

# Chapter 2

## CLIQ: A Practical Approach to the Quadruple Helix and More Open Innovation

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**Abstract** This chapter contains the lessons learned from a European innovation project called Creating Local Innovation in a Quadruple Helix (CLIQ). It starts by introducing CLIQ and its aims and then discusses the search for a Quadruple Helix innovation ecosystem by 16 partners, many of them medium-sized towns of Europe. It outlines the roles and challenges of the local authorities in innovation, describes various ways of collective learning, and introduces the end products of CLIQ, all planned to tackle issues such as measuring innovation, transfer of good practices, and ideal conditions for innovation to flourish. At the time of writing, the project is still in progress, yet the reader should get an idea of the main body of learning: what was learned from the research commissioned by CLIQ and through the comprehensive, pragmatically oriented work plan of the project. The learning, or legacy vision of CLIQ, is summarized at the end of the chapter.

Some of those present can still clearly recollect the moment several years ago, when someone in a very tentative and uncertain manner for the first time said: quadruple helix? All the others in the room, in deep contemplation, tasted the words in their mouths, and slowly the thought cleared in their minds... you could almost see it materialize. The expression on peoples' faces brightened; they looked each other in the eye; some of them smiled a bit: yes, that's it! After being born, the thought never left us. "Quadruple Helix" – what on earth may it mean? We certainly did not know. Neither did we know how far this thought would take us to date.

### 1 What is CLIQ?

CLIQ is an acronym for "Creating Local Innovation in a Quadruple Helix." With effort and quite a lot of good luck, it became a European project of 16 partners under the Interreg IVC funding program of the European Union. The project partners are

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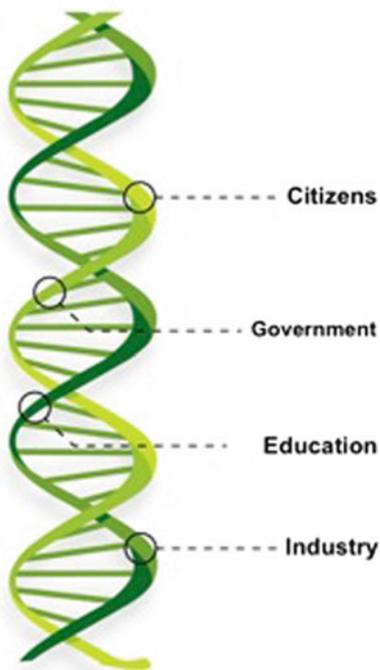


Fig. 2.1 Quadruple helix

local and regional authorities (many of them medium-sized towns), business and innovation centers, and chambers of commerce from ten European countries, which represent different roles and positions within the innovation chain. The Interreg program is about the exchange of knowledge and experience across Europe and is implemented under the European Community's territorial cooperation objective and financed through the European Regional Development Fund. The areas of support are innovation and the knowledge economy, environment and risk prevention (Interreg IVC Innovation and Environment. Regions of Europe Sharing Solutions 2010).

CLIQ had an ambitious work plan implemented for 3 years in 2008–2011. The long-term aim of the project is to optimize the benefits of globalization and innovation to small and medium sized enterprises (SMEs) and entrepreneurs in medium-sized towns. The main objective of the project is to strengthen local and regional authority policy and their capacity to support innovation more effectively.

The metaphor used at the beginning of the project to illustrate Quadruple Helix was derived from genetics: a DNA chain, where the different “helices” vine around each other and work together to the same purpose yet still maintaining identity (see Fig. 2.1). A paradigm shift toward user-driven and open innovation systems is seen to change the rules of play and the roles of the players, specifically: research, industry, government, and citizens. This chapter collects the learning from CLIQ and

represents a pragmatic approach to the Quadruple Helix model of innovation: what could it mean in practice, and could it possibly bring anything new to the present discussion of open and sustainable innovation?

