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Network management and communication

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D.T3.1.2 Elaboration of network management frames and communication inside the network

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1 Executive Summary

This document deals with the frame conditions and elaboration of well-functioning network management in which companies and technology innovators with related interests can connect to gain positive outcomes. Preconditions for the successful initiation of networks are, above all, the precise formulation of common goals and the recognition of opportunities that (may) arise from the network activities for the individual network partners. Besides, challenges and practical ways to a suitable communication inside an emerging project community will be raised and deepened. Key questions like *"What will be the network's purpose and characteristics? Which value propositions can the network offer to its prospective members? How well are the network members aligned around ideas, goals and strategies? In which way could strong network connectivity be established?"* will be carefully considered and scrutinized. These are points and questions where attention should be paid to on the evolutionary path to a functioning network. Also, this report presents developed models and subtypes of cooperation networks, applicable in the fields of technology transfer and business, innovation and research.

2 Introduction

In practice, networks are a form of cooperative work between actors from different fields of economic, political and social life.[1] They are always based on visions, ideas and plans of individuals, companies, institutions or other players who do not consider their resources as sufficient for their realization and thus recognize cooperation with interested partners as useful. The term "network" has been standing in this context as a symbol for the connection between individuals, groups, institutions, companies or regions. But in which way should a collaboration as cooperative and error-free as possible be designed and executed? Which factors of success are of essential importance for the building of a functioning network and how do they facilitate the achievement of project objectives? How should a network of Regional Observatories

[1] **Peter Borkenhagen, Lutz Jäkel** et. al.: Netzwerkmanagement, Berlin 2004.

be successfully initiated and maintained in the long term? What suitable tools for internal communication are available and practical to apply? The following document is intended to provide useful suggestions and assistance on these questions and key points. Furthermore, this report is to deliver the desired guideline for finding suitable network frames and thus to enable the successful implementation of a SMART_watch network. Also, it shall give practical advice to attract further participants to the cooperation as well as strengthen the connection between all involved Regional Observatories.

3 Network - definition of term

A network refers to alliances of independent stakeholders who temporarily join forces to achieve goals, create synergies and develop solutions to problems. The network offers the necessary formal and informal structures to establish relationships between the actors and to pursue jointly set goals. The stakeholders within a network bring in different abilities, motivations and resources. They are connected via the network, but instead of a control centre, networks have a large number of nodes to building up mutual relationships in a certain degree of autonomy. Successful networking leads to productive synergy effects. On the one hand, information, experiences and ideas can be exchanged, and on the other hand resources (e.g. equipment, premises and human resources) can be shared to avoid parallel activities and redundant investments. Complex tasks that are difficult or even impossible for the individual actor to manage can thus be processed and realized.

These advantages are offset by several disadvantages: In addition to the high expenditure of time for coordination and control processes, there is the danger that actors within the framework of the cooperation may gain short-term advantages which have an unfavourable effect on the other cooperation partners. In principle, networks are high-effective but temporary institutions.

3.1 Network typologies

Typologies serve for the classification of systems or models and thus for the allocation and differentiation of collaborations. In the following, different network topologies will be shortly presented.[2]

A basic distinction is made between natural and artificial networks. Natural networks arise "spontaneously" and based on personal connections or preferences. They are founded on an individual social capital or capital in the social space (e.g. non-profit organizations). Artificial networks, on the other hand, create social capital as well, but their cooperation is aimed at the outset to achieve defined goals. They are characterized by professional and institutional interests. According to the social capital approach, these networks are defined by the fact that a complex service has to be provided for which different resources and special knowledge have to come together that none of the participants can provide on their own. In this way, the network participants benefit from the knowledge and resources of others and contribute their knowledge and resources to the network.

3.1.1 Market-oriented, welfare-oriented and intermediary networks

Networks can be structured based on their "social orientation", whereby the transitions between types are to be regarded as smooth. Between market-oriented networks (e.g. strategic networks, project networks to improve competitiveness), networks oriented towards the common good (shared use facilities) and intermediary networks. Intermediary networks include systems that operate at the interface between structural development and the market economy (e.g. regional development networks or user networks). The following network types are subsumed under this network type:

1) Experience exchange network: Networks which serve the spreading of knowledge in different contexts (e.g. research networks),

[2] **Human, S.E. & Provan, K.G.** (2000). Legitimacy building in the evolution of small-firm multilateral networks: A comparative study of success and demise. Administrative Science Quarterly, 45 (2), 583-632 and **Doran, G.T.** (1981). There's a S.M.A.R.T. way to write management´s goals and objectives. Management Review, 79, 35-36.

