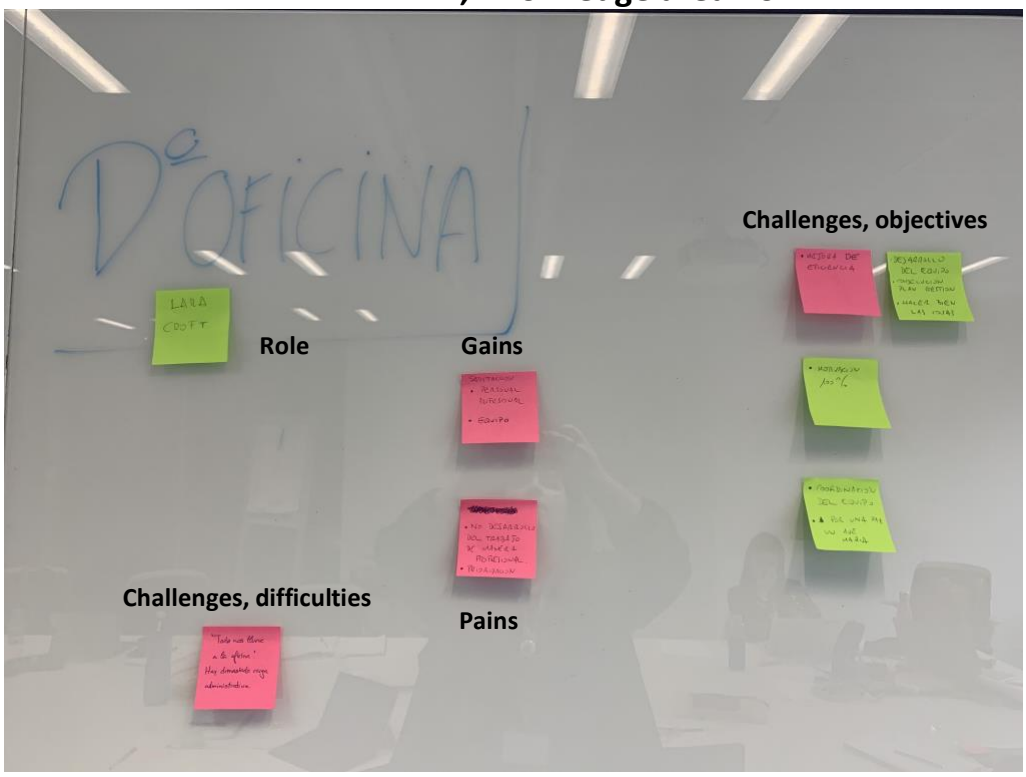
Appendix 33: Knowledge area no.3, the users' profile, Laboral Kutxa S.Coop.

EMPATHY MAP, Knowledge area no.3	
PERFIL (PROFILE, ROLE)	Jon, 45 años. 15 años trabajando, es gestor de cartera. Trabaja en oficina mediana en una capital. Tiene un perfil medio, en cuanto a ventas.
MOTIVACIONES (GAINS)	Orientación a la satisfacción del cliente, la valoración positiva del cliente.
	Solucionar problemas de manera satisfactoria.
PREOCUPACIÓN (PAINS)	Cumplir los objetivos de venta
	Que los sistemas digitales donde trabajo funcionen bien y sean estables.
	Estar preparado por si vienen cambios en mi rol, parece que la atención en oficina está perdiendo fuerza.
OBJETIVOS, RETOS (CHALLENGES)	Cumplir con la agenda del día.
	Desarrollo: estar preparado y dominar funciones futuras
	Consolidarme en la empresa, opciones de promoción.

Source: participants in the working sessions in Cycle 2, Laboral Kutxa S.Coop, 2019

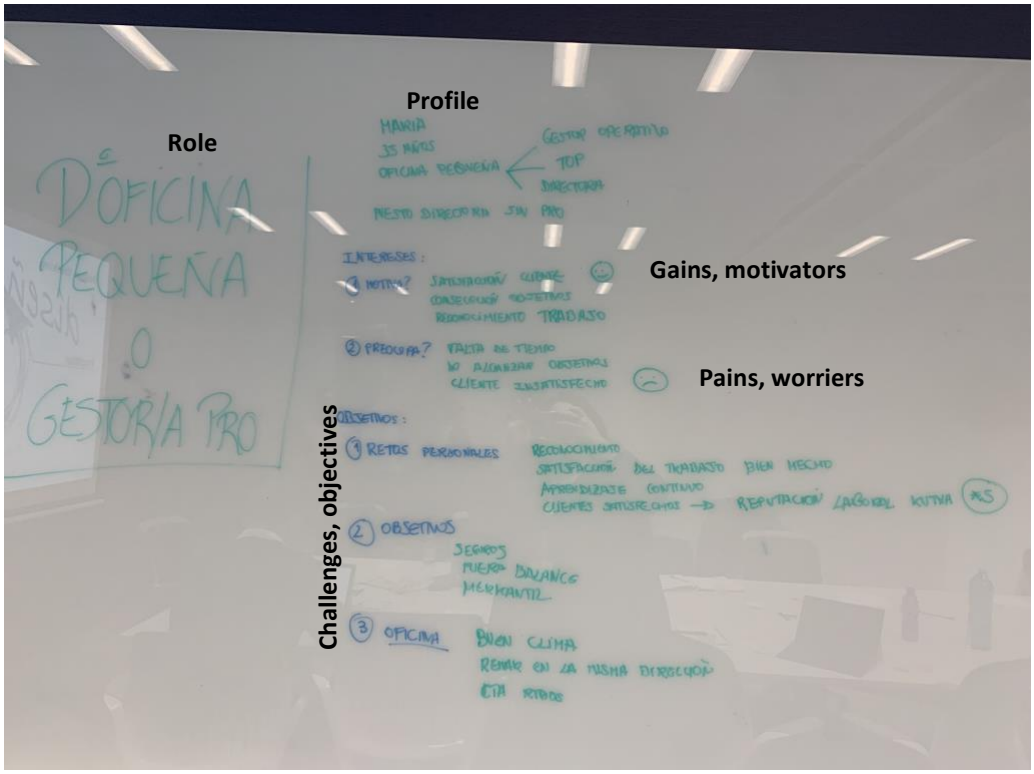
Appendix 34: Knowledge area no.4, the users' profile 1, Laboral Kutxa S.Coop.

EMPATHY MAP, Knowledge area no.4



Source: participants in the working sessions in Cycle 2, Laboral Kutxa S.Coop, 2019

Appendix 35: Knowledge area no.4, the users' profile 2, Laboral Kutxa S.Coop.



Source: participants in the working sessions in Cycle 2, Laboral Kutxa S.Coop, 2019

Appendix 36: Learning needs of the users in knowledge area no.1, Laboral Kutxa S.Coop.