### ***1.1 CLIQ and European Innovation Discourse***

The Europe 2020 strategy names innovation as one of the keys to smart, sustainable and inclusive growth that is aimed at the whole continent (Communication of the European Commission 2010). The discussion of innovation systems, however, has not brought many radically new points of view to the scene for a long time. The notion of Triple Helix was innovative when introduced, but many practical examples show that there are inherent difficulties in Triple Helix. The world has changed since then. Nowadays, the dedicated knowledge institutions (universities, R&D institutions, think tanks, etc.) are not sole producers of knowledge. Many big international companies maintain large R&D departments, own a great number of patents, and are often able to hire the best brains of a generation with higher financial incentives than public universities. The public sector as a whole is suffering from continuous financial cuts and decreasing human resources. It cannot absorb innovations produced for many reasons, one of them being the very stiff system of public procurement, originally meant to make the use of the taxpayers' money more transparent and its users better accountable—a good aim that brought about an unwanted breed, if we may say. When talking about service innovation, obstacles include the lack of knowledge of customers' needs and the absence of a proper mindset for renewal.

In addition, the whole discussion of open innovation—so popular during the last few years—has brought into daylight the fact that the Triple Helix is incapable of incorporating large amounts of equal “innovators” in the system. Something more or different is needed. There are various attempts of doing so: see for example the classification in the Quadruple Helix research (Arnkil et al. 2010) commissioned by CLIQ, which sets out from the assumption that *civil society* is the missing element that needs to be engaged in innovation. Others have argued that the *financiers* are the fourth pillar of the Quadruple Helix. Which one of the various options presented is most effective to grasp the nature of more inclusive or (even) open innovation remains to be seen.

### ***1.2 Innovation and Public Authorities***

It goes without saying that the public sector is in need of more innovations. Facing a rapidly aging Europe and ever more scarce resources, the public sector needs to adopt new and more efficient ways to work. The new nature of innovation is reshaping public policy. In the innovation economy, a more responsive public sector

and a comprehensive set of policies are in the center when gaining benefits from the changed situation. However, the challenges that the public sector is facing can work also as an innovation driver (OECD Committee for Industry and Innovation 2009). The public sector can have a wide variety of means to influence innovation demand also locally, even though national differences exist in view of the role and capacity of local authorities.

The public sector can directly influence its own *demand*. Public procurement could, in principle, increase innovation both in the public and the private sector, as well as publicly funded research. It can also develop new tools for innovation support. Plenty of potential exists in new cooperation models between public and private sectors. For example, there is a large territory for private innovation within the owners of welfare, social and educational institutions. Coming to the scene of political decision-making may turn out to be difficult for private companies, however. Creating healthy concurrence between service providers is one of the means to increase innovation (OECD Committee for Industry and Innovation 2009).

Equally important is the role of local authorities as an indirect *enabler* of innovation. By reforming activities through regulations and standards and by removing obstacles for innovation a lot can be achieved in small and medium-sized cities. This calls for long-term engagement, cooperation, and better information for the authorities (OECD Committee for Industry and Innovation 2009). Also, the role of public authorities in financing innovation projects of the universities, research institutions, and intermediary organizations is well known. Other roles of public authorities in innovation are discussed later on.

Absorbing innovations by public authorities is by no means easy. Stiff regulation for public procurement was mentioned already. There is a European attempt to tackle this problem through precommercial procurement, which makes purchase of innovations a little easier, or at least possible. Innovative purchases often fail because of inadequate skills to work out proper criteria for selection. Shortening the time needed for procurement would also be very helpful to strengthen the role of public authorities as innovation drivers.

## 2 Understanding Quadruple Helix

Our main argument, stating that the civil society, citizens, should be taken into account and considered as equal players in the field of innovation, formed our initial understanding of the Quadruple Helix. The fourth pillar present in the model cannot be anything else, when talking about open, broad-based, or inclusive innovation. This is not to say that there could, or should, not be any more players—whether Quadruple Helix is enough or not is not our concern. It may well be that a *Penta Helix* is actually needed in the complex reality of the future.

The starting point of CLIQ was the baseline study CLIQboost (MacGregor et al. 2010), which outlined initial CLIQ partner profiles in view of innovation and drafted

Insight-Strategy-Stakeholder (ISS) maps to reveal the relations and the potential inherent in local innovation ecosystems of the partner regions. The study offered a wealth of information of the tools and methods that partners use in innovation promotion. It showed—among other things—that many partners have existing strong communication platforms with civil society, but what is lacking is the leveraging of these relationships for innovation. It also argued that the partners need to activate all forms of their present capital: natural, social, and knowledge capital; political leadership and continued construction of infrastructure should be consistent with the vision of better quality of life.