2) Learning and qualification network: Networks that are formed for a short period by different participants to develop complex interrelationships and translate them into everyday action,

3) Regional development network: These are networks that deal with the development and implementation of economic or political strategies for regional development. The objectives of such networks largely coincide with the interests of the individual stakeholders, but go beyond them and fulfil a common purpose,

4) User network: Users of a certain "product type" join forces to exchange their experiences.

The success of those networks cannot be measured directly or in the short term since a concrete gain often occurs not before a longer period.

3.1.2 SMART_watch – first approach for the aspired network

The required SMART_watch network is supposed to be heterarchically organized (heterarchy, greek: ἕτερος, is a system of elements that do not stand in a relationship of superiority and subordination, but on an equal level next to each other), stable and target-oriented to defining regional economic characteristics as well as deriving appropriate options for action to policy. The focus should be on the creation of an ideal setting that facilitates the initiation and implementation of economic strategies for SMART_watch technologies as well as the dynamic exchange of information, knowledge and experience between the network participants. For this purpose, a pool of autonomous professionals, knowledgeable Regional Observatories and renowned institutions specialized in smart technologies is desirable. They all together will work on precise agreed cross-border objectives (e.g. making new contacts, initiation of competence development processes, use of external know-how, increase of competitiveness, implementation of network of ROs in Central Europe) that are too complex and challenging to be handled by a single actor. Resources and contributions of different members are therefore combined and coordinated. The targeted network should be characterized by a high degree of commitment and create a positive impact on the business processes of the involved actors as well as public benefits and values for regions involved.

3.1.3 Aspired structure of the Regional Observatories cooperation

Within the ROs network, different subsystems should be distinguished.

1) In the **professional performance system**, the network participants and associated stakeholders work together to achieve the network objectives (e.g. implementation of a network of ROs in Central Europe) formally.

2) For this to be possible, a functioning **social and organizational development system** must be created. This system deals with questions of identity formation, motivation promotion and the development of strong network culture.

3) The **strategy and decision-making system** form the framework for action for the professional performance system. This includes the development of a mission statement, the definition of internal rules and network control.

4) The **operational management system** is responsible for controlling the overall process (e.g. carrying out an evaluation).

5) Finally, a functioning **information system** (e.g. information procurement, knowledge management and documentation) is required to ensure a high degree of transparency and effective communication between the network participants.

4 General factors for success

The development and implementation of an ROs network will be successful if the existing framework conditions are taken into account and if a favourable environment is created for the members and associated partners involved.[3] Since every collaboration has specific characteristics, it should be examined which factors for success are of particular importance to reach the project goals and how this is reflected in the concrete design of the SMART_watch collaboration. During the workshops and study visits in Kapfenberg and Turin, we discussed elaborately the expectations concerning the network as well as identified and defined common key factors with ROs from all partner regions for a successful network implementation.

[3] **Mareike Büttner** und **Jana Voigt**: Theoretische Grundlagen für eine erfolgreiche Netzwerkarbeit, Potsdam 2015.

4.1 Professional performance system

1) Distribution of tasks: For most network actors, networking means additional work to achieve jointly agreed objectives. The tasks must, therefore, following the application form and project goals, carefully coordinated and distributed. This leads on the one hand to the fact that the different authority and resources are used effectively and parallel, redundant working is prevented. On the other hand, the actors involved are motivated to cooperate and assume responsibility. As a result of the workshop in Turin, the ROs emphasized the importance of having professional management, clearly defined goals, shared responsibilities and determined changes if needed as well as a common vision for network's well-being.

2) Success and presentation of results: Along with a well-coordinated distribution of tasks, working together on strategies, events and products contributes to motivating those involved. In the discussions, the ROs emphasized the importance of benefits to all network members. A first visible success (e.g. a memorandum of understanding) should have been achieving as soon as the network has been establishing to strengthen the collaboration between the partners, to secure their long-term cooperation and to generate external effects.