Learning Needs, Knowledge area no.1				
Dominio de Conocimiento	**Conocimientos**		**Metodologías/Acciones de aprendizaje**	**Dirigido a**
Negocio	Paquete básico, iniciación: conocimiento general sobre los seguros y el mercado asegurador, información sobre los productos que vendemos, conocer el argumentario de venta de autos y hogar y saber qué producto ofrecer en cada caso. Conocimiento muy aterrizado para iniciarse en la oferta de proyectos.		Material escrito y/o en vídeo. Colgado en Garatuz. Material muy aterrizado al día a día, práctico. Fácil de utilizar.	Gestores financieros
Negocio	Paquete básico 2: repasar los productos que vendemos, conocer mayor detalle sobre cada uno de ellos. Conocer a fondo el argumentario de venta y el modelo comercial.		Talleres presenciales. Prework: reflexión sobre necesidades particulares en la venta de los seguros. El taller: resolver dudas particulares y hacer simulación de venta. Postwork: continuar practicando (no perder la costumbre) a través de mentoring. Como mentores: Responsables de Zona de Seguros y GES?	
Comercial	Paquete avanzado: resolver dudas particulares. Y practicar el proceso de venta.		Mostrar prácticas effectivas de otros compañeros, de pares.	
Negocio	Conocer las implicaciones de la venta de seguros, conocer más los productos que se ofrecen,… Hacer algo muy acercado a su realidad.		Sensibilizar al Gestor Financiero de la importancia de la venta de estos productos.	Directores de Zona (financieros) y Directores de oficina.
Negocio	Conocer temas regulatorios: ley de distribución,…		Incentivar los resultados grupales de la oficina, premios.	Gestores Financieros
Negocio	AUTOS, INDICADORES: Repaso muy somero de indicadores fundamentales: que es frecuencia, que es siniestralidad……Se ha realizado una mayor delegación, sobre todo de márgenes de negociación, también a los GGFF. Sería importante incorporar referencias de utilización medias y objetivo		Fomentar la empatía con otros roles dentro de la casa.	
Negocio	**AUTOS, PRODUCTO/MODALIDADES/COBERTURAS:** Sería una formación más profunda donde se muestre el porqué de todas y cada una de las coberturas. En esa formación incorporaríamos obviamente las coberturas de más reciente lanzamiento		Mentoring	
Comercial	Captación telefónica		Utilizar flipped classroom: una lectura o autoreflexión previa. Seguida de talleres presenciales para compartir buenas practicas o hacer role play.	
Comercial	necesidades financieras y de seguro del cliente.		Shadowing en el puesto de trabajo con un compañero que tiene buenas formas de vender.	

Negocio	Conocer a la competencia		En los talleres presenciales.	
Comercial	El cierre de la venta		Hacer un Skype mensual corto para responder las FAQ de la gente, para dudas y consultas del mes. Participación voluntaria.	
Negocio	Saber utilizar las herramientas de terceros para consultas básicas. Softwares específicos para la venta de seguros (cómo funcionan los aplicativos). SLASA/CASER		Hacer píldoras de e-learning utilizando el material que ya existe para informar más sobre los productos a vender.	
Comercial	Herramientas específicas para evaluar las necesiades de los clientes		Invitar a los GES (los que más saben sobre este tema) a que sean formadores internos.	
Negocio	AUTOS, Bonus-malus: quizás es el punto de más complicación dentro de la suscripción del ramo, trasladarles el funcionamiento, ver las posibilidades y en qué consisten.		Preguntarles primero qué dudas tienen y nosotros adaptarnos y dar una respuesta a sus necesidades.	
Negocio	**AUTOS, CRITERIOS BÁSICOS DE SELECCIÓN DE RIESGOS:** Lo centraría en la información/documentación que precisamos para aceptar, a fin de evitar que se nos trasladen casos que son inviables, y si lo son podamos resolver sin muchas gestiones de ida y vuelta (buscando un ahorro de gastos de gestión). Aquí podríamos incorporar el estudio la ficha de cliente (la ficha bonus malus), que en muchos casos muestran dificultades de interpretación		Organizar role-plays dentro de la rutina entre compañeros (puede ser por teléfono) para simular una venta con un cliente.	
Negocio	**Hogar: Formación técnica:** Coberturas, modalidades, límites, etc. Un fuerte repaso de las coberturas y modalidades, basado en teoría y ejemplos práctico sobre garantías y prestación de servicio.		Estructurar las prácticas de aprendizaje lo máximo posible, si se deja en lo voluntario no ocurre, el día a día "nos come".	
Negocio	**Hogar, Normativa**: Riesgos de aceptación condicionado, riesgos excluidos, etc**.** Muy importante que sepan las condiciones de nuestro contrato y las consecuencias de un incorrecto aseguramiento.		Retomar la hora formativa semanal, el rato para dedicárselo a aprender.	
Negocio	**Hogar, Operativa**: ¿Cómo podemos ser más eficientes en un autorización? ¿Qué información mínima necesaria requerimos? Muy importante que sepan las condiciones de nuestro contrato y las consecuencias de un incorrecto aseguramiento.		Acompañarlos en la gestión del cambio. Piensan que el seguro es un problema para ellos.	
Negocio	**Hogar: Formación de Negocio/Comercial**: ¿Qué riesgos son preferentes? ¿Qué hace que un riesgo sea "bueno" o "malo"? ¿Scoring? ¿Cartera? ¿Es igual un piso que un unifamilir? ¿Qué es el Scoring? ¿Cuál es el objetivo de %Sin y %Frec del Ramo?			
Negocio	**Hogar: Formación técnica:** Coberturas, modalidades, límites, etc. Aquí más que soltar la “txapa” creo que podríamos formar según la demanda de los propios GES. ¿Qué dudas tienen? ¿Podemos hacer un repositorio de estas? (Preguntas frecuentes)			GES
Negocio	**Hogar, Normativa**: Riesgos de aceptación condicionado, riesgos excluidos, etc**.** Muy importante que sepan las condiciones de nuestro contrato y las consecuencias de un incorrecto aseguramiento.			

Negocio	**Hogar Operativa**: ¿Cómo podemos ser más eficientes en una autorización? ¿Qué información mínima necesaria requerimos? Muy importante que sepan las condiciones de nuestro contrato y las consecuencias de un incorrecto aseguramiento.			
Negocio	**Hogar: Formación de Negocio/Comercial**: ¿Qué riesgos son preferentes? ¿Qué hace que un riesgo sea "bueno" o "malo"? ¿Scoring? ¿Cartera? ¿Es igual un piso que un unifamilir? ¿Qué es el Scoring? ¿Cuál es el objetivo de %Sin y %Frec del Ramo?			
Negocio	**Hogar: Formación técnica:** Coberturas, modalidades, límites, etc. Aquí toca meter contenido téorico porque siguen con muchas dudas.			
Negocio	**Hogar, Normativa y Operativa**: Riesgos de aceptación condicionado, riesgos excluidos, etc**.** Además de la normativa, aquí es muy importante recalcar los procedimientos e información mínima necesaria en las autorizaciones (tenemos de media 4,5 rebotes en una solicitud de excepción).			
Negocio	**Hogar: Formación de Negocio/Comercial**: ¿Qué riesgos son preferentes? ¿Qué hace que un riesgo sea "bueno" o "malo"? ¿Scoring? ¿Cartera? ¿Es igual un piso que un unifamilir? ¿Qué es el Scoring? ¿Cuál es el objetivo de %Sin y %Frec del Ramo?			
Negocio	Producto, PRO			
Digital	Herramientas digitales del negocio			
Negocio	Siniestros: conocer los criterios de tramitación.			
Negocio	Actualizaciones de los productos (de todos)			
Negocio	Conocer los productos y condiciones de la competencia.			
Negocio	Herramientas digitales del negocio			
Comercial	Estar al día en las necesidades reales de los clientes, en general en el mercado respecto a los seguros.			
Negocio	Producto, personales			
Comercial	Venta asesorada en personales. Detectar la necesidad del cliente. (el modelo que se está definiendo lo concretará) COMPRENDER Y PRACTICAR			
Comercial	Concertación telefónica para entrevistas de seguros personales. SENSIBILIZAR, COMPRENDER Y PRACTICAR			
Desarrollo habilidades	Ser formador interno			
Comercial	Reuniones efectivas para la venta			
Negocio	Producto, PRO-PYME			GES PRO y Empresa