Interestingly enough, it made us aware of the fact that very few, if any, of the CLIQ partners had a functioning Quadruple Helix innovation ecosystem present in their regions. This was confirmed by another research commissioned by CLIQ (Arnkil et al. 2010) according to which the highest intensity actors in innovation activities in the CLIQ partner regions to date are large firms, universities, and polytechnics, national R&D institutions, science parks, and business incubators. Lowest intensity is with consumers, citizens, and employees. This manifests that there is ground for further development of the Quadruple Helix innovation system also in these regions in the future.

### 3 Ways to Learn

One noteworthy conclusion from the CLIQboost report was that there is a place and a common platform available for learning. Establishing relevant learning and interest groups among partners (partners with core competence matching others with learning needs) was recommended. Many interesting ways of learning both individually and collectively can be used. Important questions about learning according to the CLIQ evaluation team are: who is learning, when, what, through which methods, and with which results? “Why” is also a relevant question: to contribute to sustainable development in a complex society might be an adequate answer.

#### 3.1 *Learning from Experience*

One way of learning from each others’ experience is the transfer of good practices. Twenty-six case studies of good practices were published during our project. They deal with issues such as super incubation, introduction of innovative electronic tools for citizen inclusion, entrepreneurial education to all children from an early age, construction and support of local clusters, and helping SMEs to overcome times of financial crises.

Good practices were identified also during the comprehensive exchange program of CLIQ. The dozen Study Visits, Roundtables, and Master Classes carried out all

had a specific theme from cluster and entrepreneurship promotion and innovation financing to the inclusion of civil society and the role of local authorities in innovation promotion. Local examples and good practices were showcased and discussed with the particular viewpoint of potential transfer from one region to another. How many of these examples and practices will actually be transferred cannot be predicted, but in principle there is nothing to make it impossible, especially, when the concept allows for modification to local needs. Economic thinking can easily recommend this kind of transfer, with recognition of the need of local customization.

One problem related to this is the valid identification of good practices. What is a good practice in general? Does it exist at all? On which criteria can we nominate a phenomenon or an action as a good practice in innovation? At the beginning of CLIQ, we did not know, and even later, the selection has not followed any unified criteria set in advance. Good practices are often local in nature and tightly embedded in the local socioeconomic context. We are inclined to think that setting common criteria for a good practice in the field of innovation is nearly a mission impossible. Even the best attempts fail because of the fact that good or the best practices are often chosen by single persons or regions, and also include an aspect of self-promotion or marketing. Even so, it is still possible that a local authority, city, or region finds new ideas, inspiration, or a missing link in one single example or practice described by a partner without too much sophistication or self-criticism, as it sometimes happened in CLIQ.

### ***3.2 Ongoing Evaluation***

It was a strategic choice of CLIQ to contract external evaluators to give impulse to develop the project activities during the implementation phase. The task of the evaluation team was to collect and assess especially the learning from the exchange of experience events “in real time.” After each event, an enquiry was passed to the participants, and the answers were collated in a report for the project management team. According to Chelimsky (1997, 10) evaluation can fulfill various purposes: it can be pursued for accountability (e.g., measuring results or efficiency), for development (e.g., providing evaluative help to strengthen institutions), and for knowledge (e.g., obtaining a deeper understanding in some specific area or policy field). In CLIQ, evaluation was considered useful for all these purposes, but obviously for the last one in particular.

When the evaluation is supposed to enhance learning, the evaluators focus on contributing to the development but also on accumulating knowledge. In doing so, they are supposed to stimulate the participants to reflect and discuss and critically investigate the activities to gain an insight into strong and weak points. It is also the role of the evaluator to make the participants aware of what is good quality. The evaluator is no longer an inspector, but more like a teacher, a consultant, or a critical friend in a dialog with the project partners, stimulating reflection and looking at the activities from a different perspective (Karlsson Vestman 2004).

