easyRights

DELIVERABLE

D5.1 Triple-Loop Learning Mechanisms

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Statement of Originality

This Deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgment of previously published material and of the work of others has been made through appropriate citation, quotation, or both.

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Executive Summary

Deliverable 5.1 is the key output of Task 5.1 "Triple-Loop Learning Mechanisms": Triple loop learning mechanisms occur whenever people realize what is required to achieve effective change. This activity makes a census of the learning dimensions within the Quadruple Helix stakeholders composing the pilot sites, covering societal (collective and legal), organisational (town hall related) and behavioural (individual migrants related) aspects. The results will be shared with pilot owners and lead to the generation of the project's impact assessment framework. D5.1 is issued together with the companion Deliverable 5.2 "User Analysis and Key Performance Indicators".

The WP5 framework presented here is driven by the Triple-Loop (or transformational) Learning Mechanism concept referring to the behaviour of people who realise what is required to achieve effective and long-lasting change. Specifically, it looks at the complex system of communities and actors activated by the project activities in terms of Quadruple Helix ecosystems - thus engaging Academia, Business, Civil Society, and Government representatives - as relevant for the roles played in service provision and support to the (im)migrants accessing the easyRights innovations. It helps understand service co-design and hackathons as triggers for learning through dialogue - an approach described here as strategic for inter-organizational collaboration.

The original trait of the proposed framework comes from introducing a reflection on value creation and therefore looking at learning as a mechanism to feed value production chains in complex multi-actor environments. Overall, the framework identifies three main learning drivers that are further developed and reported about in Deliverable 5.2, namely:

- the results (representing the "what question" of the triple loop learning)
- the practices (representing the "how question" of the triple loop learning)
- the transition perspective (representing the "why question" of the triple loop learning)

This deliverable is structured as follows:

- **Section 1 (Introduction)** describes the aims of the Deliverable and its role in the project WPs and Tasks interplay.
- **Section 2 (Learning in easyRights socio-technical ecosystems)** discusses the Triple-Loop Learning mechanisms in relation to Quadruple Helix ecosystems in general and also refers to those activated by easyRights.
- **Section 3 (Conceptualizing and supporting 'Triple-Loop' learning in easyRights**) discusses inter-organizational collaboration as a value production process and looks at service design, hackathons, and learning dialogues as methodological approaches to learning.
- **Section 4** (**Learning and evaluation interplay)** builds a bridge to Deliverable 5.2. It introduces conceptually the role of evaluation as a process of critical reflection on the project and describes the key drivers for learning mentioned above.
- **Section 5** concludes the document.

1. Introduction

1.1 Deliverable 5.1 in the DoA

Deliverable 5.1 is the key output of Task 5.1 "Triple-Loop Learning Mechanisms" taking place from the beginning of the project up to month six (see Figure 1 below).

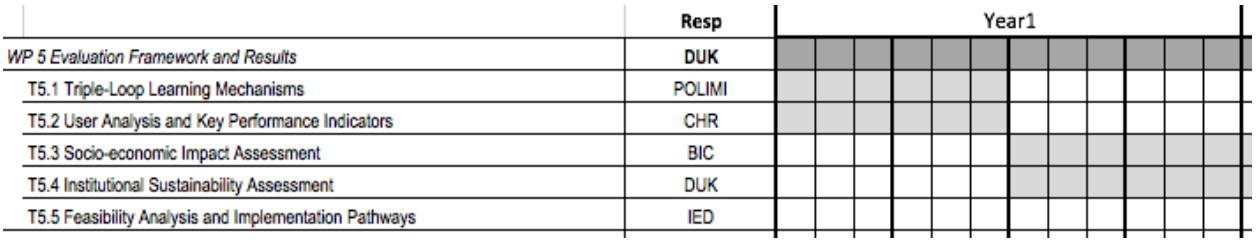

Figure 1: Task 5.1 in the GANTT chart of the project

This Task is the first of 5 belonging to the same work package 5 "Evaluation Framework and Results" and is focussed on the so-called Triple-Loop (or transformational) Learning mechanisms, which occur whenever people realize what is required to achieve effective and long-lasting change. Task 5.1 aims at making a census of the learning dimensions within the Quadruple Helix stakeholder communities composing the easyRights pilot sites, including actors from Academia, Business, Civil Society, and Government. This census covers societal (ethical and legal), organisational (in the involved Municipalities) and behavioural (individual migrants and civil servants/NGO operators related) aspects.

The results of the Task constitute essential elements of the project's impact assessment work to be carried out in this WP and are tightly integrated with user analysis and KPIs presented in the Deliverable 5.2. The global WP5 approach and the early results of Tasks 5.1 and 5.2 have been previously shared with the easyRights pilot owners through several meetings done in presence (at the kick-off) and then on-line during the first six months of the project, also due to the Covid19 emergency. The meetings were aimed at orienting the partners in a deeper exploration of related ecosystems and making them more aware of the key importance of the learning mechanisms for the easyRights project's ultimate success.

1.2 Deliverable 5.1 aim and scope

The present document, together with Deliverable 5.2, builds a reference framework that accompanies the whole project development (see Figure 2). Both deliverables come at months six of the project when the pilots have started their activities towards the recognition of the actors involved in the provision of, or support for, the planned easyRights services for immigrants. For more information, the reader can be referred to Deliverable 4.1 - also issued at month 6 - summarizing the work done within the consortium on the definition of architectural and content requirements.

Deliverable 5.1 in particular, has the aim to clarify the concept of Triple-Loop Learning and its relevance for the evaluation of project activities in relation with three Quadruple Helix ecosystems - i.e. engaging Academia, Business, Civil Society, and Government representatives:

- the easyRights project ecosystem,
- the service ecosystems at individual pilot sites, and

- the hackathon ecosystems, being peripheral ecosystems enriching and supporting the previous two.

As shown in the picture, WP5 delivers guidelines to WP2 “Pilot Co-Creation and Governance Activities” as well as an impact assessment plan. Its results are ultimately fed into WP6 “Sustainability Planning”. In return, WP5 receives various inputs from all other project WPs except WP6.

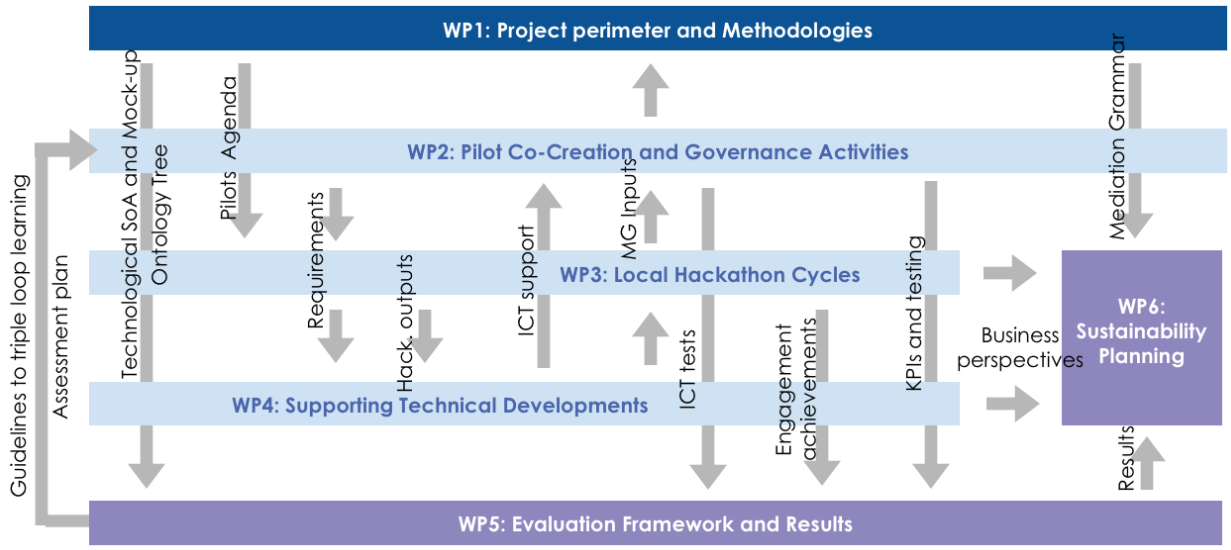

Figure 2: WP5 feeding pilots’ action

The guidelines are the joint output of Deliverables 5.1 and 5.2 and hopefully lead the easyRights pilots to become more aware of: 1) the relevance of processes of inter-organizational learning within the created Quadruple Helix ecosystems and 2) the strategic importance of value production and reinforcement for a transition towards a more inclusive society.

