Rubizmo

Methodological guide for identifying factors influencing cluster and network effects

DELIVERABLE N. 5.1

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Summary

In the current global economic status, characterized mainly by an increase in competition, customer's expectations and changes in technology, a rapidly growing number of businesses are moving towards the development of collaborative structures that will help them improve their competitiveness. In this changing environment, clusters and networks are commonly perceived as drivers of economic growth especially in rural areas and in particular for Small and Medium Enterprises (SMEs).

The purpose of this document is to present a practical, though not exhaustive guide for networks and clusters focusing on factors influencing business collaboration. The concept of business collaboration and the different types of collaboration are presented here. The main reasons for members to engage in collaboration and the most common benefits from getting involved in such activities are showcased. Key steps to begin and proceed with collaboration are also presented. The idea is for this guide to provide a base from moving from theory to practice.

This guide offers also a brief analysis of the theory in business collaboration and can be used for the development of the Tool 3 "Cooperation toolkit" as a reference point to assist in making future choices in terms of partnering with other business and actors.

Finally, the present guide is finally an introductory introduction to the rest of the work undertaken under Work Package 5, where the existing cases of good experiences from the whole consortium will be made available for the creations of two on-line business tools; a cooperation toolkit, and a transformation support tool.

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Introduction

Rural areas are covering the major part of mainland in European countries while hosting more than 20% of their population (Eurostat, 2017). Enterprises in these areas are constantly confronted with a number of economic challenges and problems, including low access to markets, deficiencies in infrastructure, limited labor supply, low attractiveness to people, limited range of services, limited access to education and much more. Thus, enterprises in most rural areas are struggling to develop ways of overcoming such deficiencies. One way to surmount these barriers is to cooperate with other enterprises in networks that may extend to include knowledge institutes and policy or administrative groups.

Networking as a way of overcoming barriers in business operation and development is an old established approach. The first collaboration between businesses coincides with the rise of the industrial revolution in the 18th and 19th centuries. The case of wool industry in Yorkshire is considered as an early example of networking in England (Wilson and Popp, 2003). Alfred Marshall in his book "Principles of Economics" uses the term "industrial districts" to describe companies from various fields located in the same area and the advantages from such localization. Over the years, business collaboration evolved as an important element in many economies and although the framework of the collaboration led to different types of collaboration (depending on the aim, partners, sector etc.), today is one of the most efficient tools for rural sustainable growth (Coppock, 2006).

This guide aims to support the understanding of networking alternatives and provide some guidance on the role of the different factors in the creation of networks and network development, providing a basis for moving from theory to practice. The guide is aimed at enterprises wanting to collaborate and create a network or cluster, or at existing networks or clusters wanting to improve their current collaboration. It introduces into the subject through an overview on characteristics and benefits of business collaboration. After a summary of drivers for enterprises looking for collaboration, the report outlines various organizational alternatives for establishing networks depending on focus or membership (section 1, 2 and 3). Based on these introductory parts, the reports presents a step by step methodology on how to start a business collaboration (section 4) followed by overviews on factors that determine the success or failure of business collaboration (section 5) and on collaboration facilitators for clusters and networks (section 6). The main part of the report leads to the discussion of an approach that allows the integration of the various factors and facilitators for network development into a coherent analytical system that supports decisions on what network development might be most suitable for interested enterprises (section 7). A summarizing section concludes the report.

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1. Overview of businesses collaboration

Burton (2005) defines collaboration as "people working together on non-routine cognitive work."

A simple definition of businesses collaboration is an agreement between entities to work together towards a common goal. It is a process where units share information, resources, and responsibilities in order to maximize outcomes. This way to achieve collaboration goes beyond normal company-to-company processes, but it does not take the form of a legal merger or a full partnership.

The main characteristic of businesses collaborating is initially the existence of a common goal which is further strengthened when innovative ideas, new services, improved products and growth-as part of many aspects- are accomplished.

Business Collaboration. Source: https://www.smallbusinesscomputing.com/News/Software/the-small-business-collaboration-conundrum.html

In the context of collaboration, both small and large companies can benefit and achieve better results. However, in this paper, emphasis is given in Small and Medium-sized Enterprises for two main reasons. Firstly, SMEs have a major role in economic growth providing new jobs (OECD, 2000) while at the same time guarantee social security (Herte, 2017) and secondly, SMEs have a strong linkage with their surrounding rural areas (Kihonge, 2014).