This also stimulates the participants to investigate their own and others' ideas, understanding, experiences, and concepts. It is a kind of peer review: not only the evaluator but also all the partners are active and responsible for the learning process. This emphasizes the importance of giving all the opportunity to ask questions and take part in the dialog and discussions. In this kind of evaluation, the evaluator must be present and actively participating in the events, which gives him/her the possibility to better understand and draw conclusions, to follow and analyze the learning process, and finally to decide, if the project has obtained its goal or not (Karlsson Vestman 2004).

According to the evaluation, all the CLIQ exchange events obtained their goals. You can always ask, whether the goal was the right one and correctly communicated to the participants of the event. In any case the combination of evaluator-participants and evaluation enquiries answered by all the participants should bring reliable results. For most partners, the concept of ongoing evaluation was new and met in CLIQ for the first time.

### 3.3 *Learning by Experiment*

One more item in the CLIQ work plan especially designed to allow for a transfer of good practices was the Pilot Project. It represents learning by doing, and eventually took a completely different course from what was planned. The experiment should have consisted of a transfer of a good practice or two from one region to the others. However, it turned out to be practically impossible to find *any* one good practice relevant to all the ten regions taking part in the pilot exercise. Therefore, a new approach was introduced, the starting point of which was the simple notion of the Quadruple Helix interaction over six relations.<sup>1</sup> The assumption behind this was that improvement of one part of the innovation ecosystem changes the mutual relations of the QH actors and the dynamics of interaction. It pulls along other improvements; if found useful these can be modeled and repeated.<sup>2</sup> Through this, the Pilot Project could improve the overall interaction of Quadruple Helix and increase the region's general capacity to innovate. The individual Pilot Cases exchanged ideas and followed up each other's progress trying to learn from the others as much as possible.

The basic question was this: How can or should the Quadruple Helix actors interact to enhance innovation in the region? Each of the Pilot Project participants were anticipated to look at the question from the specific local context and to choose one or two relations that are relevant to examine more closely. However, it was supposed that these relations are explored through a common frame, with the knowledge that at the end they will be tied together and should form a consistent whole.

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<sup>1</sup> There are six possible relations between the Quadruple Helix actors: Administration—Knowledge Institutions, Administration—Civil Society, Administration—Business, Knowledge Institutions—Business, Knowledge Institutions—Civil Society and Business—Civil Society.

<sup>2</sup> The old dialectic idea of small (quantitative) steps triggering a bigger (qualitative) change.

It was also instructed to focus on connections or relations rather than on description of individual features, and to investigate the chosen focus through (already identified) good practices.

The individual cases varied from a citizen activation campaign, introduction of service design methods in a public service chain and organization of an Open Innovation Day to involving citizens in urban regeneration in a very early developmental phase. Cases were supposed to start from and embed the real needs of the participating regions and bring some added value to all of them. The outcome of the Pilot Project was expected to add to our understanding of the various methods of inclusion of the civil society in innovative action.

Some local cases included in the Pilot Project turned out to be very successful in drawing the attention of both citizens and the media. For example, in Jyväskylä having 130,000 inhabitants in a period of 2 months as much as 15,000 visits were registered in the Web site collecting and presenting ideas for the development of a former paper mill area to a residential and workplace area of the future. Using a wide variety of methods from photography to storytelling more than 600 people presented an idea or a more detailed vision for the development of the area to the city, the land owner, and the initiator of the planning phase. Many of the visions were worked out by various groups of the civil society, such as families with small children, activists in sports or culture, bicyclists, young entrepreneurs, students in secondary education, etc. The material proved to be very rich and versatile. This particular case continues online and will be included in the material for the architectural competition for planning the area. It is hard to find another example where so much positive attention would have been drawn to city planning in Jyväskylä as during the CLIQ Pilot Case.

In the Pilot Case of Brighton, UK, a Web site was developed in which the citizens entered ideas under nine categories on how to improve life in Brighton. They also voted and commented on the ideas. The top 30 ideas were presented to nine judges representing the categories of transport, leisure, health, safety, etc., and the winner was selected and awarded. The pilot was promoted heavily by the local radio and social media. A huge amount of information was gathered, partly on previously unknown problems of people's life, highlighting areas in which the citizens were most interested in.