3) A coordinated quality policy with minimum standards: The participants have to agree on quality standards and commit themselves to their observance (e.g. regularly collect, analyze and share data and outputs with partners and members).

4) Innovation: A targeted, continuous innovation culture is necessary, especially for collaborations that have been establishing for a longer-term. The network must be open to new ideas, impacts and developments; the network services and the network processes must be regularly reviewed and adapted according to their innovation needs. As a result of the realized workshops, the establishment of different working groups could be a successful way to work on diverse fields of innovation or identify and sort out obstacles.

4.2 Social and organizational development system

1) Competent and committed actors: The network must involve those actors who can contribute to the achievement of the cooperation objectives through their specific capabilities, resources and relationships. The more accurate the selection of members is, the more useful and efficient the collaboration will be, and the more productive the network is, the more attractive it will be evaluated by its stakeholders. The ROs are expecting an active role of all participants to share knowledge and experiences and influence the smart specialization system.

2) Mutual trust: Successful cooperation in networks requires the exchange of (sensitive) information. A necessary precondition for the willingness to exchange such information is that the actors gain trust - both the individual members of the network among themselves and the network members vis-à-vis the network as an organization. Such basic trust prevents the retention of information for fear of "abuse", helps to reduce insecurity and contributes to the development of cooperation. The desirable "common feeling" must be built up through regular meetings of the network members, through the planning and implementation of concrete measures and the experience that expectations are fulfilled and inputs are not misused. As the ROs clear stated: The informal exchange and relationships are as useful as the formal.

3) Network identity: A network identity is given when the actors involved not only represent their interests but also consider the consequences for the network when making decisions and implementing measures. The development of a network identity takes place by defining a clear profile and positive cooperation experiences; it can also be promoted by externally visible symbols (e.g. names, logos).

4) Network culture: To develop a common identity and reduce competitive pressure, networks need a positive culture characterized by trust, balance and transparency, open communication as well as mutual support. Fairness and respectful interaction also play an important role. During the Turin meeting, the ROs emphasized the importance of engaged members and working together without pressure.

5) Ability to cooperate: This is understood to mean the ability to work together with others in a division of labour, but with common goals and strategies. In this way, the different strengths of the individual actors are combined and weaknesses are compensated. Besides, profits can arise that cannot be achieved by the individual.
6) Moderation: A neutral moderation of the network should steer the cooperation development, mediate between the different interests in the network, support the training and implementation of the basic principles and contribute to overcoming conflict situations. Beyond this, the ROs see the project manager as "communication animator" to motivate members to fulfil and share their results and to play an active part in the collaboration.

4.3 Strategy and decision-making system

1) Targets: The objectives to be achieved by the network must be jointly agreed and regularly reviewed for timeliness. Each actor represents individual interests and favours specific approaches that should be taken into account in the goal-setting process. When actors join or leave the network, it may be useful to review and adapt the original objectives.
2) Creating value for customers. At the centre of the cooperation is the target group (e.g. Regional Observatories). Network activities have to be efficient and transparent to generate as much benefit as possible for the target audience (e.g. access to potential partners, access to knowledge and best practices).
3) Using the network internally: The network actors must benefit from the engagement in the collaboration so that they can continue to engage themselves over a long period.
4) Building leadership: In many collaborations as in this aspired ROs network, it makes sense to establish a flat management hierarchy. A stable core of actors can take over network management. This core should already have management experience or take advantage of concrete offers to train or further develop such competencies.

5) Decision-making ability: Decisions should be made by consensus and on short, direct routes. To this end, various rules and standards must be established and decision-makers determined. For this need, the ROs agreed to use the network platform, social media channels and B2B solutions.

6) Evaluation: The successes of the network (e.g. the degree to which objectives have been achieved, actor satisfaction) should be measured based on jointly agreed benchmarking criteria.

4.4 Operational management system

1) Leadership and caring: As a rule, the network actors do not focus on network activities. Thus, there is the danger that too few impulses set to achieve the network goals - the successes are missing. That is why at least one person is needed to take care of the network and the elimination of deficits.

2) Network control: The more complex a network is, like the aspired ROs network, the more crucial it is to set up a central management system with transparent planning, control and monitoring mechanisms. The implicit rule system should enable a smooth cooperation process (e.g. regulation of the exchange of information and knowledge).