Collaboration is a way for SMEs to handle a number of issues critical to their survival (new markets, resource gaps, achieve innovation). For many SMEs, collaboration is a way to stay competitive in today's ever-changing business world. However, many

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large companies are also engaged in business collaborations in order to build competence, product or service, technology, and/or market access. Universities, research institutes and labs now join the new order in business providing critical skills development (education, technology and training).

In this document, different types of collaboration among businesses are presented. These economic phenomena have different economic advantages and disadvantages, different determinant factors and characteristics. A short analysis and description is conducted in the following chapter.

Benefits of businesses collaborating

Working collaboratively can improve business performance and products, enhance staff skills and win new business with new customers.

A business may work collaboratively to achieve a number of key benefits, most of the times financial ones, some specific examples described below:

- **Reduce costs.** In many cases companies target to minimize expenses. In a collaborative type, this could be achieved by sharing transportation costs, facilities, equipment and raw materials. It could also mean join efforts to develop new or innovative products.
- **Obtain new resources.** Members gain access to resources that would otherwise be beyond the scope of a single business. This could concern knowledge, technology and the opportunity to share best practice. It also increases the capacity of generating new ideas through the combination of existent resources and diversity of cultures and experiences.
- **Access to new markets.** Individual businesses can face a number of limitations when trying to compete in global markets. Collaborating allows entities to enter markets without the need to make risky investments.

2. Reasons for partners to get involved in collaboration

In a competitive and constantly changing economic world, business -in most cases SMEs- find themselves short. Firms, regardless of their sector, location or product/services, often deal with a major challenge that threatens to drive them to bankruptcy. Tough competition, poor access to qualified labourer outdated operational system, inability to enter markets can lead to diminished ability to improve product quality and capture emerging market opportunities. In many cases, firms' efficiency and productivity are low, as they are unable to draw on new sources of technology and information.

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Through collaboration, new paths are revealed and firms may be given ideas and time to improve their short term or long-term strategies. Typical SMEs collaborate to gain access to markets, improve efficiency, and get access to new competencies. One of the main reasons for SMEs to collaborate with large enterprises is to gain access to specific technological knowledge or skills (OECD, 2000). On the other hand, one of the most common reasons for larger companies to collaborate with smaller ones is to penetrate new geographical or product markets through innovation. Collaboration is the new source of competitive advantage.

3. Types of collaboration

Business collaboration can take many forms. These are evaluated in terms of their members, goals, coordination, boundaries, change dynamism, the nature of relationships, the role of knowledge, and competitors (Majava, 2013).

Companies collaborate in various ways. The simplest form is business-to-business by one member buying product or service from one other member. However, in the current economic environment other more complex forms rapidly gain space with networks, clusters, triple helixes, ecosystems and innovation hubs to make strong appearances.

It is important to examine if collaboration structures –especially networks- act as driving forces to support rural development. Rosenfeld (Rosenfeld, 2001), through the example of Italian region of Emilia-Romagna, concludes that since the mid-1980s interfirm collaboration became a widely explored option of rural development supported by policy makers in Europe (Rosenfeld, 2001). Murdoch (Murdoch, 2000) demonstrated in his work that networks although the term may vary in meaning depending the context it is used in, can be a new way (through many different types) to stimulate rural development linking opportunities to problems in these areas.

Business Networks

A business network is a group of companies being in the process of creating value, improve performance and skills through common actions. A network can be defined as an abstract of a structure in which there are a number of nodes that are connected via specific threads (Håkansson and Ford, 2002).

The main aim of networking is to decide on tailored solutions and minimized costs and time. Business networks have no limitations concerning number, size, sector or location. Firms agree on a structure in order to face globalization stress, become

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more competitive and find new partners with the ultimate goal of improving the economic performance.