The Pilot Project exercise contributed to the understanding of Quadruple Helix model of innovation by the CLIQ partners in several ways. First, each of the Pilot Cases addressed one or more QH relations and focused on different ones. Second, the cases were developing a QH relationship in need of improvement, perhaps where an existing relationship was not trusted or constructive as desired. Third, it was noticed that creating a neutral (normally online) space changes the dynamics of interaction between the "helices." In an enquiry to the Pilot Project partners conducted by Aurora Strategies and Solutions Ltd. in April 2011, it was found out, in addition, that:

- Identifying a common challenge to solve—one which engages all stakeholders—is important.
- Working with the QH improves the innovation process (100% positive response).

- All actors benefit from coworking and knowledge transfer between actors (100% positive response).
- Local authorities do (generally) have a role to play: they cannot work in isolation.
- It is important to get all QH actors involved, including senior levels of leadership to gain credibility.
- There may be negative as well as positive engagement of QH actors—you must be prepared to deal with it all.

Many of the Pilot Project participants claimed for more time to be able to include all the actors of the Quadruple Helix. Reaching out to the civil society is demanding already because of the heterogeneity of it. One approach is not good for all, and using many methods and communication channels takes more time, but may result in a very intensive exchange with a rewarding outcome.

True involvement of the civil society means also empowerment, and empowerment of a new group of actors often brings along new constraints. Public authorities may not be ready or even willing to give power to a heterogeneous group with not too much explicit expertise. Recognition of also public benefits such as better services at lower costs should, however, be influential enough to turn the heads and ears towards the citizens. Nevertheless, listening to the citizens is only the first step to be taken. Real empowerment means much more: greater well-being, better interaction, partnership—a more democratic innovation at the end.

### 3.4 *Search for the Phantom*

At some point of project implementation, our quest for the Quadruple Helix started to look quite unsuccessful: like a phantom, it escaped our grasp and comprehension. Much effort was taken to get to the core, to understand what was characteristic and vital in it. Which features need to be present, and what are the necessary and sufficient conditions of an innovation system to be called by that name? Sometimes, it looked like we were getting closer, and in the next moment a serious doubt arose: does it exist at all, is there even one single good example of Quadruple Helix to be found anywhere in the world?

What could open innovation mean in public services? It could be *crowd sourcing* (like in the case of improving the content of an article about history of a locality in a digital archive), *service design* (using methods of design to make a service more appealing or customer-friendly), or various kinds of *citizens' forums or panels* to ask the opinion of the users of public services from those who need and use them. It could also mean *cocreation* of a new service or *coplanning* of a certain area in the city, like in the CLIQ Pilot Project allowing to experiment with different methods of citizen inclusion. As explained, the main idea was to improve the connections of the Quadruple Helix actors, especially those including civil society (business—civil society, local/regional administration—civil society, or R&D institution—civil society) to enhance innovation activity and improve innovation performance of the project partners.

Even if it may be impossible to set a fixed criterion for a good innovation practice in general, within CLIQ we tried to approach the phenomenon of the Quadruple Helix through several methods, or from several points of view—to increase our understanding and the probability of finding some good examples of it. A benchmarking tool named CLIQ-o-meter was developed as an end product to measure the innovation performance. Here, we come to still another problem: exactly how do you *measure* innovation or innovation performance? Should you measure the number of innovative products (how then to decide what *is* an innovative product?), the emergence of new services (are *all* of those really innovative?), or the innovative behavior of an organization? The European Innovation Scoreboard is one answer to the problem, but we did not regard it worthwhile to make local (and much more limited) reproductions of it. This is why the CLIQ-o-meter is a self-assessment tool, by which hopefully any user can get an idea of the level of innovative behavior in the organization, whether a public authority or an innovation service provider.

Another end product, Toolkit, is designed to present some of the good practices identified in CLIQ as well as some tools used to bring them about. The examples are mostly gathered within the CLIQ network; only when there is no suitable practice or tool available in the partner regions, an example from outside the network has been used. The examples and tools are gathered under the following headlines, each describing a role that a public authority can play in innovation promotion:

- Facilitating inclusion of citizens.
- Communicating innovation.
- Supporting access to finance.
- Providing infrastructure and services.
- Developing knowledge and competence.
- Orchestrating activity.
- Formulating policy and regulation.