The making of these guidelines has accompanied the pilot initialisation and led project partners to know better what easyRights is about and its ambitious goals.

1.3 Structure of D5.1

This document includes three fundamental sections in addition to the present one, without mentioning the conclusions at the end of it:

- **Section 2 (Learning in the easyRights socio-technical ecosystem)** discusses Triple-Loop Learning mechanisms as crucial for transitional change, investigating the “what”, the “how” and the “why” people do things; it also puts the concept in relation with that of Quadruple Helix ecosystem, especially those taking shape when ICT innovation is supposed to support the (im)migrants' lives; finally presents the complexity of the Quadruple Helix ecosystems activated by the easyRights project.

- **Section 3 (Conceptualizing and supporting 'Triple-Loop' learning in easyRights**) first discusses synthetically the theoretical background of the proposed relation between inter-organizational learning and value production; second it looks at service design, the hackathons and learning dialogues as methodological approaches oriented to learning.
- **Section 4** (**Learning and evaluation interplay)** represents the section bridging the reader to Deliverable 5.2. It first introduces the role of evaluation as a process of critical reflection on the project and then describes the key learning drivers to be adopted in the impact assessment plan (Deliverable 5.2), in coherence with the learning-oriented perspective of the project.
- **Section 5** concludes the Deliverable.

2. Learning in the easyRights sociotechnical ecosystems

2.1 Triple-Loop Learning: an imperative for change

Triple-Loop Learning derives from cybernetic ideas of the level of learning (Bateson, 1973). Many studies from cognitive science, action research, reflective practice, and particularly organisational learning provide several theoretical and empirical developments with regard to Double-Loop Learning, the concept defined and popularised by Chris Argyris and Donald Schön (Argyris and Schön 1974, 1978). As many studies have pointed out, the Double-Loop enables the creation of new learning strategies (Barbat et al., 2011) and encourages problem-solving during the learning process to increase the performance of organisations.

In literature, three kinds of learning are differentiated: Single-, Double-, and Triple-Loop Learning (Gupta, 2016, Keen et. al, 2012). In **Single-Loop Learning,** participants are able to improve their capabilities and learn new skills without questioning their underlying beliefs. Single-Loop Learning improves the routine and solutions for simple structured problems where there is a consensus on the criteria used to assign responsibilities, rights, and risks (Hisschemöller and Hoppe, 1996). In this kind of learning, there is a limited overall impact on long term behavioural change. This is why often the members of organizations operating according to this kind of learning, are led to accept and follow the existing rules, procedures, and policies, and spend most of their time in detecting and correcting the errors due to deviations from the rules.

Double-Loop Learning is also known as **generative learning** (Malone, 2003) and involves reflection and reasoning on the given materials or instructions to design and implement actions. Double-Loop Learning is needed when problems are more complex and when assumptions need to be revisited (Gupta, 2016). In this kind of learning, new ways of thinking will impact on problem-solving behaviour. This requires challenging and reshaping the underlying rules while involving creative and critical attitude and thinking out of the box: for instance, when participants learn what makes a particular way of solving a problem better than others (Argyris, 1991). In an organizational environment, Double-Loop Learning occurs when the staff is involved not only in the detection and correction of errors, but also in the modification of existing norms, procedures, policies, and objectives.

Triple-Loop Learning, also called **transformational learning** (Bateson, 1973) is required when problems are super wicked and unstructured and especially when the deep underlying causes and context have to be taken into account in redefining, relearning, and “unlearning” what we have already learned before (Gupta, 2016). In Triple-Loop Learning, the constant questionings and modifications help to create a shift in perspective and ultimately a transformational change (see Figure 3). It is clear that the three modes of learning presented herein are all relevant in the perspective of a deep change perspective coherent with any innovation process, i.e. in a transition perspective. The notion of **transition** (in many domains also referred to as a systemic change process) is crucial if we consider the global scale at which the migration phenomenon is experienced and the need to achieve a change that is systemic, i.e. occurring in the global society’s mindset. In transition theory, learning (social learning) is central because it contributes to a robust strategy for accelerating and guiding societal innovation processes (Loorbach and Rotmans 2010).

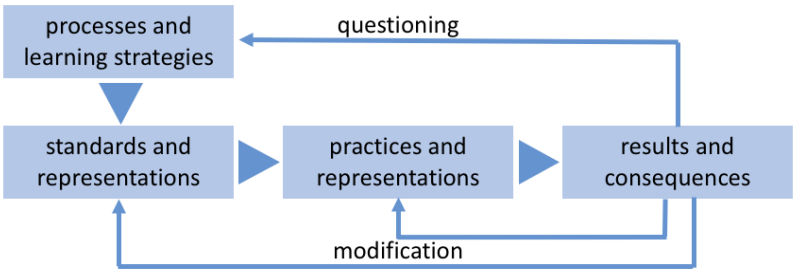

Figure 3: Triple-Loop learning and how it works

In Triple-Loop Learning, participants reflect on how they think about the rules, not only on whether the rules should be changed. According to Bateson, Triple-Loop Learning means "learning about learning" or "learning to learn" (Bateson, 1973), i.e. **adopting learning as means for change**. Previous knowledge is also reflected in Triple-Loop Learning, however. Therefore, an organization also learns how to improve its learning. Examination of the values and principles which guide actions is core to this kind of learning.

In Stacey's terms, **Triple-Loop Learning is manifested as a form of collective awareness** (Stacey, 2007). In Triple-Loop Learning, the relationship between organisational structure and human behavior changes as the organisation learns how to learn and understands more about the values and assumptions which lie below the patterns of actions (Kahane, 2004). This approach allows not only individuals but also organisations to question whether the values and assumptions are locking them into a recurring cycle in which today's solutions become tomorrow's problems. In this way of reasoning the values as well as the strategies and expectations can be modified (Argyris and Schön, 1978).

Relating to the manner Triple Loop Learning has been conceptualized by some authors (Sinek, 2009; Engelbart, 2003) and the relevance they gave to specific insights of each learning loop (single, double, triple), a possible joint view of the three learning modes focussing on the object each mode reflects on - the *what*, the *how* and the *why* - is shown in the graph below (see Figure 4).

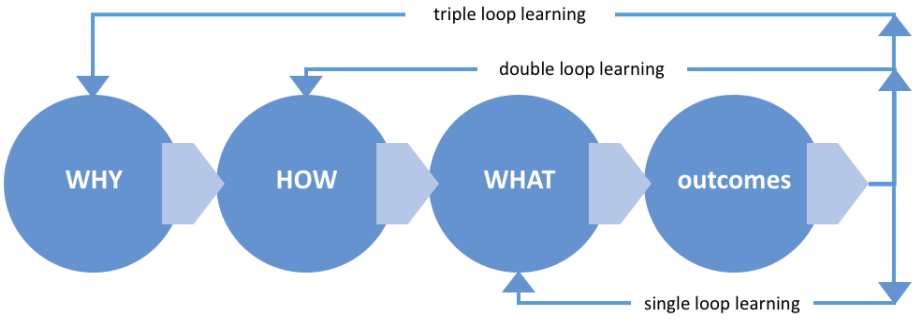

Figure 4: Triple-Loop Learning and the *what*, *how* and *why* questions (source: Debategraph[1])

[1] Debategraph reworked the concept of Triple Loop Learning considering the 'what', the 'how' and the 'why' and reinterpreting Sinek (2009) and Engelbart (2003). See: https://debategraph.org/Details.aspx?nid=250157.

Change, obviously targeted as transition to improvement, can require more or less cognitive energy, and the resulting outcomes can be envisioned more or less "deeply", depending on the level of learning: Triple-Loop Learning acts at the most sophisticated level and reflects on the maturity of a transition. In other words, the more changes are embedded and internalized in the subject, whatever complex, which is learnt, the better Triple Loop Learning is achieved. Addressing the complexities and uncertainties characterising the easyRights project requires to underline that the systemic change vision is translated into a different and inclusive approach that would aspire to Triple-Loop Learning for all involved actors, from individuals to institutional and organizational infrastructure, up to the societal scale (Johannessen and Wamsler, 2017). By exploring the opportunities offered by, and the chance to operationalize, Triple-Loop Learning, the easyRights projects highlights the potential of nurturing a wider, arguably neglected as yet, learning space for understanding, engaging, and transforming real contexts towards transition (see Figure 5).