Negocio	Producto, LagunAro			
Negocio	Herramientas digitales del negocio			
Negocio	Conocer el producto			
Comercial	Gestión de cartera y regularizaciones.			
Negocio	Siniestros: conocer los criterios de tramitación.			
Comercial	Dominar el modelo de entrevista pyme.			
Comercial	Dominar el modelo de entrevista "orienta"			
Negocio	Conocimiento básico de seguros masivos: autos y hogar.			G Finan Operativo en Oficina grande + En oficina con GES
Comercial	Detección de oportunidades desde su puesto como gestor operativo.			
Negocio	Dominar el modelo de prescripción			
Desarrollo habilidades	Habilidades para el cierre de venta.			
Negocio	Conocimiento profundo/alto de seguros masivos: autos y hogar.			
Negocio	Conocer cómo utilizar el aplicativo de AUTOs para consultar las dudas de los clientes (aunque luego llame a un especialista para mayor consulta)???			
Comercial	Técnicas de venta de seguros masivos.			
Negocio	Dominar el aplicativo: aprender a sacar un proyecto.			G Financiero en Oficina grande (BP+PRO+Top) + En oficina con GES. AUN NO TIENE CONVERSACIONES DE SEGUROS CON SUS CLIENTES (puede que estén prescribiendo a los GES)
Negocio	Conocer a fondo el producto			
Desarrollo habilidades				
Desarrollo habilidades	Saber argumentar y ofertar seguros. "Quitar el miedo" Practicarlo, poco a poco.			
Negocio	Concienciar sobre la importancia de que vendan seguros (y no delegar en el GES)			
Negocio	Conocer el argumentario de seguro de vida para su mejor venta.			
Negocio	Conocer lo que hace la competencia			G Financiero en Oficina grande (BP+PRO+Top) + En oficina con GES. ESTÁN EN CONVERSACIONES CON LOS CLIENTES PERO AÚN NO VENDE PÓLIZAS (tienen su propia cartera de clientes)
Negocio	Conocimiento específico de coberturas opcionales.			
Negocio	Conocer el argumentario de seguro de vida para su mejor venta.			
Comercial	Prescripción de seguros personales.			
Comercial	Cómo realizar una visita conjunta (PROs)			

Negocio	Conocer claramente tu aportación económica con tus ventas.			Director en Oficina grande (BP+PRO+Top) + En oficina con GES
Desarrollo habilidades	Herramientas de seguimiento del programa de Onenak			
Negocio	Conocer más a fondo el negocio de seguros			
Desarrollo habilidades	Cómo analizar la información sobre desempeño y utilizarla en las entrevistas realizadas con los GES (Bidean) para conseguir mejores acciones de mejora.			
Desarrollo habilidades	Cómo aplicar las herramientas de seguimiento del programa de Onenak			
Desarrollo habilidades	Saber cómo motivar al GES para ser proactivo en la venta de seguros (con las caracterísitcas de este sector)			
Desarrollo habilidades	Cómo empujar una venta proactiva e inculcarlo a los GES			
Negocio	Conocimiento avanzado de productos masivos y accidente (accidente solo en oficina sin GES).			G Financiero en Oficina pequeña + En oficina sin GES o con GES Multi
Negocio	Dominar el aplicativo.			
Comercial	Cómo mejorar la concertación telefónica y atracción del público.			
Negocio	Cómo prescribir al GES o GES PRO			
Desarrollo habilidades	Ser autónomo en el seguimiento de sus presupuestos			
Negocio	Conocimiento avanzado de productos masivos y accidente (accidente solo en oficina sin GES).			Director en Oficina pequeña + En oficina sin GES o con GES Multi
Negocio	Conocer el estado del negocio de seguros, poder hacerle un seguimiento.			

Source: participants in the working sessions of Cycle 2, Laboral Kutxa S.Coop, 2019

Appendix 37: Learning needs of the users in knowledge area no.2, Laboral Kutxa S.Coop.

Learning Needs, Knowledge area no.2						
Dominio de conocimiento	**Conocimientos**	**Metodologías/Acciones de aprendizaje**		**Habilidad**	**Metodologías/Acciones de aprendizaje**	**DIRIGIDO A**
Buenas Prácticas de la Red	Conocimiento de fondos	Segmentación de clientes: Conocer (el JZ) que actividades de los gestores han tenido éxito para compartirlas en grupo.		**Motivador**	Escuchar, guiar, reconocer, orientar de manera personal	Todo a todos los que están con el cliente.
Conocer suficientemente los FFII				**Comunicador**	Detallar correctamente los objetivos	
Conocer a los clientes	Tipología de clientes (edad, nivel de renta, nivel de estudios, conocimientos sobre mercados, …)			**Empatía**		
Conocer el proceso comercial	Herramientas y procesos comerciales	Herramientas: Guion de herramientas disponibles		**Creativo**	Cambiar reuniones - forma diferente de transmitir la información	
		Objeciones en la venta: conocerlas para ayudar en la venta y trabajar las argumentaciones mediante talleres de buenas prácticas		**Iniciativa personal**		
Conocer el proceso operativo	Conocimientos básicos de producto			**Manejo Herramientas de información (Cuadros de mando)**		
	Nivel de riesgo/ rentabilidad			**Facilitador Herramientas**		
Conocimiento de la entidad		Trasladar de forma convincente los valores de la entidad				
Conocimiento del Mercado/competencia	Conocer las necesidades del equipo comercial	Píldoras informativas adaptadas a gestor/director				
		Recurrencia				
Conocer las capacidades del equipo comercial		Talleres con gestores BP y Premium				
		Talleres de buenas prácticas con gestores con éxito comercial				
Conocer las herramientas de información y procesos comerciales		Hacer algún test				
		Conocer en primera persona el test de conveniencia, recomendador,		**Source: participants in the working sessions in cycle 2, Laboral Kutxa S.Coop, 2019**		

Appendix 38: learning needs of the users in knowledge area no.3, Laboral Kutxa S.Coop.