Typology of Networks

The NetGrow, a European FP7 funded project, presented a typology of networks shortly described as:

- **Manager Training Network**: Focusses on providing training programs for CEOs of SMEs.
- **National/international Business Booster Network**: Connect companies in the same country/across different countries in order to achieve a better business performance.
- **Regional Business Booster Network**: Connects companies in the same region in order to achieve a better regional business performance.
- **Sector/Chain Competitiveness Improvement Network**: Focus is on one sector. The members participating in this network work together in order to beat competitors outside the network by integrating their supply chains and/or investing jointly in advanced technologies.
- **Cross-Sector Competitiveness Improvement Network:** Network members also want to improve their competitiveness in their own business, but they also collaborate with partners from other sectors within the industry and/or outside the industry.
- **Project-based Learning Network**: Centralized learning network providing members with joint R&D activities for innovation development.
- **Independent Learning Network**: Decentralized learning network where members come together to exchange ideas and experiences rather than participating in joint projects.
- **Collective Research Network:** Exchange between group of researchers and investigators, for research synthesis and projects.

Business Clusters

Clusters can be viewed as geographical concentrations of interconnected firms and institutions in a certain field, and the idea of clusters suggests that regions should identify and develop their existing regional competitive advantage (Porter, 1998; Porter, 2000)

Clusters have gained increasing prominence in economic development in the last decades. Geographic concentration is the main driving force when it comes to clustering. Most times firms have the same national or even regional origin. Within a cluster information concerning techniques, resources and technology flows. When firms come together, they are able to resolve problems mainly on innovation and knowledge. Members of clusters benefit from their proximity since it allows them to be acquaint with the characteristics of their competitors.

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Governments worldwide regard clusters as possible drivers of economic development and innovation (UNIDO, 2013). In many cases, clusters are viewed as competent policy instruments as they allow for resources and funding to be targeted in specific areas with a high growth and development potential that can spread beyond these sites (spillover and multiplier effects).

Main elements of clusters

In the Clusters Policies Whitebook (Andersson T. et al, 2004), seven elements have been adopted as key to our notion of clusters:

- **Geographical concentration**: firms locate in geographic proximity due to hard factors, such as external economies of scale, as well as soft factors such as social capital and learning processes,
- **Specialization:** clusters are centered around a core activity to which all actors are related,
- **Multiple actors:** clusters and cluster initiatives do not only consist of firms, but also involve public authorities, academia, members of the financial sector, and institutions for collaboration,
- **Competition and co-operation:** this combination characterizes the relations between these interlinked actors,
- **Critical mass:** is required to achieve inner dynamics
- **The cluster life cycle:** clusters and cluster initiatives are not temporary short-term phenomena, but are ongoing with long-term perspectives, and finally
- **Innovation:** firms in clusters are involved in processes of technological, commercial and/or organizational change.

Whereas not all these elements need to be present, nor are they necessarily desirable, innovation is greatly important for generating the potential benefits of clusters.

Innovative clusters are critically powered by three driving forces:

- New firm creation and technological diversification,
- Inter-actor network creation, and
- Cluster formation.

Benefits flow from opportunities for innovation coupled with the impetus of enhanced productivity and improved business formation. To make use of all these requires processes of both stable and more radical distribution of gains within cluster processes.

Clusters and cluster initiatives are not problem-free though, risks and pitfalls include:

- vulnerability of specialization,
- lock-in effects,

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- creation of rigidities,
- decrease in competitive pressures,
- inherent decline, and
- self-sufficiency syndrome.

Typology of clusters

Macquaint (1996) described four different cluster types (models) based on members and interactions between them:

- **Marshallian cluster model:** this model is rather homogenous, containing small firms that collaborate with each other and its shape and development are influenced by the common market.
- **Hub-and-Spoke cluster model:** this model presents a few firms that dominate the cluster and a number of small surrounding firms that are linked directly to them and supply raw material.
- **Anchored / State centered cluster model:** in this model a group of branches are located in an area in order to benefit from governmental facilities or low costs.
- **Satellite Platform cluster model:** this model is defined by the existence of a public, governmental or non-profit organization that dominates the region and the economic relation between cluster members.

Triple Helix

This type of model consists a university-industry-government collaboration (Leydesdorff, 2000). The argument of triple helix is that it has the potential for innovation and growth once universities undertake prominent role. In this type of collaboration academia, industry and government interact in order to produce knowledge, achieve innovation, create new foundations that develop further spin-offs and become source of economic development.