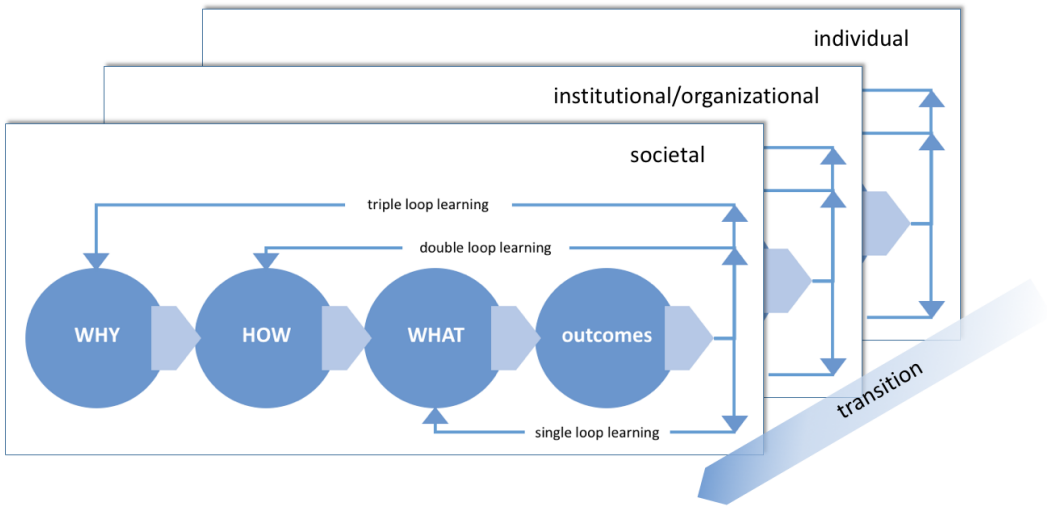

Figure 5: Triple Loop Learning and the three learning dimensions for transition

The overarching objective of easyRights is to develop a complex, multilevel co-creative ecosystem in which different actors belonging to the project partnership, the local governance system for service supply, and the innovation teams involved through hackathons, cooperate in increasing the quality and performance of digital public services available to the (im)migrants. Specific aims of the project are to improve the current personalization and contextualisation levels of some services to the (im)migrants, empower prospective beneficiaries of existing services to get better access and fruition opportunities, and engage in that effort with various actors and stakeholders from a wide range of disciplines.

Answering the question "how do Triple-Loop Learning, digital innovation, and services for (im)migrants relate to each other?" is important not only to acknowledge the cognitive framework activated by easyRights but also look at the project implementation process, at the service governance level and into the hackathon activities, each of them as a complex ecosystem of actors, roles and collaborations. This

ecosystem operates as a large open community (Carayannis and Campbell, 2009) and can be described using the Quadruple Helix analogy, focused on the interaction of representatives from State, Academia, Industry and the general public. To understand why it is so, consider e.g. the involvement of academia in the project partnership, the direct link with the ICT industry coming from both the project partners and those to be involved through the hackathons, and the key role played by local NGOs in the provision of services to migrants - which are essentially government services.

2.2 Learning in Quadruple Helix ecosystems

Nowadays evidence is growing that Quadruple Helix ecosystems, as innovation environments, are made of "open" communities (De Liddo and Concilio, 2017) having permeable boundaries (Concilio and Moro, 2017) and that can be operationally effective although their members are not permanently involved in the community activities and evolutions. Such communities bring evidence that open innovation has more complex characteristics than those conceived of by Von Hippel (2005): openness is not just related to the inclusion of end-users in the process of innovation; rather, it implies a wide, complex knowledge production process, characterized by the participants self-organization abilities and the experimental approaches emerging from unexpected collective intelligence, creativity, and innovation.

Open communities having the described functioning nature are typical of urban contexts; they are more and more often seamless aggregations of relevant actors and involve collective, insurgent actions rather than simply being planned by the explicit will of existing organisations and institutions. When these communities act in the public realm, the interplay between the "individual" and the "collective" dimension becomes particularly rich and productive, especially thanks to the "openness" of involved actors, such as public and private parties (municipalities and individuals), to act outside – and free from – existing organisational constraints. Open communities in the public realm have been identified in many different contexts and as a result of different types of innovation initiatives, the most relevant and known being the Living Labs.

A high number of Living Labs have materialised in Europe and overseas as Quadruple Helix ecosystems engaged in co-creation, validation and testing of new prototypes in real-life environments, where the focus is set on the individual person, who is continuously monitored in all his/her social roles such as citizen, user, consumer or worker. This concept has been considered by many observers as a major paradigm shift for innovation, which has started to move out of laboratories into open-air, real-life contexts (including cities, regions, rural areas, factories, homes, hospitals, etc. - and sometimes building virtual spaces of collaboration between public and private actors). In Living Lab settings, users are co-producers of innovation and the researchers are themselves part of the game: actually one could see their respective roles blurred or interchangeable. This human-centric, experience-based perspective does not only ensure a user-driven design and development of products, services, or applications but also better user acceptance. The goal is to reach a more sustainable innovation by taking advantage of the ideas, experiences, and knowledge of the people involved with respect to their daily needs, in their everyday lives, encompassing all their societal roles[2].

[2] The network of actors involved in Living Labs, can be looked at as a Community of practice. They are characterized by their being emergent, autonomous, and by sharing knowledge openly. These communities are defined by the participation of people sharing a common, although differentiated by specific application domain, interest towards a certain practice: members engage (in a not-

Living Labs ecosystems may be assimilated to ephemeral communities whose existence is related to the synergic effort developed by participants to better understand and know a certain domain of practices. The open sharing of knowledge, information, and innovation are crucial in the collaborative work of such communities. Users are motivated to share their innovative work, or understandings, and engage in collaboration due to the benefit they gain from experience and knowledge exchange. As underlined by Wenger (1998) such communities are **"about" something**; they are not mere relational systems. They share "an identity (...) as members engage in a collective process of learning". This being related by an "about something" allows Wenger (2000) to consider learning as a mode of belonging to such communities since:

- learning by doing in real-life environments transforms the individual experience into a common good;
- being part of the same experiment makes the individual sphere of action as a collective resource benefiting from the individual sphere of actions of others;
- having a vision (image) of the collective, shared perspective of an (individual) action implies a more valuable idea of the individual action per se within the larger collective action, so making motivation and commitment stronger.

The need for a larger scale, systemic change (a transitional perspective) requires individual action to align with other individual actions as well as with other processes sharing the same transitional tension so guaranteeing the evolving alignment of the collective action.

In easyRights, Quadruple Helix ecosystems are open socio-technical communities where the four actors involved (people, businesses, academics and institutions) share a similar transitional tension (vision) and contribute to the development of new practices, also benefiting from experience and knowledge related to the digital world. This transitional tension is considered the engine activating and (possibly) maintaining the Triple Loop Learning mode along the different levels of socio-technical systems: individual (at micro scale), institutional/organizational, societal.

2.3 The easyRights Quadruple Helix ecosystems

According to Lundvall (1992), knowledge and learning constitute the most fundamental resources in a modern economy. More recently, Carayannis and Campbell (2010) highlighted knowledge as a broad and contextualized concept in the societal realm. This is especially due to the inclusion of innovation in the conceptualization of learning as being a knowledge-driven and targeted activity (Kuhlmann, 2001; Kaiser and Prange, 2004; Carayannis and Campbell, 2007). In easyRights, we view knowledge as a social learning process accompanied with a significant potential in problem-solving.

As this project is strongly concerned and linked with the production, diffusion, and use of knowledge, therefore it focuses on features in relation to problem-solving for the society, which is organized around particular applications, services and procedures. In this mode of knowledge production, continuous communication and negotiations between knowledge producers within Quadruple Helix ecosystems are crucial (Gibbons et al., 1994). The creation of Quadruple Helix ecosystems, and the consequent emergence

formal manner) in the development and testing of practices through iterative processes where members give feedback and contribute to the development and improvement of those practices (see Capdevilla, 2014; Brown and Duguid, 2000; Wenger, 2000).

of effective alignment dynamics among them, will enable easyRights to implement further inter-institutional collaborations and to consolidate strategic alliances in the local contexts.

As mentioned already, Quadruple Helix ecosystems involve the constructive interaction of national and/or local government, academia, business, and the general public. The easyRights' Quadruple Helix ecosystems are built in each of the pilot sites and are charged with managing the local co-creation activities as well as the systemic changes in the governance of (im)migration-related services as well as in the policies that the project innovations will ultimately bring about. This pluralism of knowledge coming from Quadruple Helix actors specifically activated by the easyRights project allows for the emergence, co-existence and co-evolution of various knowledge and innovation paradigms (see Carayannis and Campbell, 2009). As highlighted in several studies, in a multi-level and complex ecosystem the existence and co-evolution of a pluralism and diversity of knowledge and innovation modes is pivotal (Carayannis and Campbell, 2009; 2010).