Learning Needs, Knowledge area no.3			
Dominio de Conocimiento	**Conocimientos**	**Dirigido a**	**Habilidades**
Conocimiento - sensibilización digital	Conocimientos digitales básicos (Wetransfer, nube, etc.)	General a toda la organización	Ser capaz de identificar la necesidad de nuestros clientes, conocer al cliente
	Conocimientos digitales corporativos (Banca Online, LKPay, Demo, página web, etc.)	General a toda la organización	Capacidad para transmitir esa propuesta de valor identificada
	Conocimiento de la demo	Red comercial	Quitar el miedo a nuestros clientes, darles confianza
	Utiliza redes sociales y conoce en las que está presente LK	General a toda la organización	Convertir el test de conveniencia en algo ameno (que no sea un coñazo)
	Conocimiento del sector		Convertir pegas en oportunidades
Comunicación digital	Detectar los momentos para sensibilizar en lo digital	Canales/ADN y Procesos de comercialización	
	Formas de comunicar con Laboral Kutxa (Whatsapp, Telebanka, BOL, Oficinas...)	Red comercial /Gestores financieros	
	Apoyo a la hora de saber comunicar en cada canal	Red comercial /Gestores financieros	
	Identificar el mejor canal de comunicación para ese cliente	Red comercial /Gestores financieros	
Información digital	Tener información de todo lo que el cliente ha realizado		
	Tendencias (fintech y GAFA)	Servicio de atención al cliente, Cumplimiento Normativo	
Seguridad digital	Otros temas de seguridad concretos para grupo de Desarrollo, operadores de SWIFT, Sistemas, etc.		
	Uso seguro de e-mail	General a toda la organización	
	Identificación de fraude	General a toda la organización	
	Mesas limpias	General a toda la organización	
	Navegación segura	General a toda la organización	
Transformación digital	Conociendo nuestros productos y adaptando los canales a cada usuario acabamos transformándoles		

Source: participants in the working sessions of Cycle 2, Laboral Kutxa S.Coop, 2019

Appendix 39: learning needs of the users in knowledge area no.4, Laboral Kutxa S.Coop.

Learning Needs, Knowledge area no.4			
Dominio de Conocimiento	**Conocimientos y Habilidades**	**Dirigido a**	**Metodologías/Acciones de aprendizaje**
Digital	Conocimiento de herramientas necesarias para el análisis de riesgo (990, IG60, EMP3, EMP4.....)	Director de Oficina pequeña G Financiero	Todas las acciones son obligatorias para los colectivos convocados y voluntarias para el resto. Es una propuesta, no concretado.
Conocer el negocio: mercantil-riesgos	Análisis de balances		
	Elaborar una propuesta de riesgos		
	Conocimiento de productos básicos		
	Conocimiento de los productos básicos desde el prisma de riesgo		
	Conocimiento de la política de riesgos de la Casa		
	Conocimiento de la repercusión de los fallidos vs formalizaciones		Charla por link por parte de OES para sensibilizar de su impacto.
	Conocer que existen productos no recurrentes y saber a donde dirigirte para llegar al conocimiento		
¿Cómo vender?	Networking - contacto cercano con los agentes económicos de la plaza		
Desarrollo de Habilidades	Saber decir que no		
¿Cómo vender?	Habilidades comerciales, saber adecuar el producto a la necesidad del cliente		Establecer momentos de práctica simulada dentro de la jornada laboral. Disponer de material escrito o por vídeo muy aterrizado y concreto.
Desarrollo de Habilidades	Priorizar lo importante sobre lo urgente		
¿Cómo vender? + Digital	Uso de redes sociales para acercamiento a no clientes, reforzar relación con clientes, etc		
Conocer el negocio: mercantil-riesgos	Conocimiento de productos	Director de oficina grande	
	Análisis de balances		
Conoce LK	Conocer la empresa		
¿Cómo vender?	Conocer la competencia / mercado		
Conoce LK	El apetito al riesgo de la entidad		

Conocer el negocio: mercantil-riesgos	Conocimiento de la operativa		Recabar todo el materia escrito y sacara informes resumen breves. Crear vídeos cortos con la explicación de cada parte del documento (vídeos breves). Colgarlos de manera accesible en Garatuz y difundirlo a los coletivos que lo necesitan.
	Conocimiento del soporte		
	Valoración del riesgo		
	Documentación necesaria		
	Redacción correcta del "informe operación"		Talleres (online u offline) explicados por los analistas de riesgos cómo elaborar un informe correctamente y que los asistentes traigan sus dificultades y/o dudas. Seguido de un pequeño mentoring en la oficina por los gestores de empresas para corregir los errores de la persona. Elaboración de un documento breve con los errores más frecuentes.
Desarrollo de Habilidades	Planificación		
¿Cómo vender?	Nuevos competidores		
	Nuevos productos en el mercado		Que el analista de riesgos explique lo que hace la competencia. Un link cada trimestre para compartir actualizaciones sobre los competidores.
	Visita al cliente		
	Acercarnos al no cliente		
	Seguimiento del cliente		
	Identificar las buenas practicas comerciales		Organizar comisiones dentro de la zona para compartir el conocimiento. Dinamizado por el jefe de zona y OES.
	Posicionarnos en loby-s		
Desarrollo de Habilidades	Gestión del “NO”		
	Relación con el proveedor interno - comunicación		
	RIGOR		
¿Cómo vender? + Digital	posicionarnos en redes		
¿Cómo vender? + Desarrollo de Habilidades	Llevarte bien con la competencia: habilidades relacionales		

Source: participants of the working sessions in Cycle 2, Laboral Kutxa S.Coop., 2019

Appendix 40: Results from Lego Serious Play, SENER S.A.

"Un modelo de aprendizaje centrado en las personas que transmiten conocimiento y que están motivadas. Donde hay una red que permite catalizar un conocimiento estructurado que le de solidez. Todo ello recogido en una nube con inteligencia artificial que recoge todo el conocimiento de la organización. Se capacita y se forma a las personas para que sean formadoras dentro de la organización, todo ello apoyándose en una formación externa que de frescura y que aporta otra visión a la parte interna.

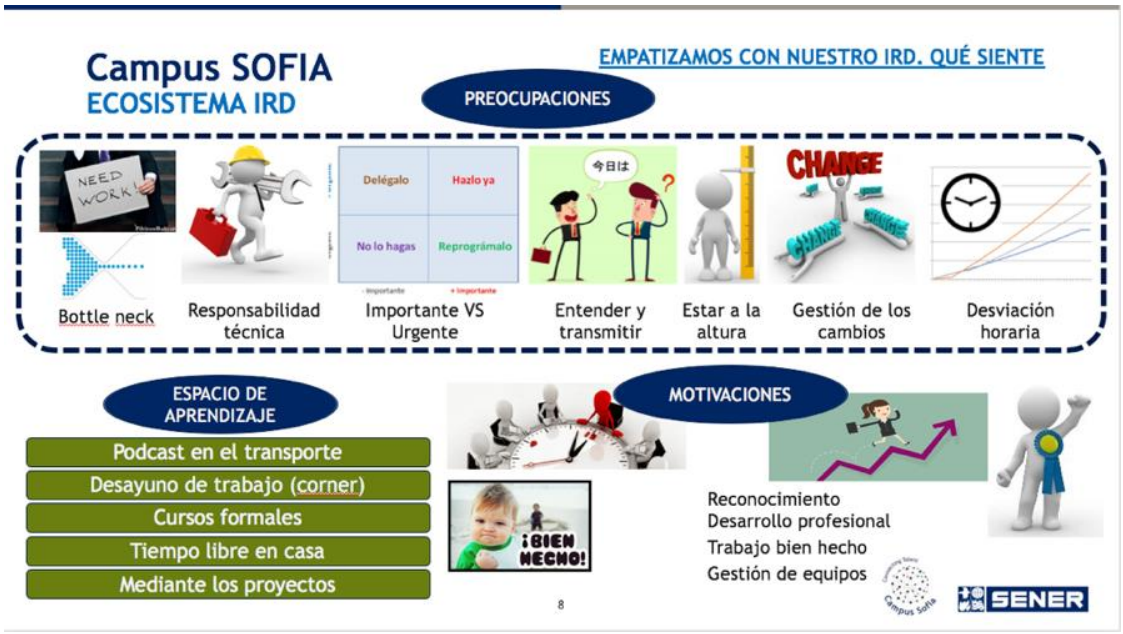
Una formación que de respuesta a la necesidad de las personas y que se llegue a un pacto entre la persona y los responsables de la organización y que sea personalizada a través de webinars y píldoras donde la gente está interconectada a todos los niveles; con la dirección, las divisiones, etc. Esa interacción está basada en la innovación y se da con un proceso de gestión del cambio, el cual, va a exigir hacer las cosas de forma diferente con metodologías diferentes y, conectando el conocimiento nuevo con el no nuevo".