The CLIQ Toolkit aims to inspire both reflection and action, and it was playfully called also “CLIQ Box of Tricks” during elaboration. Each tool presented is followed by a couple of tips useful to be considered. In addition, some simple and practical top tips are presented based on the assessment of the CLIQ Team.<sup>3</sup>

The third end product of CLIQ, the Blueprint, tells a story of ideal conditions in which innovation can flourish. It is a vision presented in a form of an animated film that gives an idea about what we have been exploring in the 3 years of CLIQ implementation. It states that inclusion is powerful and brings benefits to all participants of the innovation process. Innovation is not only about technologies and infrastructure

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<sup>3</sup>Alison Partridge and Sally Kneeshaw from Aurora Strategies and Solutions Ltd, London, and Tuija Hämäläinen and Laura Ahonen from the Lead Partner organization. Many ideas, tools, and descriptions presented have been developed in collaboration within the CLIQ Team.

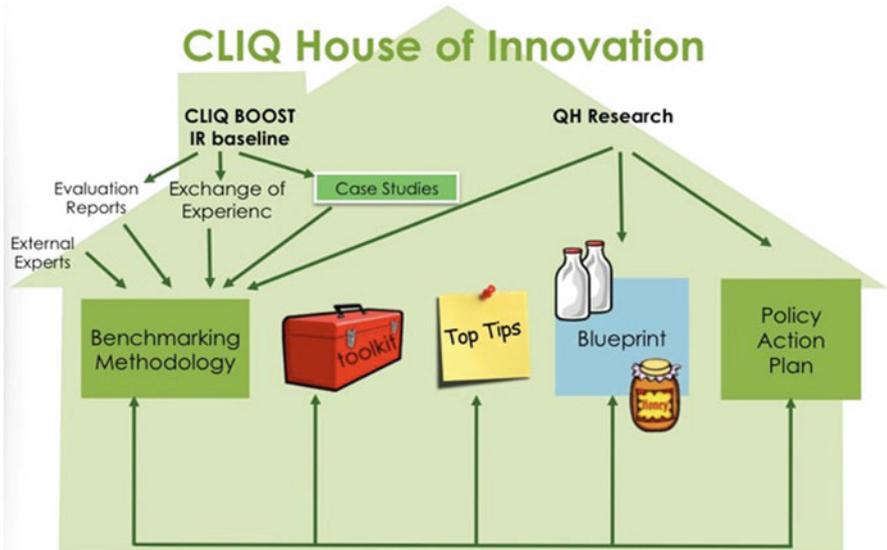


Fig. 2.2 The end products of CLIQ

but also very much about organization, services, networks, and cooperation, too. A metaphor used to describe the dream could be a finely tuned orchestra, in which the players of various instruments can play alone or all together, depending on the composition. Even if the players can play independently, the conductor gives the performance his/her unique touch, the final refinement. The impression of the audience is the result of the whole orchestra, each and every player who contributes to the performance trying to follow the gestures of the Maestro as truly and precisely as possible. At the end, we decided to use another metaphor, however.

Finally, a Policy Action Plan paves the way forward to the CLIQ partners as well as to other public authorities and innovation service providers in medium-sized towns trying to improve their performance in driving innovation. By setting the policy context on the macro level and identifying relevant thematic areas, the Plan outlines through examples and general strategic considerations policy in action in the partner regions. It even goes a step further and suggests a set of actions to be adopted by the partners. Designing specific multi-annual local/regional innovation strategies and implementing them in a comprehensive collaboration with stakeholders and steered at the highest political level is one of the suggested actions. Creating networks of learning as well as subnetworks of universities, science parks, and incubators with other cities and regions having the same aim is another. Orchestration of the common effort to make a change happen can be mentioned as a third example.

In summary, CLIQ will make available the collected results of 3 years of learning in these specific end products, which could be seen as constructing a House of Innovation (Fig. 2.2).