Business Ecosystem

A business ecosystem is "an economic community supported by a foundation of interacting organizations and individuals—the organisms of the business world" (Moore, 1996). The logic of a business ecosystem is that it can sustain itself without outside inputs or interference. Given time it will adapt and evolve as a living organism. The companies participating in a business ecosystem will develop capabilities in a new framework: they will cooperate and compete to support new products, satisfy customer needs, and finally build succeeding innovations.

The difference between clusters and networks

As it has become clear, business networks and clusters appear in many different forms resulting from their need to promote innovation, their members, the importance of geography and more. Clusters and networks share some common

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features but also a lot of differences. A relevant idea has been presented in Peltoniemi's work (Peltoniemi, 2004). In this paper, the three mentioned characteristics will be shortly compared.

Geographic proximity is important in clusters, as the idea is based on concentration or locality. The geographical aspect stimulates the cluster creation while for business networks the location is typically not relevant.

The goal orientation of the collaboration may also vary between clusters and networks. While in the former, a shared goal from the members could be the driving force, in business networks is clearly not.

Knowledge is a key feature in both models. In networks knowledge is a necessary resource for growth and prosperity in contrast to clusters where it is a desirable outcome.

4. Step by step methodology on how to start a business collaboration

An often-cited 2006 White Paper by Frost & Sullivan (2006) found that the three main business performance drivers are: collaboration, an organisation's strategic orientation and market turbulence. Of these, collaboration had the most impact. Collaboration is, therefore, an important target for enterprises. The advantages derived from it can vary according to individual circumstances, but they may include increased profit through sharing expertise across business units or companies; reduction in costs through sharing best practices; improved decision making through sharing insights and knowledge; innovation through sharing ideas; and an improved ability to pursue goals that involve distributed units or companies (Patel, Pettitt & Wilson, 2012).

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Business collaboration methodology. Source: https://www.iblogzone.com/2018/02/learn-how-to-establish-a-business-collaboration-that-really-benefits-your-business.html

Irrespectively of members', sector, location or ultimate goal there are at least three issues that needs to be considered when starting collaboration. In this paper, a WWH analysis is presented as an overview tool to assist the discussion of how a business starts a collaboration.

Step 1. WHY? Identify challenge / opportunity

Businesses may enter into a collaborative agreement for a number of different reasons, but the first step lies in identifying whether a challenge or an opportunity really exists. A good idea is always to engage in an analysis of business's strengths and weaknesses.

Businesses see collaboration as best suited to achieving four goals (DAMVAD, 2012):
Improve behavior attitude: Relevant for both academia and private sector, collaboration facilitates more effective ranking of priorities and management of research activities, improve capacity and capability. Companies can make more effective use of their research resources while academic researchers can gain access to through collaboration.
Improve economic efficiency: Most of the times, a business will focus on the potential of increasing productivity, find the right employees and/or decreasing costs of labor, material, transfer and supplies. According Owolabi (Owolabi, 2011) a firm may benefit in a number of ways that may include lobbying activities, information on domestic/international product, bank finance and market.
Improve social effects: Companies target socio-economic growth, new solutions to challenges in society related to health, environment or energy. It is argued that

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through collaboration it is possible to handle escalating social or environmental problems concerning material resources, services, talents, energies and organizational knowledge (Pearce& Doh, 2005).
Improve innovation effects: Although in literature there is a gap concerning all linkages between firms and the innovation actions, the most common include more knowledge, increased R&D activity or patents. According to Pittaway (Pittaway et all, 2004) firms tend to collaborate in order to achieve risk sharing, obtaining access to new markets and technologies, speeding up the time from production to delivery to the market, safeguarding property rights and obtain access to external knowledge.

Step 2. WHO? Identify Partners
The criteria for partners may include businesses with similar understandings, shared values, (long-term) goals/interests and size or capability. The time spent searching for compatible parties reduces possible future conflict within the collaboration.

When discussing business networks in particular, there are two main types:
Vertical networks that relate to collaboration of partners belonging to the same chain (e.g. food sector). These networks are well developed based on quality assurance schemes and traceability, though often face difficulties due to high lack of trust.
Horizontal networks that refer to collaboration among firms being primarily considered competitors. Those networks are well developed when a producer consortium is involved though can be inhibited through strong competition (Gellynck & Kühne, 2010).