3) Resource balance: The resources of a network should complement each other well or be distributed in such a way that the goals of the network actors and the collaborations can be achieved. Since highly formalized requirements for the distribution of resources rarely found in networks, these should be negotiated in the course of tackling a new network sub-objective.

4) Ability to change: Different people and institutions are brought together in the network so that different points of view and needs have to be integrated. That is only possible if the collaboration structures are flexibly adapted to the changing framework conditions and wishes of the network participants.

5) Market orientation: Market orientation means that the network (effectively and efficiently) implements those activities that create superior customer benefits and thus a competitive advantage for the cooperation.

6) Marketing: Professional network marketing with a clear customer orientation, target group communication and support by multipliers is an essential success factor as well. It creates identity and increases motivation.

7) Commitment: Specifications related to network goals and tasks should be binding. However, commitment can rarely be achieved through formal rules and regulations (e.g. statutes, cooperation agreements); in fact, it is an expression of the willingness of the actors to support the achievement of the network's objectives using their resources.

8) Legal certainty: This refers to the necessity of identifying and clarifying legally uncertain circumstances as such.

4.5 Information system

1) Technical equipment: All network members should have a minimum of technical equipment or be integrated into an appropriate infrastructure to be able to communicate with each other without any problems.

2) Platform: The exchange of knowledge and experience is an essential key element of network activities. For this purpose, a suitable platform is required that is easy and uncomplicated to access and on which relevant data and knowledge can be stored and retrieved.

3) Transparency: Transparency should be created by establishing clear structures as well as decision-making and control systems. This promotes the development of trust and thus contributes to reducing existing competitive pressure and strengthening cooperation relations.

4) Information flow: The aim is to communicate network events as quickly as possible within the network (e.g. sending central documents by e-mail, publishing information on an Internet platform). Information and agreements of general interest should be shared with all actors in the network. The concrete implementation of individual measures or the development of the associated concepts, on the other hand, will be taking place in smaller subgroups. Besides, a common language should

be found to prevent misunderstandings, especially between actors from different sectors.

5 Establishing the network

In the following, the most important steps and elements of building networks will be outlined. There are essentially four phases to differentiate:

a. the initiation phase,

b. the stabilisation phase,

c. the continuation phase and

d. the dissolution phase.

The first two phases serve the basic structure of collaboration; the continuation phase, on the other hand, is aimed at maintaining and consolidating the network. The dissolution phase will be not presented as only the first three phases are relevant for creating cooperation. At this point, however, it should be pointed out that the establishment of a network is by no means strictly linear. Rather, it is a cyclical process that affects both the network construction and concrete project processing. Before setting up an appropriate network, it should always be determined which concrete networks already exist in this area. In principle, a distinction is made between two basic models of network design. These are "extreme models" in a model spectrum; alongside these extremes, mixed forms can also exist.

In the first model, the network is set up based on a core group that is gradually expanding. This initial scenario is suitable if the goals and contents of the network activities are already sufficiently known, the working environment is clearly described and the network is to be active at short notice. Accordingly, the strengths of this model lie in being able to start work on content promptly and to become externally effective at an early stage. However, building a network according to this model carries the risk that at the beginning there will not be enough participants or resources to achieve the goals. Due to the gradual expansion of the network (to include new participants), structures and objectives may also have to be continually questioned and renegotiated.

The second model starts with the maximum number of potential network actors. In the course of the cooperation, it is finally negotiated who will actively shape the network, who will act as a silent player and who should leave the network again in the medium or long term. This model is recommended as a starting point if the network objectives cannot be implemented with a few actors or if the overall objective is still largely unclear at the beginning of the initiation phase. There is an agreement that something needs to be done, but it is still unclear how the problem should be solved. This initial model also requires participants with a high degree of diversity (different ideas, positions, contacts). The procedure according to this model has the advantage that a multitude of different ideas and impulses are available right at the beginning of the network development. On the other hand, the network actors are more closely tied to each other as they jointly go through an intensive education process. A disadvantage in this case, however, could be that a complex clarification process takes up disproportionately many resources in terms of time, money and motivation.