But there is more: the easyRights project also develops a learning network of ecosystems by activating complex relations between the different Quadruple Helix ecosystems and actors having their power engines in the pilot activities: in other words the knowledge and innovation activities in easyRights can be seen as characterized by a pluralism of cross-cutting multi-level interactions from organizations active at the local, national and transnational levels (Figure 6).

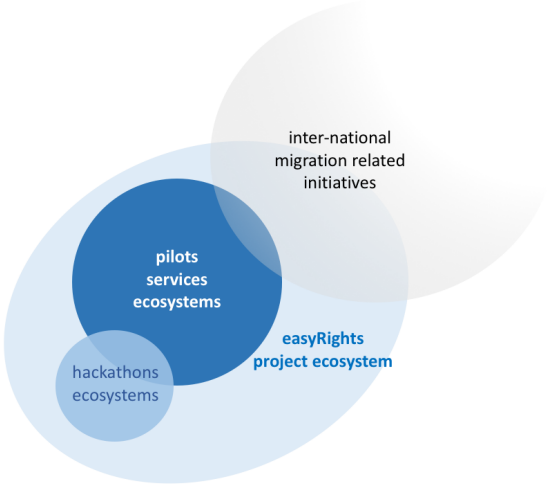

Figure 6: towards a complex network of Quadruple Helix ecosystems

As already underlined, the pilot activities will be the power engines for learning, having their course in the service ecosystems. Each service ecosystem[3] will be related with the others as well as with the Quadruple Helix ecosystems activated by the hackathon initiatives (being productive along the three phases: pre-hack, hack event, and post-hack) and with the project ecosystem being itself a Quadruple helix example.

[3] Three pilots Malaga, Larissa and Palermo are dealing with 2 service ecosystems per pilot, and Birmingham deals with 3 service ecosystems. This implies overal 9 Quadruple Helix ecosystems.

All these represent the elements of a larger Quadruple Helix community that the project as a whole will activate.

Each ecosystem includes different individual actors, organizations (public or not), and targets a wider portion of civil society, surely involving components of it in different manners. It will be in each of the activated Quadruple Helix ecosystems (Figure 7) that easyRights will observe the learning processes within a transitional perspective including individuals, institutional/organizational structures, and (in a long lasting process) the societal scale (see again Figure 5).

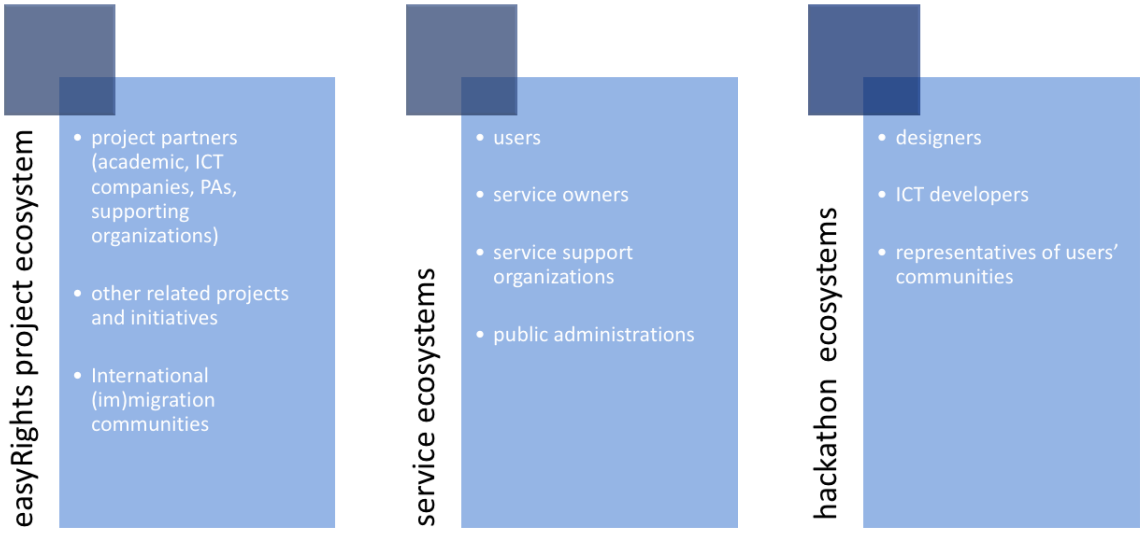

Figure 7: the easyRights Quadruple Helix ecosystems

In the table below, using the early results of the stakeholder analysis carried out by the pilots in the initial project months, we describe the 9 ecosystems and the specific roles of each actor in service provision.

Table 1: Mapping of actors and roles in service provision in each easyRights ecosystem

	Pilot and Service	Actor 1	Actor 2	Actor 3	Actor 4	Actor 5	Actor 6
1	**Birmingham Service #1 "Clean Air Zone (CAZ) Permit"**	**CAZ team/BCC***	**Travel Demand team /BCC**	**Sustrans (NGO)**			
	Role in Service provision	-mitigations - exemptions - respond to CAZ queries	-raise awareness of the CAZ -support alternative	-recruit migrant community champions to			

			mode of travel for migrants	raise CAZ awareness -Support cycling and walking			
2	**Birmingham Service #2 "Consultation Inclusion (BeHeard)"**	**BCC Transport Department**	**Delib Web Team**	**Public Health**			
	Role in Service provision	-send out information and online survey	-own the product citizen space (BeHeard)	-Use Citizen space to raise awareness around health			
3	**Birmingham Service #3 "Access Learning English"**	**BASE**	**South and City College Birmingham**	**Fircroft College**			
	Role in Service provision	They are responsible for ESOL learning in Birmingham, also BCC partners	BAES partners that deliver ESOL at their college	BAES partners and another site/college that also deliver ESOL in another part of Birmingham			
3	**Larissa Service #1 "Nationality Certificate"**	**Decentralized Administration Agency of Thessaly**					
	Role in Service provision	- provides Greek nationality to immigrants					
4	**Larissa Service #2 "Residency Permit"**	**International Organization for Migration**	**Larissa's Municipal Enterprise**	**Decentralized Administration Agency of Thessaly**	**Danish Refugee Council**	**Terre des hommes**	**Ministry of Migration and Asylum**
	Role in Service provision	Supervises and finances aspects of the Koutsohero Refugees Camp	Runs the ESTIA program	Provides permanent residence	Camp management support	Child protection case management services	Responsible for policy provision
5	**Malaga Service #1**	**Policía Nacional**	**Cruz Roja (Red Cross)**	**CAER (Comisión Española de**	**Government**		

	"Asylum Registration"	**(National Police)**		**Ayuda al Refugiado)**			
	Role in Service provision	Initial Processing of Asylum Applicants	Initial Care of Refugees	Initial Care of Refugees	Provide Public Services to Refugees		
6	**Malaga Service #2 "Employment Support"**	**Local NGOs**	**Employers**	**Servicio de employ "Department of Employment"**	**Info Jobs**		
	Role in Service provision	Provide Variety of Long Term Services	Provide Employment Opportunities	Connect Immigrants to Available Jobs	Connect Immigrants to Hiring Organizations		
7	**Palermo Service #1 "Join Registry Office"**	**Municipality of Palermo**	**Social Workers of Municipality Palermo**	**Reception centres workers**	**Legal Tutor/ of MSNA/ Mentor of young migrants**		
	Role in Service provision	Facilitators of bureaucratic procedures relating to personal registration, residence and identity card	Followers of migrant young people's inclusion path	Spokesperson for migrant young people's needs	Spokesperson for migrant young people's needs/ Affective and guiding presence of migrant young people		
8	**Palermo Service #2 "Job Seeking and Orientation"**	**UNICEF/ASTALLI/Opera Don Calabria**	**Job agencies (APL e Centri per l'Impiego Regionali)**	**Reception centre workers/Legal Tutor/ of MSNA/ Mentor of young migrants**	**Employment centre**		
	Role in Service provision	Facilitator of autonomy path of migrant young people	Job orientation and active researcher of companies	Spokesperson and guide for young migrant young	Help to find a job according to the profile of migrant young people		

*BCC: Birmingham City Council

The size of each ecosystem varies depending on the service and the specificity of the pilot context. For example, in Larissa the selected service of "Nationality Certificate" involves relatively smaller numbers of actors compared to the "Residency Permit". Or in Malaga and Palermo two similar services have been

identified, the “Employment Support” and the “Job Seeking and Orientation”, which are articulated in compliance with the national and local rules and regulations of the respective pilot site.