Source: participants of the working sessions in Cycle 2, SENER S.A. 2019.

Appendix 41: Brainstorming of possible learning activities and resources in Cycle 2, SENER S.A.

Source: participants of the working sessions in Cycle 2, SENER S.A. 2019.

Appendix 42: Empathy map of a typical Project-Manager



Source: Project Managers participating in the session, 2019.

Appendix 43: A Team-Manager's Empathy Map

TEAM-MANAGER Empathy Map	
Perfil	
Jefe de Área (37-45 años)	
Pablo – 40 años (15 años en obra)	
6-7 años en SENER (2 proyectos)	
Formación superior	
Siempre en obra	
Office, gestión documental, Skype	
Niños pequeños.	
Se plantea cambiar de sector.	
Inglés medio-alto	
Actividades	**Conocimientos**
Gestión de la construcción	Gestión de personas
Planificación	Gestión documental
Costes	Control económico
Personas (Gestión de equipos)	Gestión de contratos
Comunicación con el cliente	Gestión del cambio, capacidad de adaptación
Referente técnico	Conocimiento del entorno
Gestión de contratos	Riesgos del país
Calidad	Risk management
HSE	Idiomas
	Conocimiento técnico
Qué ven	Atención a las novedades del mercado
	Constructibilidad: tiempo, empezar antes en los proyectos, empatía
Mercado laboral – hay oportunidades, pero fuera de la zona de confort	Herramientas para gestión del tiempo, gestión de equipos, comunicar
Exigen control, plazos	Calidad+HSE
No ven resultados de los proyectos	
Sensación de estancamiento	
Qué dicen	**Habilidades**
Quejas en el tema de acceso documental	Liderazgo
Aislamiento con gran responsabilidad	Autocontrol
Desconexión del resto de la empresa	Negociación
	Capacidad de análisis
	Trabajo en equipo
	Resiliencia (gestión del fallo)
	Espíritu didáctico, capacidad comunicativa
Source: The Team-Managers participating in the session, 2019	Espíritu crítico

Appendix 44: A Project-Manager's learning needs, knowledge and skills

PROJECT-MANAGER, learning needs		
DOMINIO DE CONOCIMIENTO	**CONOCIMIENTO**	
GESTION DE PROYECTOS	Planificación de tareas	
	Control de costes/control de horas	
	Hacer carga de trabajo	Objetivo
		Plantillas
	Métricas	Cuáles hay
		Cómo se actualizan
	Estimaciones de horas	
	Gestión de requisitos	
	Gestión de alcances	
HERRAMIENTAS	Herramientas corporativas de gestión de proyectos	SENET o OPENTEXT
		Scope Guard
		Intrasener
		Sendu: cuánto cuestan hacer las cosas y qué se puede sacar de ahí
	Herramientas propias de las disciplinas	A definir por las disciplinas
CONOCIMIENTO DE SENER	Modelo organizativo	Organigrama de SENER
		Competencias departamentos, unidades tecnológicas / hubs
		Disciplinas que existen
		Responsabilidades de los roles que participan en un proyecto
	Conocer tu puesto	Funciones
		Obligaciones
		Responsabilidades
DISCIPLINA	Personas y capacidades	
	Manuales y Procedimientos de Calidad	
	Conocimientos técnicos	
	Normativa y documentación de referencia	
4.0	BIM	
	Big data	
	Digitalización. Trabajo colaborativo	
	Inteligencia artificial	
GESTION DE EQUIPOS	Comunicación	Hablar en público. Presentaciones
		Escucha activa
	Negociación	
	Gestión de conflictos	
	Liderazgo	
	Gestión del estrés	
	Espíritu didáctico	
INTERNACIO-NALIZACION	Idiomas	
	Especificidades del país	
GESTION DEL CLIENTE	Negociación	
	Orientación al Cliente	
	Gestión de contratos	
	Asertividad	
DESARROLLO PERSONAL		

Source: The Project-Managers team participating in the working sessions, 2019

Appendix 45: A Team-Manager's learning needs, knowledge and skills

TEAM-MANAGER, learning needs	
DOMINIO DE CONOCIMIENTO	**CONOCIMIENTO**
Conocimiento técnico	BIM
	Normativa/Procedimientos
	Industrialización de la construcción. Producto/modularizar
	Ser consciente del estado del arte (secuencia montaje, soluciones constructivas…)
Planificación	Manejo/Conocimiento básico de la planificación (herramientas)
	Saber priorizar y transmitirlo
	Valor ganado (Value engineering)
	Sacar ratios/rendimientos y comparar con los definidos de antemano
Control de costes/medición	Herramientas de gestión de costos/presupuestaria
	Herramientas de medición semanales
Gestión contractual	Gestión de alcance
	Conocimiento de la gestión de los contratos / subcontratos
	Logística e importaciones
	Notificaciones Claims
	Control de cambios de diseño
	Conocimientos básicos de análisis de riesgos
Calidad y medio ambiente	Normativa
	Planes internos de SENER/proyecto
Seguridad	Normativa/legislación
	Cultura
Conocimiento SENER	Organigrama de proyecto / SENER
	Mapas de procesos
	Estructura y funcionamiento del proyecto / SENER
	Conocimiento de EPC / tipo de contrato en general
	Matriz de comunicaciones
Gestión del cambio	Legalidad del país / fiscalidad
	Multiculturalidad
	Idiomas
Gestión de equipos	Liderazgo
	Autocontrol
	Comunicación
	Resiliencia
	Empatía
	Gestión de conflictos
Habilidades generales	Comunicación
	Liderazgo
	Resiliencia
	Hab.Digitales
	Hab.Sociales
	Organización
	Autonomía
	Proactividad
	Multiculturalidad
	Análisis de riesgos
	Espíritu docente / didáctico
	Apertura al cambio
	Motivación – trabajos emblemáticos / retos