5.1 Initiation phase

The aspired ROs network will start with a smaller group of ROs, who took part in the workshops, exchanged and discussed expectations and decided to work together for a long time as well as attract more ROs to join and enrich the network. This small group is linked to the community, they know each other already, have the same vision for their cooperation and can grow faster than a newly aligned group. This is the core group. It somehow exists but with no framework or common understanding of how to work together – and on what: a goal, common objectives or projects. It is crucial in the initiation phase to set an aligned direction in which the network wants to go. Every social group need, in the beginning, a direction and a loose set of boarders or guiding principles in which the group can act as a group.

Surely within the core group, some participants want to work on different projects and tasks than others. This can be done at ease by building working groups for different projects/regions or whatever is needed.

In this early and initialing phase the face-to-face communication is vital. This period has to be conducted during a scheduled meeting of the ROs when the main “drivers” of this community are together and polling about topics and decisions how to cope with them can be made easily. The objective, the vision and the mindset are set far more sustainable by personal contact, than via mail or in Skype Chats. The alignment to the overall direction between the core group participants is made and commitment/trust is built among the core group. Figuring out how to cooperate efficiently, suggestions from the group have to be collected, discussed and decided regularly. This must be figured out by the group itself to rise the commitment to the set-up and stick to the own framework while working on it. There must be a general and common understanding of these topics to put all the other activities beneath it. A big picture/understood vision/framework for the network to aim at and build the base.

For example, it is possible that one subgroup is international and decides to use Microsoft Teams for communication within this subgroup and another working group is located in only one country and working by mail, phone calls and personal meetings instead. One group needs more direction and a closer framework than others who can work in loose conditions well together. But all groups are linked to a common “management system” of the network. The objectives are connected and the big vision is growing and emerging. Important: It has to be feasible for the group who works with it, then it is accepted and will work without much effort on steering. This kick-off/starting workshop should be conducted and moderated by an external professional to ensure that everybody is treated the same and the results are not in the way of the “loudest speaker” of one group.

To foster the spirit of this a ritual should be carried out. It does not have to be something big – but something the early members can remember on, like signing a together drawn picture for instance.

5.1.1 Setting up a network system

Networking requires a minimum of organization. This is usually made possible by a central "switchboard": the network coordinator - also called network office. It is either staffed by a member of the collaboration or - especially in the case of larger or tertiary networks - managed by a neutral institution. The overriding task of the network coordinator is to network the various regional actors with one another and to coordinate the network activities. For a professionally acting network coordinator, this results in the following four functional areas:

1. Selection: Particularly during the initiation and founding phase of the network, an important task of the coordinator is to select suitable actors whose competencies complement each other and who pursue similar goals and then win them over to network activities. Also, the selection means working out the goals and benefits of the network, establishing evaluation criteria as well as developing strategies for action. The network members must always be involved in these processes to promote the development of network identity. That is why the ROs used the workshops in Kapfenberg and Turin for this important and essential issues.

2. Allocation: Allocation deals with the question of how tasks, resources and responsibilities are distributed between the various network actors. The corresponding allocation should take place within the framework of a transparent, equal negotiation process that takes into account the specific competencies of the network members. A fair allocation of resources prevents internal tensions. Another strength of networks is their flexibility so that a re-allocation of tasks, resources and responsibilities at all times is an option of the network coordinator. For this point, the ROs network platform is of particular importance.

3. Regulation: The regulation comprises the design of the two functions described above, i.e. the distribution of tasks and resources among the actors involved. Accordingly, the continuous development and implementation of informal and formal rules are required. This affects various areas (e.g. the structure of information and communication channels or the organization of meetings). The establishment of appropriate rules ensures transparency, prevents information deficits, facilitates the

exchange of experience, provides a basis for the settlement of conflicts and reduces uncertainty.

4. Evaluation: The evaluation focuses on assessing the activities of the network, the relationships within the network and the network as an entity. The composition and objectives of cooperation, as well as the competencies of the network members and their relationships with each other, are subject to a constant process of change. These changes must be recognized and reflected on in good time to be able to react appropriately. Also, the results of the network activities should be documented and regularly reviewed. To this end, suitable success criteria and measuring instruments should be developed to assess the degree to which objectives have been achieved.