Successful and enriching collaboration can be developed between partners with different goals and structural organization, such as the public, private or non-profit sectors, firms or academia. Beyond business-to-business collaboration which is simplest and most common type, collaboration between universities and the industry is increasing and perceived as a vehicle to boost innovation through knowledge exchange (Ankrah & Al-Tabbaa, 2010), collaboration between private and public sector is also gradually overcomes the relative skepticism and moving to the top of the political and administrative agenda (Sørensen & Torfing, 2012).

Step 3. HOW? Form the collaboration
As mentioned above, collaborations can take a variety of forms. It is important to identify the most suitable model and members to agree on a number of components (leadership, intellectual property, resources, location).

Collaboration can range from informal “handshake” agreements (memorandum of understanding) to formal agreements with lengthy contracts in which the parties may also exchange fair play or contribute with capital to form a joint venture.

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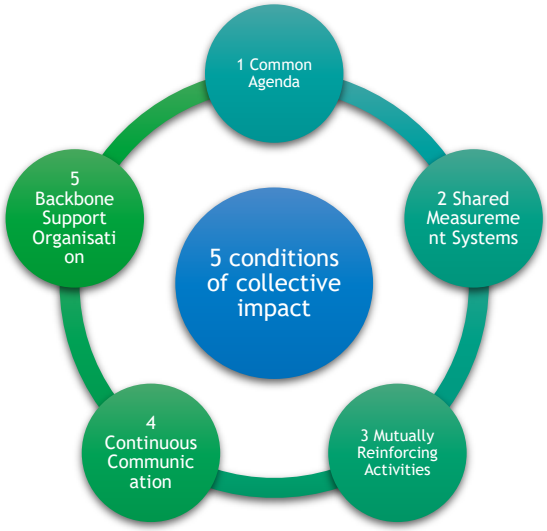
Collective impact has five specific preconditions (Kania & Kramer, 2011):

- ***Common agenda***. All members have a common understanding of the problem/need and a shared approach to solving it through agreed upon actions.
- ***Shared Measurement***. Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable.
- ***Mutually Reinforcing Activities***. Participant activities must be separated while still being coordinated through a joined plan of action.
- ***Continuous Communication***. Constant and open communication is needed across the many players to build trust, assure mutual objectives, and create common motivation.
- ***Backbone Support***. Creating and managing collective impact requires a separate organization(s) with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organizations and agencies.



The five conditions of collective impact. Source: https://sustainingcommunity.wordpress.com/2019/03/11/what-is-collective-impact/

Collective impact facilitates each participant to view the problem at hand beyond our own more narrow perspective, which is usually limited or biased. Once engaged in a collective impact effort, the first step is bringing together all the relevant parties and ensuring data collection and facilitation. This way, collective impact originates a shared understanding of the problem, which is the first stage toward solving it (Kramer & Pfitzer, 2016).

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5. Factors that determine the success or failure of business collaboration

Although success is a subjective term depending on one or more set targets, when discussing collaboration some realistic objectives can be identified as success factors. This chapter offers a literature review on the characterization of success factors for business collaboration. A summary gives a quick overview of the most important success factors at the end of the chapter.

As it is presented in the document titled "A guide to business collaborative contracting" prepared by the Government of South Australia, a number of the key characteristics can determine the successful or failure of a business collaboration.

- confidence between partners, partnership attributes and degree of participation can affect the stability and long-term sustainability of a collaboration,
- conflict resolution, adaptation, joint planning, the sharing of benefits and risks demonstrates the dynamics for the collaboration,
- quality of communication, the sharing of systematic work information can influence companies' strategic choices,
- knowledge abilities and technology have positive effects on performance in innovation and new products' development.

According to Cederholm (Cederholm, 2015), success factors can be divided in three areas that need special attention in order for collaboration to reach best results.

- Firstly, factors which relate to the context of the collaboration and concern the choice of the partner, their objectives and the geographical distance.
- Secondly, factors which relate to the formation of the collaboration and concern the type of the agreement, the commitment among the parties, the available resources and skills.
- Thirdly, factors relating to the process of the collaboration and concern the management, the communication efficiency and trust.
- Also, some sub-factors that run through the entire collaboration can be knowledge transfer, openness, flexibility and face-to-face meetings.