The Figure below (Figure 8) depicts the 9 easyRights service (Quadruple Helix) ecosystems including the relevant actors of the two different services for each pilot.

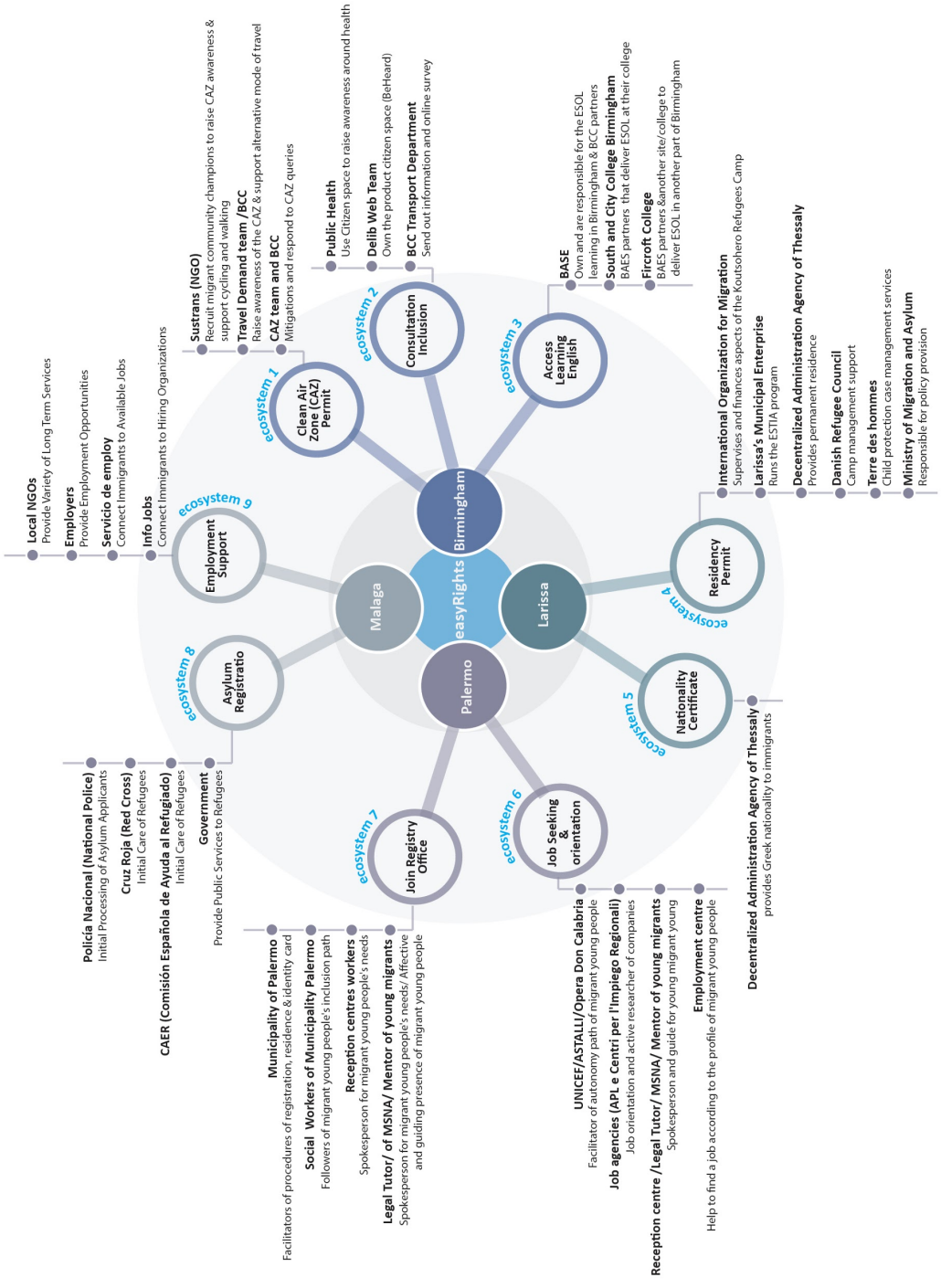

Figure 8: The nine service ecosystems in easyRights

3. Conceptualizing and supporting 'Triple-Loop' learning in easyRights

3.1 Inter-organizational learning as value-production chain

As already underlined, learning is widely considered a key to knowledge generation and is often a purposeful goal of collaboration (Mohr and Sengupta, 2002). More and more, even in the business world which traditionally shows resistance to collaboration, we witness a learning orientation in collaborative efforts. This is often defined as the development of new knowledge with the potential to influence behavior through its values and beliefs within the culture of an organization (Slater and Narver, 1999). Paladino (2008) emphasizes that it is crucial for organizations to learn by the continuous renewal of operations, processes and resources, that is, learning by reflecting on values underlying visions and actions adopted by the organization (i.e. reflecting upon the 'what'/'how'/'why').

Triple Loop Learning (crucial for systemic change) is stimulated in easyRights by creating conditions for inter-organizational collaboration and inter-organizational thinking. In particular, inter-organizational thinking is targeted to guarantee that the project contributes to the transition towards a more inclusive society. Collaboration takes place between different organizations at different stages of the project activities, thus creating an extended and networked learning process where feedback between different involved actors and collaboration dynamics involves the mobilization of, and the reflection on, a complex system of values related to the targeted vision, that of a "more inclusive society". The outcomes of learning will be enhanced capabilities for managing change and making decisions (Sinkula *et al.*, 1997; Calantone *et al.*, 2002).

Change in this respect is value-driven and the values that the project will mobilize are those in operation in a more inclusive society. By approaching services as interfaces between (im)migrants and their rights, easyRights activates higher level reflections on the real integration of ethnic minorities in their hosting contexts; services represent the lens to observe "values at work": the right to have a recognized identity, the right to escape from violence and torture, the right to stay with own families, the right to have a job, the right to have a safe life, etc. These rights should be (are) guaranteed by easy and accessible services and operationalizing collective, human values for social integration. easyRights reinforces such values by considering that the easier is the access to them for (im)migrants, the more operational are these values for social inclusion to become achievable.

Lepack, Smith and Taylor (2007) consider value creation as having three different scales: individual, organizational and societal; they look at the three scales from inside the organization or in relation to it. In particular "*value creation at the individual level involves creativity and job performance, at the organizational level it may mean innovation and knowledge creation, and at the societal level it may involve firm-level innovation and entrepreneurship, as well as policies and incentives for entrepreneurship*" (p. 187).

In easyRights, entering the service environments with the intention to ignite a reflection on the level at which a certain service meets the immigrants' needs, implies to locate value creation at least at the organizational and societal levels and take into account the possible revision of involved entities, so as to achieve a wider, more systemic change of the service ecosystem and infrastructure (Manço, 1996): this is the mechanism, even just born, for systemic change towards inclusion that easyRights implements. In doing so, actors and institutions involved in the identified Quadruple Helix communities collaborate also

to reinforce or develop the results of one another and to make the services more accessible and the entire community more inclusive.

3.2 The easyRights methodological approaches towards triple loop learning

3.2.1 Service design as value-driven learning approach

The easyRights project looks at services as interfaces between the culture of public organisations and the citizens in general, in particular the migrants. The project is based on the assumption that a direct connection exists between the level of accessibility and usability of public services and the operational capacity of local public administration to be friendly and inclusive to migrants.

To implement this assumption **easyRights introduces service design as a human-centred design approach** to release services centred on the needs of their users in the context of the project and also to support migrants in interacting with local bureaucracy and therefore fully exercising their rights.

The capacity of the easyRights service ecosystems to design and deliver more usable and accessible services for the migrants strongly affects the possibility to fully develop their rights towards powerful citizenships and to put in place significant “acts of citizenship” (Isin and Nielsen, 2008). This capacity of the local ecosystems depends on the culture of the actors that populate them with respect to innovation. In addition, easyRights aims to promote a cultural transformation of these ecosystems towards the experimentation of a user-centric service culture.

The easyRights pilots are considered small-scale experiments. As such, they can be interpreted not only as means of providing better services but also **vehicles for deeper transformation through the iterative cycles of analysis and synthesis of the co-design process** (Owen, 1998). The project considers these experiments as learning processes (Owen, 1998; Beckman and Barry, 2007) that lead to organizational transformations (Rizzo et al., 2017). Overlapping the co-design process with Kolb’s (1984) experiential learning model, based on four iterative steps (experiencing, reflecting, thinking and acting), **easyRights exploits an interesting design-based learning framework** (Beckman and Barry, 2007; Rizzo et al., 2017) for reflective learning already used in other contexts (Rizzo et al., 2019).