There is no doubt that the network of ROs needs certain management, a hub for the spokes (RO and the individual projects) – especially in the initial phase. There must be a team or a single person to be accountable for the management of the network. All the regulatory items and issues regarding resources need a point of contact. The members need one single place to ask questions and get answers, guidance and advise – mainly in the beginning. Even interested or new participants need a contact to talk to place them into suitable projects or focus groups.

The management team should be voluntarily (if possible) to put as much as a personal effort to this as possible. The team needs to be fully committed, that the management of the ROs and projects is vital to the overall objective of the network. But since a base of management conditions is set (i.e. the detailed vision and objectives are set together with ROs, a proper framework is implemented and the needed *power* is given to the ROs to act as they want to act in their projects) the management itself will be quite easy to conduct.

If the whole network is committed to work in fixed time-boxes of a month i.e. (like a *Sprint* in the Scrum Framework) there would be only short steering meetings. Main topic will be to gather the part-results of the working-groups / project teams and emerged and solved impediments during this cycle can be addressed to the other groups for “lessons learned”. This will foster the team spirit of the whole network,

because everybody knows about the successes of the others, each group can learn from the others and they will be able to work more independent. This means less effort for the management of the whole network, more responsibility for the groups and more commitment at the bottom line.

5.2 Building a network - stabilisation phase

After the foundation of the network, the structuring of the network (network architecture) and the creation of its capacity to act are in the foreground of further meetings of the network participants. An open dialogue is essential to take into account suggestions and requests of the actors involved and thus to promote identification with the network. Also, a name or reference should be found for the network, which can be used to uniquely identify the collaboration. The name should already indicate the character and topic of cooperation. Finally, it is advisable to give the network a face or point of contact, i.e. to represent it externally by one or two actors. This increases the recognition value and communicates unity. The tasks and challenges to be mastered in this context are:

5.2.1 Formation of working groups

As long as a network consists of a manageable number of actors (approx. 15-20), they can meet and work together on the relevant topics. With an increasing number of actors and an increasing diversity of thematic focuses (e.g. development of mission statements, quality assurance, public relations, event organisation), the introduction of structures based on the division of labour makes sense. This should be done to reduce time-consuming and energy-intensive development and decision-making processes in plenary sessions. The working groups should be composed according to the competencies and capabilities of the members as well as the corresponding work assignments must be underpinned with clearly defined goals and time horizons. Building on this, detailed task catalogues can then be drawn up within the respective working group.

The interim results of the groups must be regularly reflected the entire network (e.g. via protocols) so that their work can be continued at any time. Besides, a control

function is installed which can help to discover whether a group is working past its work assignments or competing with another group or providing redundant services. The results achieved in the group are finally presented at a decision-ready stage during a network conference, where they are acknowledged accordingly. If a working group has sufficiently fulfilled its tasks, it should be dissolved to release the resources tied up in it. With these resources, new working groups can be formed if necessary.

5.2.2 Implementation of network conferences

Once the cooperation network has been establishing, a conference should be held at least once a year with all the network participants involved to debate on the further developments and possibilities for action. At the same time, network conferences serve as a basic component of maintaining cooperation. They promote exchange between the actors and open up opportunities for them to get to know previously unknown network actors as well as establish and expand relationships. Besides, network conferences provide a platform for passing on information and communicating the successes achieved to date. The organizational framework, agenda and thematic focus of a conference should, therefore, carefully considered, as a conference will only motivate stakeholders to participate if the framework and the topic arouse their interest.

5.2.3 Structure of an information system

The establishment of an information system is a central precondition for open and transparent communication and participation processes among the actors, allowing the members of the network to obtain information as and when they need it and promoting the exchange of experience.

The flow of information has to be realized shortly and should involve all actors. One possible form of communication is personal meetings in working groups and network conferences. Usually, these meetings cannot be attended by all actors, so that the most important points of discussion and decisions must be recorded and made available digitally. In this way, it can be ensured that all network members are

equally informed, and opportunities for subsequent participation are opened up. However, some issues are not relevant for all actors, so it might be appropriate to set up additional, smaller distribution lists.

In addition to personal meetings are newsletters, circular mails, interim reports, doodles, websites and online platforms very suitable for exchanging and coordinating information. All communication and information measures are associated with tasks that either has to be mastered by the network actors themselves or – in case the available competencies and resources are not sufficient - handed over to the network management.