Source: The Team-Managers participating in the working sessions, 2019

Appendix 46: A Day in the Life of a Project-Manager

7-9:30h	9:30h	9:30 a 11:00	11:00 - 11:30	11:30 - 12:30	12:30-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:30	Fuera de horario laboral
CASA-COCHE	OFICINA	OFICINA	OFICINA	OFICINA	OFICINA	OFICINA	OFICINA	OFICINA	OFICINA	CASA
Se levanta y se ducha	Llega a SENER	Lee correo e identifica los críticos	Café	Reunión de coordinación del proyecto con DP y otros IRDs	Organización de tareas con equipo de disciplina	Come	Reunión interna con equipo	Revisar documentación para entrega	Control de ejecución y reporte a DP (avance, horas)	Tareas propias que no se han podido realizar durante el día, importantes por objetivos propios, que no pueden esperar para no ser cuello de botella al trabajo de terceros o por necesidad de reuniones con personas en otros paises con horarios diferentes.
Desayuna	Arranca correo	Chequea agenda - lista de tareas			Tratamiento de interfaces con otras disciplinas			Producción	Actividades no planificadas	
Arregla a los niños y los lleva al cole		Contesta mails críticos y hace llamadas pendientes						Tratamiento de temas con cliente/socios	PDH	
		Comenta avance de forma informal con compañeros/equipo						Llamadas		
HERRAMIENTAS										
MÓVIL	OUTLOOK	OUTLOOK	MÓVIL	PROYECTOR	OUTLOOK	MÓVIL	PROYECTOR	OUTLOOK	INTRASENER	OUTLOOK
	PORTÁTIL	MÓVIL		PORTÁTIL	PORTÁTIL		PORTÁTIL	PORTÁTIL	OUTLOOK	PORTÁTIL
		PORTÁTIL		HERRAMIENTAS DE OFIMÁTICA	HERRAMIENTAS DE OFIMÁTICA		HERRAMIENTAS DE OFIMÁTICA	HERRAMIENTAS DE OFIMÁTICA	PORTÁTIL	HERRAMIENTAS DE OFIMÁTICA

				TEAMS	TEAMS		TEAMS	MÓVIL	HERRAMIENTAS DE OFIMÁTICA	MÓVIL
				CLEARSEA	CLEARSEA		CLEARSEA		MÓVIL	TEAMS
					MÓVIL				TEAMS	CLEARSEA
									CLEARSEA	
PERSONAS CON LAS QUE SE RELACIONA										
FAMILIA	COMPAÑEROS	COMPAÑEROS	COMPAÑEROS	DP	OTROS IRDs	FAMILIA	EQUIPO DE DISCIPLINA	EQUIPO DE DISCIPLINA	DP	FAMILIA
		EQUIPO DE DISCIPLINA		OTROS IRDs	DP	COMPAÑEROS		CLIENTE	JS	
		CLIENTE			JS			SOCIOS	EQUIPO DE DISCIPLINA	
		PROVEEDOR/SUBCONTRATISTA			LD			PROVEEDOR/SUBCONTRATISTA		
		SOCIOS			EQUIPO DE DISCIPLINA					
PREOCUPACIONES Y DIFICULTADES PARA DESARROLLAR SUS TAREAS										
GESTIÓN DEL TIEMPO	COSAS PENDIENTES PREVISTAS	NO PODER CUMPLIR CON TU PLANIFICACIÓN	NO PODER CUMPLIR CON TU PLANIFICACIÓN	NUEVAS TAREAS	CAMBIOS DERIVADOS DE INTERFACES CON OTRAS DISCIPLINAS	NO PODER CUMPLIR CON TU PLANIFICACIÓN	QUEJAS DEL EQUIPO	CAMBIOS DERIVADOS DE INTERFACES CON OTRAS DISCIPLINAS	CAMBIOS DERIVADOS DE INTERFACES CON OTRAS DISCIPLINAS	CONCILIACIÓN LABORAL-FAMILIAR
CALIDAD DE VIDA	ESTRÉS POR LO NO PLANIFICADO QUE PUEDA APARECER	DESACUERDO CON EQUIPO		AJUSTES DE PLAZOS	QUEJAS DEL EQUIPO		TRANSMITIR NUEVOS OBJETIVOS, CAMBIOS, ETC	QUEJAS DEL EQUIPO	QUEJAS DEL EQUIPO	NECESIDADES CUBIERTAS
				AJUSTES EN CDT	TRANSMITIR NUEVOS OBJETIVOS, CAMBIOS, ETC		GESTIONAR CONFLICTOS DE INTERESES	TRANSMITIR NUEVOS OBJETIVOS, CAMBIOS, ETC	TRANSMITIR NUEVOS OBJETIVOS, CAMBIOS, ETC	
				CAMBIO DE ALCANCE	GESTIONAR CONFLICTOS DE INTERESES			GESTIONAR CONFLICTOS DE INTERESES	GESTIONAR CONFLICTOS DE INTERESES	
					RECURSOS			RECURSOS	RECURSOS	

MOTIVACIONES										
AMOR	PROFESIONALIDAD	HACER BIEN EL TRABAJO	SOCIALIZAR	HACER BIEN EL TRABAJO	HACER BIEN EL TRABAJO	SOCIALIZAR	HACER BIEN EL TRABAJO	HACER BIEN EL TRABAJO	HACER BIEN EL TRABAJO	PROFESIONALIDAD
PROFESIONALIDAD		CUMPLIR CON OBJETIVOS	APRENDER DE LOS DEMAS	CUMPLIR CON OBJETIVOS	CUMPLIR CON OBJETIVOS		CUMPLIR CON OBJETIVOS	CUMPLIR CON OBJETIVOS	CUMPLIR CON OBJETIVOS	
		BUEN AMBIENTE EN EL TRABAJO		BUEN AMBIENTE EN EL TRABAJO	BUEN AMBIENTE EN EL TRABAJO		BUEN AMBIENTE EN EL TRABAJO	BUEN AMBIENTE EN EL TRABAJO	BUEN AMBIENTE EN EL TRABAJO	
		APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)		APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)	APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)		APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)	APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)	APRENDER CON LO QUE HACEMOS (DESARROLLO PROFESIONAL)	
		TIPO DE PROYECTO		TIPO DE PROYECTO	TIPO DE PROYECTO		TIPO DE PROYECTO	TIPO DE PROYECTO	TIPO DE PROYECTO	
		DIA DE LA SEMANA		DIA DE LA SEMANA	DIA DE LA SEMANA		DIA DE LA SEMANA	DIA DE LA SEMANA	DIA DE LA SEMANA	
		BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS		BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS	BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS		BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS	BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS	BUENAS RELACIONES PERSONALES INTERDISCIPLINA Y CON OTRAS DISCIPLINAS	
		RECONOCIMIENTO		RECONOCIMIENTO	RECONOCIMIENTO		RECONOCIMIENTO	RECONOCIMIENTO	RECONOCIMIENTO	
				CONOCER LAS RESPUESTAS A LAS PREGUNTAS						