## 4 Quadruple Helix Revisited

Along with the research by Arnkil et al. (2010), the CLIQ network found a theoretical answer to the question it was created to explore: What is the Quadruple Helix (QH) innovation model? According to the research, it is a cooperation model of an innovation environment in which users, firms, universities and public authorities cooperate to produce innovations. These innovations can be technological, social, product, service, commercial, or noncommercial. Furthermore, there is not only one Quadruple Helix but also several different ones. Quadruple Helix is regarded as a continuum or a space rather than a single entity, and researchers argue that it is more meaningful to speak about different QH models situated somewhere along this continuum or space rather than about one best QH model. In each case, the Quadruple Helix model suitable for a certain situation depends on various characteristics of innovation activity, for example, on the goals, on the context and the initiator or owner of the innovation process.

It is obvious that the QH activities are embedded in the networks of local and regional actors. The more important the specific sociocultural factors explaining the formation and development of a region are, the more difficult it is to transfer experiences from one region to another. The civil society is mainly a local or territorial phenomenon, with some global dimensions though. It is essential for local and regional authorities to learn that there are different useful models for promoting civil society engagement in innovation, and that their capacity to include citizens may vary. Also, the role offered to public authorities within the four basic models distinguished is different. A broad mix of concepts in use will most likely bring the best outcome.

The QH research outlines four different types of QH models with various degrees of citizen/user<sup>4</sup> involvement: (1) Triple Helix + users, where the traditional Triple Helix is enlarged by citizens or users who give information about their needs and experiences, typically for example testing products or services at a late developmental phase, (2) the firm-centered Living Lab model, where the citizen or user, in addition, participates in the idea and development phase of an innovation, but business remains the main driving force, (3) the public-sector-centered Living Lab model, which compares to the previous model with the difference of having public authorities in the central position, and (4) the citizen-centered model, where finally the user decides which innovations are needed and developed and where the citizen is really in the center of the cooperation platform. These are seen as ideal types, not existing in one-to-one relationship to reality. The development is not linear (from a lower to higher degree of citizen engagement), and there is probably a mixture of some or all of these models existing in and available for the regions. Different roles played by public authorities in the Quadruple Helix type of innovation identified by the research are those of an Enabler, a Supporter, a Decision-Maker, a Utilizer, a Developer, a Marketer, and a Quality Controller (Arnkil et al. 2010).

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<sup>4</sup>Here, the civil society means broadly understood users (consumers) who are using the products and services produced by firms and services produced by public organizations (Arnkil et al. 2010).

According to the QH research, local and regional authorities have an important role in the Quadruple Helix via strategic use of resources, integrating knowledge and skills in innovative thinking, community building, procurement, regulation, grants and rewards. In order to succeed in this, the authorities need to develop their own ability and skills, and to cope with constraints, inflexibilities, and the bureaucracy inherent in public organizations. They are faced with the challenge of renewing themselves to be an interesting partner in reforming the local–regional innovation ecosystems. All the aspects of demand and user driven innovation policy—development of skills, reforming regulation and the operational models of the public sector, and introduction of incentives—need to be considered to build an innovation ecosystem that could be characterized as Quadruple Helix.

No matter which method of citizen involvement is used, it necessitates a strong communication effort. Taking it for granted that a majority of people are interested in their living environment and the services they use on a daily basis, their interest needs to be turned into action, and drawing from the CLIQ experience, this conversion does not happen very easily. The opportunity needs to be communicated again and again, many times both directly and indirectly, using all the communication channels available. The threshold from seeing a problem to addressing it is often higher than one could imagine. Complaining about bad public services is a kind of common entertainment, but taking actual steps to improve the services is by no means self-evident and needs to be encouraged, enabled, and enacted through a variety of measures, not least through effective communication.

There are successful communication actions to be reported in CLIQ in many partner regions. We have come a long way since the beginning, when we hardly understood what a Quadruple Helix could mean in practical terms. Questions have turned into statements and these have become bases of action that we could never anticipate. This is part of the charm, but also part of the challenge of an experimental innovation project like CLIQ.