These processes however can often encounter difficulties in achieving the goal of embedding a co-design approach in public sector organizations or co-designing better services from a user-centered perspective, as related practices conflict with the long-established organizational practices and cognitive patterns that shape the organizational culture of the public sector, which runs in stark contrast with those found in the assembled design teams (Bason, 2010; Tõnurist et al., 2017; Elsbach and Stigliani, 2018). This is related to the low absorptive capacity (Cohen and Levinthal, 1990) of these organizations and their need for transformation, which in short, calls for more knowledge creation and learning.

Rizzo et al. (2017) point out that when co-design is applied to societal challenges it takes on complex, participatory processes, engaging a vast number of actors and stakeholders, which extend the nature of participation to include: “1) the [relationship] between the context of the problem to be addressed and the design of the network that will co-produce the solution; and 2) the [experimentation] of different configurations of that network until […] a robust partnership is individualised and established [into an] institutional form” (p. 130). These configurations, if designed well, embed the knowledge resources needed to frame the problem, not only from the perspective of the user, but also of other actors involved

in the production of the service (and also in its consumption, even in secondary forms – e.g. caregivers, family members, etc.). Finding the right configuration and institutionalizing the interaction is therefore essential towards successfully implementing the new service in the long run and is one of the larger challenges of the translation of these experiments from "nice insights" to applicable knowledge.

Co-design, defined as "the creativity of designers and people not trained in design working together in the design development process" (Sanders and Stappers, 2008), thus represents a powerful method for creating change in government. By including all actors in the design and development of products and services, it threatens existing power structures by dismissing and going beyond the 'expert' mindset. In fact, while user-centered design was widespread in the 1990s in consumer product development, it has failed to address the complexity of 21st-century problems which require a shift to a more egalitarian view based on idea sharing and knowledge holding, seeing users as experts and active co-designers rather than passive participants.

Building on the theoretical framework discussed above, easyRights will explore how **service design based on co-design is able to translate new knowledge and contribute to organizational change** enhancing the co-creation capacity at both individual and organisational levels through an intense immersion into co-design methodology, tools practice and peer-learning processes.

To implement this ambitious plan, the project conceives the process of service design as a learning framework for all the actors of the service ecosystems: the idea is that by situating the process of user centred service design in the local ecosystems and by engaging the local network of stakeholders in co-designing the new services it wouòld be possible to trigger powerful "learning by doing" cycles based on the co-design methodology that can eventually nurture the development of user centred innovation capacity in each of the actors involved.

To operationalise this goal, easyRights is based on the hypothesis that the introduction of user centred service design approach should be primarily based on its practice, or on a learning-by-doing framework that can be complemented with reflection to achieve a sustainable transformation in the local ecosystem. This is not only in line with generic organisational learning principles (Cohen and Levinthal, 1990; Senge, 2003) but also with the way in which service design knowledge and culture is built, which is historically bound to practice. In such a setting, the role of prototypes and context-based experimentations, as the core ingredients of the service design approach, can also be regarded as key for developing co-creation knowledge and for its appropriation by the easyRights local ecosystems. Service design processes are then seen not only as part of the development process, typically meant to prototype solutions and improve them in an interactive way within a real situation, but also as long term learning experiences.

3.2.2 Hackathons as a learning approach to include newcomers in service ecosystems

The solutions in easyRights will be developed and deployed through integrating diverse, yet crucial competencies coming from three distinct teams and communities: 1) the local authorities and NGOs working with and for the immigrants' rights at the grassroots level; 2) part of the academic and industrial partners bringing their experiences and expertise in the design and development of ICT solutions and interfaces, with a special focus on AI and language training systems; 3) another part of the academic partners with distinctive competencies in urban Living Labs, social and policy analysis, service and communication design, and the management of hackathon events.

In easyRights, innovation, service co-design, and co-production are directly linked to the hackathon events organised in each pilot site. Often there is the impression that hackathons are somehow restricted to IT savvy participants - coders and technical developers able to generate self-sustained apps and similar software tools within the narrow time frame of a 2-day round-the-clock marathon. While in the easyRights project, the development of tailor-made service innovations is based on a series of multi-stakeholder hackathons organized in the participating pilots and learning co-design environments. Such an approach has been already tested and successfully implemented in Open4Citizens, a EU project funded under the CAPS initiative[4].

Focusing on immigrants' integration will help to attract and aggregate very motivated and skilled people (to be looked at as newcomers) while generating knowledge with special attention to related social matters (so mobilizing values). This will in turn help the migrants (and especially those who participate in the hackathon event) to fight against the barriers and cultural resistances they have to face in the hosting countries. In easyRights, the hackathon experience itself is an integration experience whereby immigrants interact on a peer basis with coders and other non IT savvy citizens in the development of solutions that eventually achieve public service transformation.

Moreover, hackathons events are important drivers for the creation of ecosystems of Quadruple Helix actors that allow effective alignment dynamics to emerge, which are productive for further inter-institutional collaboration and the consolidation of strategic alliances in the local contexts. The continuous involvement of the representatives of user communities at all three stages of the hackathon organisation process, which we label "pre-hack", "hack" and "post-hack" phases, creates a socio-digital innovation environment based on multi-stakeholder partnerships, as a derivative of the Urban Living Lab approach. This effectively involves target-users in the co-creation and co-production of new or reformed public services and infrastructures.

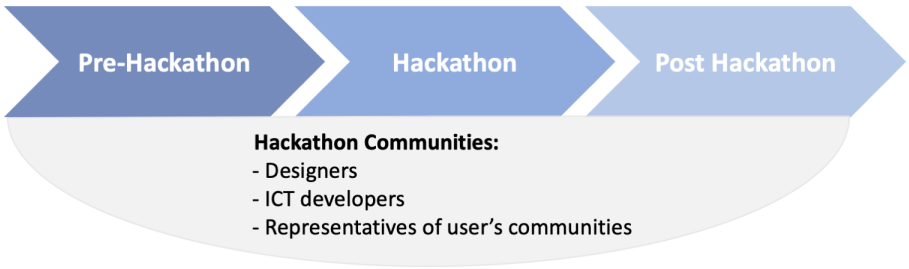

Figure 9: Hackathons organization process within multi-stakeholder partnerships as learning co-design environments

In addition, the essence of an Urban Living Lab partnership is to involve actors from the Quadruple Helix. The underlying concept is to adopt and apply citizen-centric and participatory methods to the co-design and co-experimentation of innovative urban services together with their prospective beneficiaries.

[4] https://ec.europa.eu/digital-single-market/en/caps-projects

3.2.3 Interactions through learning dialogues

To support Triple-Loop Learning, easyRights uses an open multi-method approach to facilitate interaction and therefore the creation of a collaborative way to work. Coherently with the analyses of human activity systems (Checkland and Scholes, 1990), this approach is aimed at integrating the social dimension of the constitutive dynamics of collective action (Barbat et.al, 2011). Learning in communities is expected to be enabled when members interact by reflecting critically and communicating about their reflections, thus scaling the individual critical reflection up to a collective social level (McArdle and Coutts, 2010; Mercer, 2008).

Paragraphs 3.2.1 and 3.2.2 explained the two key methodological approaches adopted by easyRights to stimulate Triple-Loop Learning by creating conditions for reflections at individual, institutional and societal levels. Although co-design and hackathon practices and methodologies supply several suggestions for managing interactions, clear details are missing as for the way they can become productive for knowledge production and inter-organizational learning.

Peter Senge, in his book *The Fifth Discipline*, identifies tools for dialogue that widen the effectiveness of a collective action, stating that "*In dialogue, individuals gain insights that could not be achieved individually. A new kind of mind begins to come into being which is based on development of common meaning. (…) People are no longer primarily in opposition, nor can they be said to be interacting, rather they are participating in this pool of common meaning, which is capable of constant development and change*" (Senge, 2003). Dialogues are widely considered as strategic means to interactive processes aiming at long-lasting systemic changes: they enable ideas to be generated, visions to be explored and developed, and strategic thinking. According to Buchanan and Dawson, dialogues help to make sense of complex change processes as they open established assumptions, question the validity of single claims to "truth" and highlight the multi-story nature of change processes (Buchanan and Dawson, 2007).