In Mohr and Spekman work (Mohr & Spekman, 1994) the successful collaboration was measured as:

- vertical collaboration key characteristics such as confidence, adaptation, devotion, quality of communication, degree of participation, and the methods of solving common problems.

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- horizontal collaborations key characteristics such as the understanding among the employees of the collaborative relationship from a strategic perspective and the effective communication.

Additionally, the following factors have been mentioned as critical by Monczka (Monczka et al, 1998) in affecting the performance of the collaboration: confidence, conflict resolution, common corporate culture, joint planning and sharing of work, benefits and risks, systematic work information and communication. Focused on the characteristics of partner companies Das and Teng's (Das & Teng, 2003) study concluding that while collaboration between companies in the same market can be improved, conflicts can arise as collaboration intensity increases.

Patel, Pettitt and Wilson (2012), studied collaborative work in the framework of a major European research project concerned with tools, systems and organisational structures for colocated, mobile and distributed collaborative engineering and design. They identified seven main categories of factors involved in collaboration, with each category including several sub-factors. These were summarized in a framework which forms a basis for a technology-independent model of collaborative working to help feasibly manage the various factors involved. The main categories of factors identified, were:

- **Context**: the types of individuals and teams who are involved in the collaborative work, and the types of tasks that need to be carried out.
- **Support**: the management support and resources that teams require in order to meet their goals and collaborate with internal and external colleagues and clients as necessary.
- **Tasks**: task performance is as critical as collaborative performance, since the type of work task will interact with the technical support systems, interaction processes and teamwork that is performed.
- **Interaction Processes**: individuals and teams are part of a collaborative working environment within which they engage in interaction processes (the individual or collective actions of the people who have been assigned a task), such as learning, coordination, communication and decision making.
- **Teams**: teamwork covers individuals involved in collective tasks and also individuals involved in interdependent tasks which are subsequently integrated, both as part of intra- and inter-group collaboration.
- **Individuals**: whilst collaboration is fundamentally a social activity between two or more individuals, it is inevitable that some (possibly a large) degree of work and task-related effort remains at the level of the individual, so individual social and technical performance is crucial for the performance of teams.
- **Overarching Factors**: this category includes factors which are relevant to, and interact with, the six main factors identified above and the sub-factors under them (e.g. trust).

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Many studies have found that knowledge and training acquisition skills, diversity, and openness influencing the performance of collaboration mainly in reference to innovation. Durst and Stahle (Durst & Stahle, 2013) considered the key success factors for innovation to include relational aspects, human resources, governance, facilitators, resource supply, strategies, process management, leadership, and culture. Similarly, Tranekjer and Knudsen (Tranekjer & Knudsen, 2012), found success factors for SMEs to include knowledge-sharing cultures, the sharing of collaboration experience, openness, and exchange collaboration.

Pouly, Monnier and Bertschifrom (Pouly, Monnier & Bertschifrom, 2006) presented a number of factors resulting to success and failure of collaboration based on the analysis of two collaborative networks of SME in the Switzerland:

- network collaboration needs to be customer-oriented and provide benefits to the customer than any individual company alone
- network members need be carefully selected in order for the collaboration to create added value for all of them
- the size of the network plays an important role (smaller networks may be more lively, larger networks have more impact and resources)
- partners should have a similar size and also have a similar level of quality standards (i.e. ISO certification)
- partners must have a strategic goal and share a common view in relation to business with partners, customers and employees
- transparency is a key success factor
- balance between the time invested in the collaboration and the time needed by each partner for its own enterprise is crucial
- successes are very important in relation to cost reductions at the beginning and value-added businesses and new business opportunities for the long term
- common purchase of raw material, equipment, consumables or services
- common marketing or sales activities
- trust is essential

According to Atsan (Atsan, 2016) failure of collaboration also gives valuable learning outcomes that can be grouped in internal and external factors:

- Internal factors related to partners, financial skills and lack of critical information and mentoring.
- External factors related to the economic conditions, changes in the policies of the government and unexpected unlucky events.