How does the Quadruple Helix model of innovation look after this specific practical experience? What is the collected learning from CLIQ? We summarize as follows:

1. There is a real need to improve and enlarge the concept of Triple Helix, which can no more incorporate new thinking and new concepts targeted to enhancing innovation activity.
2. There are many ways of doing so, not only one answer or one good solution suitable for all. Quadruple Helix can mean different things in different contexts; only the imagination sets the limits. “It is more of a continuum or space than a fixed concept,” stated the research commissioned by CLIQ.
3. No matter which method you use, it must be communicated effectively and extensively to include and motivate all the target groups. Motivation takes time, but as soon as born, it may bring about astonishing results. Remain optimistic, creative and ready to talk it over and over again—and you will succeed.
4. Getting relevant proposals or solutions may be slower and more difficult than expected. Design special methods of eliminating spam, as well as ways to award the best proposals.

5. The results may be something unexpected and radically new. They may also be only one small improvement in the design or in a complex set of services. It is impossible to anticipate due to the very nature of open innovation: it is open until the end.
6. Quadruple Helix can allow more inclusive and even open innovation, thus bringing benefits that other innovation systems are not capable of bringing about. Inclusion of the civil society—citizens—in innovation is vital; it is particularly important to develop the efficiency and transparency of the public services.
7. Creating an operational Quadruple Helix innovation ecosystem is challenging for many reasons, not least because of the need to change the working methods and develop new abilities and skills. Empowering user groups—that is, citizens—changes also the roles of the players and the rules of the play, which may not always be easily accepted or appreciated.
8. More inclusive innovation means better cooperation and more comprehensive networks to be exploited in collaboration. Developing these (local, regional, and interregional) networks is an investment of time and effort, but it will pay off. As stated by Magnin (2010, 10), a territory ready to network with its outside world is best equipped to tackle the energy and climate challenges we are facing today while giving priority to the quality of life of its inhabitants.

There is no one success formula for the development of a more innovative region. Quite often, the local authorities, who in fact can influence innovation promotion in their daily life actions, are not aware of this, because innovation enhancement is a new aspect in their work. During the CLIQ project, we have tried to improve the effectiveness of policies and instruments for regional development by exploring, optimizing, documenting, and promoting the role of local authorities so that their efforts would be fruitful and could lead to more and enhanced innovation.

However, a region or an organization does not become successful by itself or by coincidence. It is obvious that the success story of the city of Ulm, Germany, as an example, is due to a long-term commitment, shared visions and responsibility, and collaboration between all the four “helices” (certainly not referred to as such when it all started). The importance of a strong and committed leadership combined with an openness to involve groups and individuals allowing them to influence, but also to take on the responsibility for the processes, was manifested during the CLIQ study visit in Ulm. The collaboration between the four helices, strategically, scientifically, and economically, in the field of sustainability (theme of the visit), was according to the evaluation the outstanding issue,<sup>5</sup> easily recognized by the partners, too.

During the project, we have learned that the cities the CLIQ partners represent have many strengths, such as flexibility and good cooperation, but they often seem to be less well equipped in terms of critical mass, resources, and organizing capacity. Learning from the others’ experience is cheap compared to learning by mistake. An interregional project such as CLIQ gives its participants many opportunities to reflect on one’s behavior and compare it to that of the others. It does not matter

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<sup>5</sup>Falk M (2011) Evaluation of Ulm. Mälardalen University, Eskilstuna.

where the impulse to improve comes from; what matters is the improvement itself. It is vital to keeping our economies competitive, as emphasized also by the Innovation Union initiative of the European Union. Smart, sustainable, and inclusive growth resulting from smart, sustainable, and inclusive innovation is the key to the economic success of Europe in the future.

The Interreg program is about improving regional policies. We have tried to collect some seeds for thought through various activities in CLIQ. Finally, it is up to the political decision-makers, if they pick these seeds up and let them grow. All local and regional stakeholders are needed to cross-fertilize ideas and to support the initial growth. It is good to bear in mind that not all the seeds will sprout, and not all our partner regions can become innovation hotspots of Europe. To be recognized as such, two things are crucial: continuous learning and visionary leadership. With these provided, there is a fairly good chance for sustained success.

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