For easyRights to support learning during interaction activities (being co-design workshops, hackathon group work, or interviews), dialogues will be structured according 5 of the 7 dimensions of the **Critically Reflective Work Behaviour (CRWB) framework** (Van Woerkom, 2003 & 2008; Van Woerkom and Croon, 2008). The CRWB framework has been developed for the observation of organizational learning (in large business organizations) and considers that critical reflection is not a hidden process occurring in individual minds; rather, it is a behaviour within a group as a result of individual thinking associated with social interaction. The CRWB framework proposes seven dimensions to be the driver for the observation. However in easyRights, we adopt five of them, which can be transformed into guiding principles for supporting dialogues. In fact, as the project focus is mainly on work-related learning in organizations, not all seven dimensions appear relevant. The five adopted by easyRights are: challenging groupthink, critical opinion sharing, openness about mistakes, asking for feedback, and experimentation as suggested by de Groot et al. (2011).

Table 2: CRWB driven guiding principles for learning dialogues (adapted from Van Woerkom andCroon, 2008)

CRWB dimension	Key principles
Challenging groupthink	Sollicitate contrary ideas, criticize espoused theories within a group when alternative courses of action (Janis, 1982) appears. Consider that risk of groupthink increases when the group is striving for consensus and unanimity (Cruz et al., 2006; Janis, 1982; Klocke, 2007).
Critical opinion sharing	Emphasize on constructive challenges intended to improve and propose alternatives rather than merely criticize (Van Woerkom and Croon, 2008).
Openness about mistakes	Push collective reflections on mistakes to correct false assumptions and to explore alternatives. Stick the reflection around mistakes not only as an individual activity rather as an essential social activity (Van Woerkom, 2003). This is a special form of experiential learning that is highly relevant for professional learning (Gartmeier et al., 2008).
Asking for feedback	Ask for feedback, especially when people work alone or in small practices (Ashford et al., 2003); earning communities could add opportunities to ask for feedback as a prerequisite for learning to occur (Hattie and Timperley, 2007)
Experimentation	It is a broader concept for reflection-in-action (Schön, 1991) and it will probably not take place during the meetings of learning communities but in the daily work setting. Therefore approach to action within experimental perspective is crucial to be discussed when exploring and imagining alternatives (Kamin et al., 2003).

Coherently with the CRWB framework, the learning dialogues in easyRights are operationally aimed at considering the points of view of the other people and their diversities, widening the vision of the world, and overcoming the “individual” towards the “collective”, thus supporting the creation of the Quadruple Helix communities. These guidelines will be adopted for interaction in all project activities.

4. Learning and evaluation interplay

4.1 Evaluation for collaborative and critical reflection

Both theory and experience confirm that transitions are enabled by context-dependent feedback processes that affect the system over time (Walker and Salt, 2012). For the easyRights project, this implies that an assessment framework is necessary to guarantee continuous *feedback provision* from the local systems (pilots) to the project system and vice versa.

Feedback provision is a fundamental mechanism for learning, also highlighted at the micro-scale of learning dialogues, as well as of innovation development, typical for the Quadruple Helix ecosystem and Living Labs approach that will characterize the pilots' implementation.

Coherently with the distinction between summative and formative evaluation (Wholey, 1996; Tessmer, 2013), learning will be furtherly supported and pushed by evaluation in each of the Quadruple helix ecosystems (namely the easyRights project ecosystem, the service ecosystems and the hackathon ecosystem) by exploring in details the *what/how/why* triplet.

In easyRights evaluation can be considered the additional methodological approach to push learning and will consider the three Quadruple helix ecosystem categories as proper environments; hackathon and service ecosystems will be appropriate for formative evaluation and the easyrights project ecosystem will be the environment for summative evaluation (Figure 10).

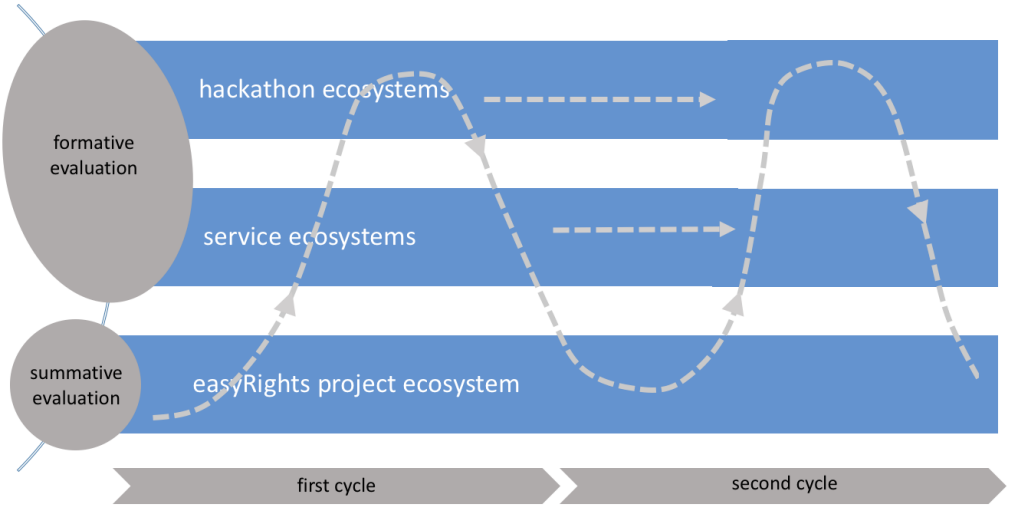

Figure 10: the evaluation process through the Quadruple Helix ecosystems activities

In this perspective the evaluation framework of the easyRights project will be strictly focussed on the implementation of the *what/how/why* key Triple-Loop Learning concepts at both the formative and summative levels.

4.2 Key learning drivers in the easyRights evaluation framework

Coherently with the framework described above about the role of evaluation in easyRights, it is possible to identify three key learning drivers, objects for reflection to be activated in the different quadruple helix ecosystems of the project. These are the complex objects the evaluation plan will focus on, i.e. spheres for reflections that the evaluation framework can target to support learning for and from the project: 1) the results; 2) the project practices; 3) the transition perspective. These key learning drivers are explained, one by one, in the following paragraphs.

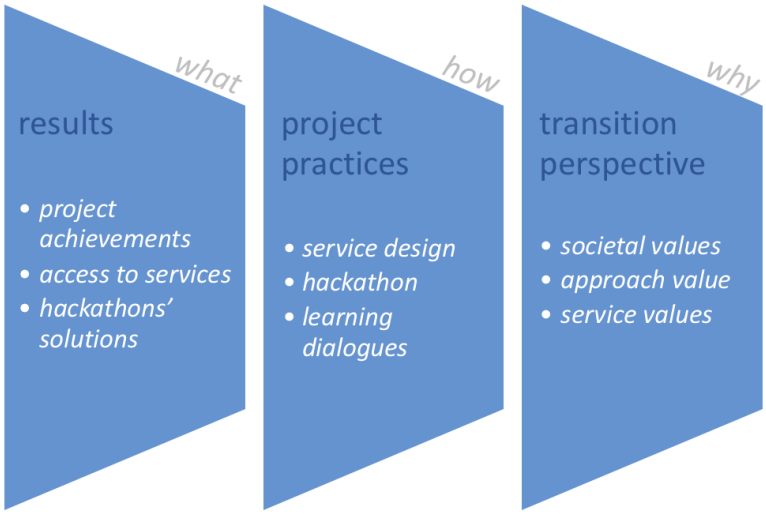

Figure 11: Three learning drivers for the easyRights evaluation framework

The first learning driver, the **results**, is a synthesis of the **"what"** each Quadruple Helix ecosystem category should reflect on to activate first loop learning. Key questions for the "what" are: is the "what" properly done? is it the best "what" possible? Such questions will be investigated and explored through evaluation within the three Quadruple Helix ecosystems respectively the easyRights project, the service and the hackathon ecosystems. It will represent the key bridge between the evaluation and the Quadruple Helix ecosystems.

The reflections at the level of the easyRights project ecosystem (the summative level) is mainly oriented towards project achievements and outcomes; in this respect, the monitoring and evaluation of the project's progress will be crucial for the revision or modification of its trajectories while the project itself is still in progress. Coherently the evaluation at this level will support a reflection on the project's performances following the entire duration of the project with the focus on identifying the effectiveness of its implementation and providing a means of accountability in assessing the extent to which the project is moving towards the call expectations.

Key objects for critical reflections at this level are:

- project adherence to the call expectations;
- effectiveness of project activities;
- lessons learnt from the project;
- strengths and weaknesses in the project implementation.

At the formative level, the aim of the "what" reflection is to gain feedback about the effectiveness of the work at the pilots level within the service and hackathons quadruple helix ecosystems with the explicit goal of enhancing and improving pilot implementation during the project time and along the two cycles foreseen.

For the service Quadruple Helix ecosystems the "what" focus will be on access to service and will deal with service access obstacles, improvements criteria and related key performance indicators. For the hackathons Quadruple Helix ecosystems the "what" exploration will focus on the response to the hackathon challenge, the technical coherence of the developed solutions and their ability to respond to users' needs.