Source: The Project-Managers team participating in the working sessions, 2019

Appendix 47: A Day in the Life of a Team-Manager

6:30			7:15	7:30	ANTES DE COMER			
Apartamento que vive solo	Apartamento que vive solo	Apartamento que vive solo	Caseta de obra					(…)
Levanta 6:30	Mira el móvil. Revisar las noticias	Come algo antes de salir de casa.	Se lee los mails rápidamente. Posible visita corta a obra.	Reunión de coordinación en obra (diaria / semanal)	Mirar correo más detenidamente. Llamadas.	Revisión avance ingeniería, suministros, planing, mediciones, producción.	Reunión con el homonimo del cliente	
HERRAMIENTAS								
	Movil / tablet (Whatsapp/skype/feedly)		Outlook / portatil / servidores	Portátil / libreta	Outlook / portatil / servidores	Project / Primavera / Pdf / Excel / Presto / Menfis / Naviswork / Smartmaterials / BIM on site (BIM 360)	Whatsapp	
PERSONAS CON LAS QUE SE RELACIONA								
	Familia / Amigos			Equipo de obra	Subcontratistas / cliente	Homónimo de ingenería (IRD), Ing. Proyecto / supervisores	Cliente	
PREOCUPACIONES Y DIFICULTADES PARA DESARROLLAR SUS TAREAS								
Que ha pasado en SENER España (cambios horarios)	Tiempo / Sucesos en el país (seguridad)		Cambio horario / han llegado los supervisores. Que correos hay que responder urgentemente. Recopilar información para la reunión.	Responder todas las cuestiones planteadas del jefe. Tener toda la información.	Teléfono funcione. Idioma con el subcontratista.	Disponibilidad de la ingeniería. Desviaciones. Respuesta de ingeniería apropiada. Dificultades: tiempo, trasmitir los requisitos de obra a ingeniería.	Idioma del cliente. Poder responder a las preguntas del cliente.	
MOTIVACIONES								
Dinero. Un día menos para volver a casa.	Fotos de la familia. Qué tal en tu país. Planing de vacaciones.			Avance de la obra según tiempos.				
							Vídeos una vez a la semana en la obra.	

	HORA DE COMER	DESPUÉS DE COMER						POST-TRABAJO	
(…)	Cantina / Fuera de obra (desconexión)	Caseta de obra						Pueblo	Pueblo/ Apartamento
	Comer	Reuniones con contratistas, responder correos y llamadas. Planificar el día de mañana. Validación técnica de lo ejecutado.	Desorden, apagando fuegos	Reunión con los supervisores para observar los avances y coordinar.	Preparar informes.	Contestar correos acumulados	Salir tarde la obra	Deporte / bar	Familia / actividades ludiconocturnas
	HERRAMIENTAS								
		Autocad, presto, excel, google translator			Word	Outlook		Whatsapp	Skype
	PERSONAS CON LAS QUE SE RELACIONA								
	Compañeros / Cliente	Contratistas, proveedores, compras, IRDs, costes, planificacion, supervisores	Varios	Supervisores de obra				Compañeros de la obra	Mujer, amigos…
	PREOCUPACIONES Y DIFICULTADES PARA DESARROLLAR SUS TAREAS								
		A quien preguntar cada problema. Aprender de la experiencia y de los subcontratistas (learning by doing). Dificultad de montar reuniones.		Saber priorizar / Relación con los compañeros			Buscar momentos de descanso, dificultad de encontrarlos		Preocupaciones en casa, coche, necesidades básicas. Preocupaciones emocionales.
	MOTIVACIONES								
		Trabajo bien hecho - sin contratiempos insalvables		Buen equipo				Destinos amables Nuevas culturas.	
		Teams, yammer. Mirar las noticias de los compañeros. Sesiones de visita a la gente de la oficina trabajando en el proyecto					Idiomas + podcast coche.		

Source: The Team-Managers participating in the working sessions, 2019

Appendix 48: Prioritization of Project-Manager's learning needs

Source: The Project-Managers participating in the working sessions, 2019

Appendix 49: Prioritization of Team-Manager's learning needs

Source: The Team-Managers participating in the working sessions, 2019

Appendix 50: A Project-Manager's learning needs (knowledge and skills), learning activities, methodologies and technology

PROJECT-MANAGER						
DOMINIO DE CONOCIMIENTO	**CONOCIMIENTO**			**ACTIVIDAD**	**METODOLOGIA**	**TECNOLOGIA**
GESTION DE PROYECTOS	Planificación de tareas		GESTION DE PROYECTOS	Se asigna a un potencial IRD a un proyecto para que ayude al IRD, vea lo que éste hace y poco a poco le vaya delegando funciones de gestión	Shadowing MOOC Videos tutoriales cortos mostrando el procedimiento FAQ	Mudle
	Control de costes/control de horas					
	Hacer carga de trabajo	Objetivo				
		Plantillas				
	Métricas	Cuáles hay				
		Cómo se actualizan				
	Estimaciones de horas					
	Gestión de requisitos					
	Gestión de alcances					
HERRAMIENTAS	Herramientas corporativas de gestión de proyectos	SENET o OPENTEXT	HERRAMIENTAS		Webinar Videos cortos Foro + FAQs	
		Scope Guard				
		Intrasener				
		Sendu: cuánto cuestan hacer las cosas y qué se puede sacar de ahí			Videos cortos Acceso a foro de expertos FAQs	Mudle Teams
	Herramientas propias de las disciplinas	A definir por las disciplinas			Cursos externos Videos cortos Foro + FAQs	
						Mudle
						Teams
CONOCIMIENTO DE SENER	Modelo organizativo	Organigrama de SENER	CONOCIMIENTO DE SENER	Workshop (2 al año) entre IRDs nuevos, IRDs experimentados + jefe con intercambio de dudas	Flipped classroom (lectura de obligaciones y responsabilidades de roles) Gamificación	
		Competencias departamentos, unidades tecnológicas / hubs				
		Disciplinas que existen				
		Responsabilidades de los roles que participan en un proyecto				
	Conocer tu puesto	Funciones				
		Obligaciones				
		Responsabilidades				
DISCIPLINA	Personas y capacidades		DISCIPLINA			

	Manuales y Procedimientos de Calidad				Formación externa Acceso a expertos Charlas internas Aprendizaje basado en proyectos Lecciones aprendidas	
	Conocimientos técnicos			Newsletter		Canal en Teams
	Normativa y documentación de referencia			Estandarizacion (biblioteca)		
4.0	BIM		4.0		Videos Acceso a foro de expertos de la BIM Office FAQs	Mudle Teams
	Big data					
	Digitalización. Trabajo colaborativo					
	Inteligencia artificial					
GESTION DE EQUIPOS	Comunicación	Hablar en público. Presentaciones	GESTION DE EQUIPOS		Exposiciones internas de proyectos o en congresos Coaching	
		Escucha activa				
	Negociación					
	Gestión de conflictos					
	Liderazgo					
	Gestión del estrés					
	Espíritu didáctico					
INTERNACIO-NALIZACION	Idiomas		INTERNACIO-NALIZACION			
	Especificidades del país					
GESTION DEL CLIENTE	Negociación		GESTION DEL CLIENTE			
	Orientación al Cliente					
	Gestión de contratos					
	Asertividad					
DESARROLLO PERSONAL			DESARROLLO PERSONAL			

Source: The Project-Managers participating in the working sessions, 2019

Appendix 51: A Team-Manager's learning needs (knowledge and skills), learning activities, methodologies and technology