According to Yoon (Yoon et al., 2017), performance indicators (quantitative and qualitative) can also be used to measure collaboration success. Collaboration performance indicators may concern finance, innovation, competitiveness and technology.

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Many studies provide measurements of collaboration performance broadly classifying it into quantitative and qualitative performance:

- Quantitative performance relates to sales, number of new customers, enhancement of productivity and profitability, cost reduction (Mohr, 1994 and Das, 2003) increase in net profit and cost reduction.
- Qualitative performance includes development of perceived satisfaction (Monczka, 1998), status of goal accomplishment, contribution to core competence, and predominance in competition (Saxton, 1997).

Summarizing all the above mentioned, factors seem different and complex depending on the scope of the study however it becomes obvious that larger categories of factors can be formulated, having specific characteristics:

> ***Factors relating to relations***: these factors represent the situation within the individual partners and affect the collaboration. Elements such as devotion, communication, common vision, trust, leadership, meetings in person and sharing are mentioned here.
> ***Factors relating to finance***: these factors concern the "economy" of the network or cluster and can be numerically measured. Elements such as net profit and cost reduction, raw material, customers and sales are mentioned here.
> ***Factors relating to skills***: these factors relate to knowledge owned by the network or cluster and internally by the partners. Elements such as education and training, personnel skills, level of quality, innovation, equipment, technology are mentioned here.

Evaluation of the factors in relation to 'European Network Database' tool (tool n.3)

Within the scope of the RUBIZMO project, an online tool to support the development of networks and clusters is being developed. One function being developed within the tool will enable the users to select what type of impact ones aim to focus on. An attempt is made here to link the summarized factors (relating to *relations, finance* and *skills*) mentioned above with the impact on business collaboration.

In this respect the following matrix (table 1) which demonstrates the relationship between impact (rows of the matrix) and factors (columns of the matrix) specifies the connection of the described impact to each factors' categories as presented above. The symbol "√" is used to showcase the presence of the factors.

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Impact, also includes different elements. However, the broader categories of impact are used in the following matrix. The three main factors summarized in the previous chapter presented earlier are used for the setup of the matrix.

Table 1. A matrix demonstrating the relationship between impact and factors

Impact	Relations	Finance	Skills
Improving business development	√	√	
Improving shared values for regional development	√	√	
Improving employment			√
Improving market access		√	
Improving production development		√	√
Improving information/knowledge	√		√
Improving finance access		√	√

It is evident that the presence or absence of the above-mentioned factors (either grouped in larger categories or individually) has the potential of affecting the impact of the collaboration, with their presence having a positive influence on the collaboration.

6. Business collaboration facilitators for clusters and networks

One of the drivers and at the same time catalysts for business collaboration is the existence of certain facilitators, mainly physical persons but also agencies and stakeholders that act as an intermediate to activate and boost the development of synergies among the various ingredients of the collaboration structure. In order to better understand the relations in such structure, the knowledge transfer mechanisms have to be emphasized. These include:

- relations between suppliers and customers,
- the formal and informal relations of cooperation between enterprises in specific sectors,
- a certain degree of mobility of highly qualified employees at local level between enterprises and,
- a high degree of creation of spin-offs from enterprises, universities and research centers.

In this sense, knowledge not only flows because of the cooperation among enterprises directly, but also through “vehicles”, such as the highly qualified personnel that

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carries the tacit knowledge or the technology driven spin offs that transform the academic or research knowledge into business activity.

Thus, rural areas should pay special attention to and be informed of the mobilization, the existence or the lack of such facilitators that are crucial for boosting local cooperation effects and spillovers among companies.

Collaboration can also be facilitated by the existence of collective impact. Collective as described by John Kania and Mark Kramer, is defined as "the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem" (Kania & Kramer, 2011, p.36) and involves a centralized infrastructure, dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants (Kania & Kramer, 2011, p.38).

7. Utilizing SWOT analysis in evaluating a collaboration

Business environments, as well as the business interests and conditions might vary widely, the success factors and facilitators of network organizations discussed in the previous sections need to be integrated into a suitable decision base that fits the specific situation.