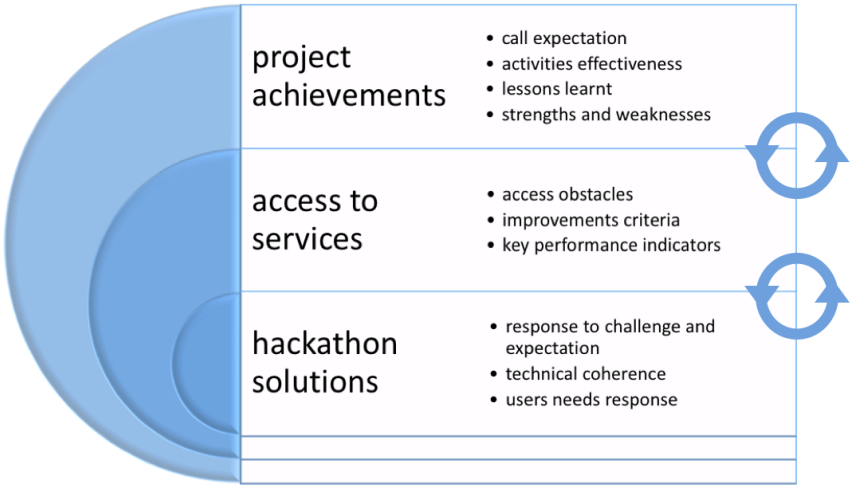

Figure 12: the results (what) learning driver for the easyRights evaluation framework

easyRights focuses on three different spheres of **practice** each related to the methodological approaches easyRights will use and consolidate. This is the learning driver related to the "**how**"; to reflect on the "how" the questions to be explored are: is the way we work the right one? Do we work in the best possible manner? Etc. The reflections on the "how" will target the three methodological approaches in easyRights: the service design, the hackathons, and the learning dialogues.

Service design represents the key methodological approach for the innovation of services for (im)migrants; as underlined in Deliverable 1.3. The services are considered the ignition means to a higher level innovation eventually affecting the organizations supplying them and activating reflections on the

normative and regulative framework related to them. Thanks to co-design tools and methodologies, at the pilots' level the service design approach guarantees, (im)migrants (users) and the wide set of supporting organizations (volunteers, NGOs, offices…) to come closer to the services and to be transformed into quasi-owners of the services in a co-production perspective.

The service design is strongly related to the hackathon practice. The way easyRights approach this practice is fully coherent with the service co-production perspective just quoted above: hackathons are, in fact, not meant to be exclusively reserved to ICT developers and experts, they are rather intended to be opened to the entire service ecosystem (users, supporting organizations, service providers,...) so that the generated solutions are easier to be adopted and activated in use.

Finally the third methodological approach is the learning dialogues practice and is related to the exploratory and reflective atmosphere that will be created by the project whenever interactions occur: from co-design workshops to interviews, from pilots alignment meetings to project meetings.

For the three methodological approaches the evaluation activity will develop dedicated tools/instruments to explore responses to the "how" questions and (possibly) activate the second loop learning process.

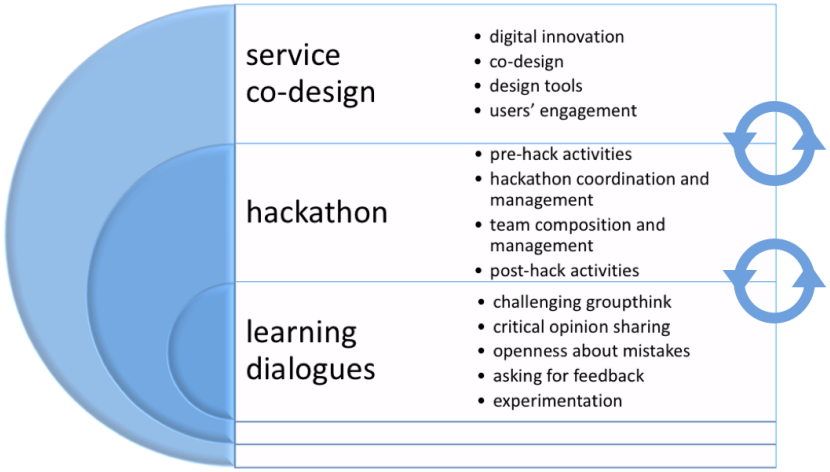

Figure 13: Project practices (how) as learning driver

The third learning driver is represented by the **transition perspective**. Dealing with (im)migrants and the dimensions that the (im)migration phenomenon is assuming in the contemporary times, the introduction of a systemic change perspective (i.e. a socio-technical transition tension), is crucial. Here the reflection focus is on the "**why**": the need for effective inclusion and for human rights guarantees can be considered the driving values and forces of the project. The questions looking for answers here are: why are we making such an effort? What are the long lasting changes we all desire and share? Etc.

Values play a key role in reflecting on the "why": at a societal level, values activate strategic reflections related to human rights, social integration and equity; values at this level are mobilized by visions, images of a better inclusive and just future orienting the final aims of the project activities, especially those carried out at the level of policy making and public debate; the easyRights methodological approach represents a value per se as it is strongly oriented to guarantee a large involvement of the service ecosystem so

making values drivers for a collective learning environment; this has a transitional potential as it guarantees the vision to guide the decisions and the discussions among many actors involved in the service innovation work; finally the service value; easyRights in fact does not look at services in a limited operational or functional manner; services in easyRights are intended as interfaces between (im)migrants and their rights, between users and institutions, as well as contact points between people (with a specific emphasis on immigrants) and their new context.

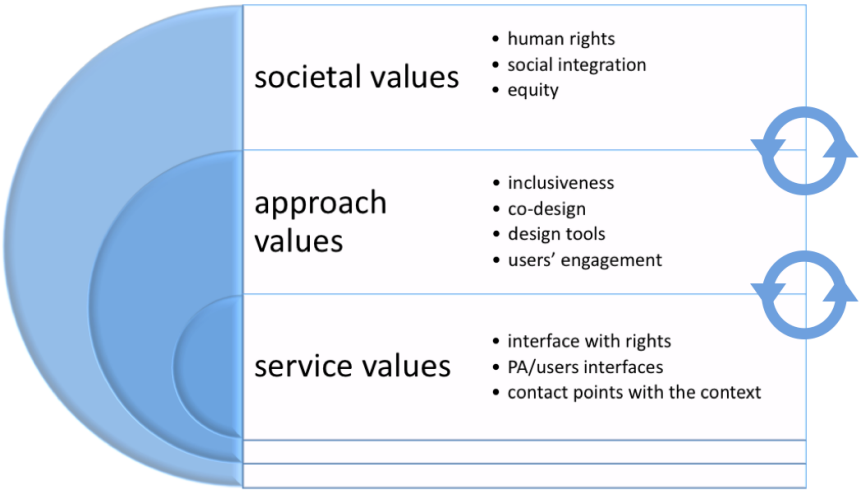

Figure 14: Transition perspective (why) as learning driver

Also the "why" will have The overall evaluation approach of easyRights project takes up previous statements in several respects: all three mentioned levels as well as their interaction processes are a continuous and constituent part of the evaluation of individual actors project activities as well as the actor-specific and project-related objectives. In the sense of a context-sensitive bottom approach, all actors are proactively involved in feedback and learning loops (e.g. as part of the presentations and discussions of the evaluation interim reports)in a targeted and proactive manner.

5. Conclusions

This document was meant to create a framework of reference for the evaluation plan of the easyRights project. The framework is driven by the Triple-Loop Learning concept and looks at the complex system of communities and actors activated by the project activities into Quadruple Helix ecosystems. The easyRights Quadruple Helix ecosystems engage different actors (relevant for the roles played in service provision and access support, for the contribution they give to the hackathons, for the role played in the project as a whole) in the innovation process activated by the project.

Globally, the developed framework identifies three learning drivers as spheres for reflection to activate Triple Loop Learning focussing on the what/how/why triplet. They are further considered in Deliverable 5.2 and are:

- the results
- the practices
- the transition perspective

This first learning driver is the most common one in implementing standard projects evaluation activities. It represents by itself a relevant sphere of reflection and requires important evaluation tools and instruments. The additional learning drivers represent an important addition made by easyRights to the evaluation work as a consequence of the relevance assigned to the project to represent a key contribution for the transition towards a more inclusive society.

The framework also represents a methodological guide to understand service co-design, hackathons and learning dialogues as triggers for learning in inter-organizational collaboration.

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