TEAM-MANAGER					
DOMINIO DE CONOCIMIENTO	**Conocimiento**		**Actividad**	**Metodología**	**Tecnología**
Conocimiento técnico	BIM	Conocimiento técnico	Resolución de dudas / conflictos técnicos	Charlas de ingeniería. Colaboración con ingeniería (foros abiertos)	
	Normativa/Procedimientos		Noción general del proyecto	Reuniones explicativas sobre las tecnologías del proyecto (nociones generales)	
	Industrialización de la construcción. Producto/modularizar		Resolución de dudas / conflictos técnicos	Consultoria con ingeniería (páginas amarillas)	
	Ser consciente del estado del arte (secuencia montaje, soluciones constructivas…)		Compartir lecciones aprendidas	Foros de jefes de área en la UENIT / UENEP	Teams, foros (red social). Realización de perfil con tus capacidades / experiencia.
Planificación	Manejo/Conocimiento básico de la planificación (herramientas)	Planificación	Conocimiento básico del planning	Vídeo de la planificación en SENER	
	Saber priorizar y transmitirlo		Conocimiento básico del planning	Curso / MOOC (coursera) herramientas	
	Valor ganado (Value engineering)		Terminología	Vídeo con terminos básicos (ratios, holgura, camino crítico)	
	Sacar ratios/rendimientos y comparar con los definidos de antemano		Conocimiento básico del planning	Shadowing - Momentos con el planner para aprender su labor / manejo de herramientas	
			Conocimiento básico del planning	Workshop con ejemplo práctico	

Control de costes/medición	Herramientas de gestión de costos/presupuestaria	Control de costes/medición	Herramientas de gestión de costos/presupuestaria / medición	Curso herramientas (MENFIS - PRO CORE - PRESTO - EXCEL medición)	
	Herramientas de medición semanales		Herramientas de gestión de costos/presupuestaria / medición	Video tutorial del uso de la herramienta	
			Herramientas de gestión de costos/presupuestaria / medición	Practicar con la versión 0 procedente de la fase de oferta / contrato	
Gestión contractual	Gestión de alcance	Gestión contractual	Gestión de alcance	Workshop con departamento de contract management (cambios de diseño, claims, nociones básicas del contrato).	
	Conocimiento de la gestión de los contratos / subcontratos		Conocimiento de la gestión de los contratos / subcontratos	Construction execution plan. Desarrollar y explicar.	
	Logística e importaciones		Logística e importaciones	Vídeos cortos generales de cada uno de los conocimientos.	
	Notificaciones Claims		Notificaciones Claims		
	Control de cambios de diseño		Control de cambios de diseño		
	Conocimiento básicos de análisis de riesgos		Conocimiento básicos de análisis de riesgos	ISO 9001	
Calidad y medio ambiente	Normativa	Calidad y medio ambiente	Aprendizaje formal -píldoras - webinar. Lecciones aprendidas - repositorio de normas.		
	Planes internos de SENER/proyecto				
Seguridad	Normativa/legislación	Seguridad		Vídeos cortos explicativos	
	Cultura			Aprovechar material existente	
				Cursos específicos por proyectos	

Conocimiento SENER	Organigrama de proyecto / SENER	Conocimiento SENER	Videos - píldoras - Gamificación		
	Mapas de procesos				
	Estructura y funcionamiento del proyecto / SENER				
	Conocimiento de EPC / tipo de contrato en general				
	Matriz de comunicaciones				
Gestión del cambio	Legalidad del país / fiscalidad	Gestión del cambio	Coaching		
	Multiculturalidad				
	Idiomas				
Gestión de equipos	Liderazgo	Gestión de equipos			
	Autocontrol				
	Comunicación				
	Resiliencia				
	Empatía				
	Gestión de conflictos				
Habilidades	Comunicación	Habilidades			
	Liderazgo				
	Resiliencia				
	Hab.Digitales				
	Hab.Sociales				
	Organización				
	Autonomía				
	Proactividad				
	Multiculturalidad				
	Análisis de riesgos				
	Espíritu docente / didáctico				
	Apertura al cambio				
	Motivación – trabajos emblemáticos / retos				

Source: The Team-Managers participating in the working sessions, 2019

Appendix 52: Detailed classification of Laboral Kutxa S.Coop.'s and SENER S.A.'s current Organizational Learning Structure

THEORETICAL TOPICS ANALYZED FOR EXPLANATION BUILDING					
Main theoretical aspects of the AD&HP Ecosystem	**Specific aspects of each topic**	**LABORAL KUTXA S.COOP.**		**SENER S.A.**	
		Level of development (low, medium, high)	**Their desired OLS**	**Level of development (low, medium, high)**	**Their desired OLS**
INDIVIDUAL LEARNING	- Lifelong learning mindset for competitiveness	HIGH	-	HIGH	-
	- Self-directed and dynamic learners	LOW	TO IMPROVE	MEDIUM	-
TEAM LEARNING	- Developing team intelligence and abilities	LOW	TO IMPROVE	LOW	TO IMPROVE
	- Communities of Practice for knowledge sharing	MEDIUM	TO IMPROVE	MEDIUM	TO IMPROVE
ORGANIZATIONAL LEARNING	- Alignment of the OLS with the corporate strategy	HIGH	-	HIGH	-
	- Knowledge Management making knowledge flow	MEDIUM	TO IMPROVE	MEDIUM	TO IMPROVE
	- Institutionalizing new knowledge	MEDIUM	TO IMPROVE	LOW	TO IMPROVE
LEARNING ACTIVITIES	- Formal learning	HIGH	-	HIGH	-
	- Informal learning	LOW	TO IMPROVE	MEDIUM	TO IMPROVE
SAFE AND ENCOURAGING LEARNING ENVIRONMENT	- Safe to share and inquire	MEDIUM	TO IMPROVE	MEDIUM	-
	- Encouraging learning environment	MEDIUM	TO IMPROVE	MEDIUM	TO IMPROVE
STRATEGIC LEADERSHIP	- The role of strategic leadership (being a role model, offering feedback and guidance and, recognizing and rewarding)	LOW	TO IMPROVE	LOW	-
	- Assessment and KPIs	LOW	TO IMPROVE	LOW	TO IMPROVE
	- The components of the leading team	MEDIUM	TO IMPROVE	MEDIUM	TO IMPROVE
ECOSYSTEM INTEGRATED INTO THE WORKFLOW	- Learning is integrated and blended in harmony	LOW	TO IMPROVE	LOW	TO IMPROVE
	- Learning-on-demand service; Ensures the access to learning resources in the moments of need	LOW	TO IMPROVE	LOW	TO IMPROVE
USER FRIENDLY SYSTEMS AND PROCESSES	- On-demand learning systems and resources	LOW	TO IMPROVE	LOW	TO IMPROVE
	- Knowledge sharing technologies, reach back capability.	LOW	TO IMPROVE	MEDIUM	TO IMPROVE
	- Valuable content and information	n.a.	-	n.a.	-
	- Supporting organizational learning	LOW	TO IMPROVE	LOW	TO IMPROVE

Source: the author.

Appendix 53: Template for "Step 2, Co-prioritizing the learning needs" in the AD&HP Ecosystem creation process

	High Importance	**Low Importance**
High Urgency		
Low Urgency		

Source: the author.

Appendix 54: Template for "Step 3, designing the learning activities" in the AD&HP Ecosystem creation process

	To which learning need does it contribute?	Does it contribute to the **exploitation or exploration** of business?	Is it a **formal or informal** learning activity?	To which **level** of learning does it contribute? **(individual, team, organizational)**	What or who are the knowledge **sources and providers?**
Activity x	…		…	…	
Activity x	…		…	…	

Source: the author.

The following should be taken into account when completing this table:

- Ensure that all the prioritized learning needs are covered.
- Check that both formal and informal learning activities are considered due to the benefits of each type of learning activity. One learning activity can be a mix of both.
- Ensure that the three levels of learning are covered, and that these all contribute to Organizational Learning.

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