A suitable approach is provided by the SWOT analysis (Helms and Nixon, 2010) which looks at the internal (Strength and/or reducing the Weaknesses) and external (Opportunities and Threats) factors influencing an organization. The aim is to highlight the factors an organization should focus on at a given time. This method can be used in this context by looking at the decision proposal on the organization of a network.

A SWOT analysis could be used in a variety of scenarios to evaluate the potential to establish a network:1. An enterprise could use it for decisions on its further development inside or outside a network.
2. A network facilitator could use it for decisions on the establishment of a new network.
3. A network could use it for decisions on its further development.

In this guide we focus on the third alternative which links factors to strengths and opportunities as well as weaknesses and threats. The lists of factors organized as opportunities, threats, strengths and weaknesses can be captured in a two-

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dimensional matrix (see table 1). It represents the baseline situation before a decision has been taken on which form of development networks plan to implemented.

Table 2. A matrix illustrating the SWOT analysis of business collaboration

Strengths of enterprise	Weaknesses of enterprise
> List of strengths ……	> List of weaknesses ……
Opportunities of networking	**Threats to success of networking**
> List of opportunities ……	> List of risks (threats) ……

A comparison of such analysis for alternatives in network development allows the selection of the "best" alternative. It provides the information on a network's potential strategy to build on its competitive advantage and strategic positioning.

However, SWOT analysis has its share of limitations:

- Certain factors of an organization can be both a strength and weakness at the same time
- SWOT is a static assessment while the dynamics of factors may not be revealed
- Also, it may lead to overemphasize on a single factor.

Conclusion

Collaboration is critical in the modern economic landscape. Especially in rural areas as it offers many opportunities for economic development with the use of local recourses (employment, material, traditional knowledge, etc.). More important, collaboration can support smaller firms to overcome their difficulties in the economical arena (fewer resources, outdates or lack of technological solutions, loss of funds etc.). Companies, but also public authorities and academia, engage in many ways of collaboration in order to achieve common goals. There are different collaboration models, depending on a variety of characteristics such as members, dynamics, goals and more.

Multiple benefits can be achieved if the role of collaboration is acknowledged, through the different models:

- rural development,
- small and Medium Enterprises (SMEs) progress,
- research and innovation at local level improves.

Although different collaboration models facilitate different needs, the features in engaging in this task are quite common. The needs to enhance knowledge and the

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opening to new markets are the main motives in searching new allies. In all cases the major benefit of such processes results in gaining financial profit.

The major elements of a business collaboration are presented below:

- business collaboration requires at least two partners (companies, public authorities or academia) working together,
- business collaboration constitutes of shared goals, means and knowledge,
- collaboration can be defined as vertical or horizontal,
- parties engage in different types of collaboration, business network, business cluster, triple helix and business ecosystem, having both similarities and differences,
- members need to decide on the model and the type of the business collaboration depending structure, dynamism, the nature of relationships, and competitors.

When engaging (particularly when initiating) in collaboration, a W-W-H (why – who – how) analysis could be very helpful in achieving the best collaboration results. The implementation of such an analysis can drive the rural area to an improved assessment of the type of collaboration it would gain most from promoting, the means to implement it, etc.

Collaboration is identified through a collection of factors relating to success and failure of entrepreneurs. These factors, either classified as internal or external, in vertical or horizontal collaboration, relating to performance or to skills, can demonstrate the potential in boosting competitive advantages. Clearly, as should be evident from the number of different sources cited, there is no "dominant" model, and different approaches draw attention to different factors. This means that several features should be examined when trying to recognize the main elements for successful collaboration. However, *relation*, *finance* and *skills* seem to be the most prominent across most approaches. The safest course of action recommended by this guide is to use at least two or three different approaches when examining collaboration between or within organizations, but always focus on *relation, finance* and *skills* as the key factors.

Moreover, a SWOT analysis is a useful technique in evaluating the identified factors as Strengths, Weakness, Opportunities and Threats in order for a network or cluster to made strategic development decisions.

Finally, it should be noted that, as this guide is only based on a literature review, it has a number of limitations. These will be overcome by eventually supplementing it with a later addition with real cases and empirical studies that can accompany the rural areas in better understanding and testing the findings for different types of collaborations and the steps of engaging in such an endeavor.

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