5.3 Maintain a network – continuation phase

Once the network has established itself, the main task of network management is to maintain or deepen the relationships between the members, if required to win new actors for the network and evaluate the development of cooperation by carrying out evaluations to tap optimization potentials.

5.3.1 Implementation of evaluation studies

Evaluations should examine whether the objectives formulated at the beginning have been achieved and whether the costs for the establishment and further development of the network are proportionate to the benefits achieved. To this end, data is systematically collected, analyzed and evaluated so that conclusions can be drawn on this basis to improve network activities. The evaluation of the network is carried out based on concrete indicators, which in the best case have already been defined in the course of formulating the objectives. These indicators must be compared and coordinated with the needs' analysis carried out before the network was set up. In the course of the evaluation, quantitative and qualitative data should be collected. Quantitative data come from statistical surveys, while qualitative data reflect the subjective perception (e.g. surveys) of the respective target group. Above all, qualitative analyses require the support of external evaluators to ensure sufficient objectivity. It is difficult and not a sign of professionalism to be both observer and object of observation at the same time. In particular, for the evaluation of networks

or the evaluation of complex interrelations whose benefits cannot be determined based on economic variables. The so-called utility value analysis is a useful tool. Relevant indicators are worked out together with the network members and their significance is weighted. Then, the indicators are evaluated about their degree of fulfilment to calculate the utility value of each indicator for the participants. In general, depending on the focused segment of the network, specific indicators and suitable evaluation methods (e.g. benchmarking tools) must be used.

5.3.2 Attracting new players to the network

Compared to other forms of organization, networks are characterized by their high flexibility, the division of labour structures and the fact that actors with different competences and resources are brought together. With each reorientation of the network or in the course of the constantly occurring change processes, it may become necessary to involve further actors in the cooperation activities. If such a necessity becomes apparent, it should first be discussed with the network actors whether and in which area or in which function the network should be expanded. Based on the needs' analysis, a minimum requirement profile can then be drawn up and suitable partners pre-selected via formal and informal contacts of the network members, visits to events or Internet research.

The candidates' willingness and ability to cooperate can then be explored in personal interviews (e.g. objectives, expectations) and the benefits of cooperation clarified. The new actor must then be integrated into the existing collaboration. It is necessary to operationalize his role, to clarify the framework conditions of his participation (e.g. responsibilities, competencies) as well as to integrate him into the existing communication system and the operative network activities. After some time, the evaluation of the stakeholder involvement must take place to determine the quality of the integration process and achievement of the intended objectives.

6 Communication – definition of term

Communication is best defined as the exchange of information and the expression of ideas, thoughts and feelings by using words and other methods. In the project management context, this means the exchange of knowledge, skills and experience. Communication is a key factor in project management. For successful project execution, effective communication to all key participants is essential. Many projects fail because of a lack of communication or an ineffective way of communication. Also, if project managers can develop effective communication with its key participants, this may mean better and more efficient projects. These are the three communication fields in project management:

1. Internal information exchange (decision-making process, conduction of meetings, daily scrums etc.),
2. Information management (relevant information is communicated to all project participants, changes to the project are communicated etc.),
3. Project marketing (project presentation and display to customers, partners, sponsors etc.).

The project management/lead partner must decide the communication strategy and frames from the very beginning of a project. The following questions should be considered: Does communication facilitate the achievement of goals and objectives? Who is the target audience of the communication and information transfer? Which communication channels should be used? The network communication aims to enable efficient and error-free communication internally and externally to ensure the achievement of the main project objectives which are:

1. Develop a functional business model for regional branch observatories (RO) with effective tools corresponding to end-users needs based on the best practice reports, workshop results and SWOT-analysis of the best performing RIS monitoring actors and observatories.
2. Establish a network of regional branch observatories monitoring intelligent markets and smart specializations in Central Europe,
3. Increase the efficiency of regional branch observatories (RO) monitoring technology trends and market developments in the area of smart specializations, to equip them with a set of monitoring and benchmarking tools (i.e. tools to generate

products corresponding to the real needs of end-users, within the timeframe of WP3, continued after the project ends and in close cooperation with WP4).

4. Provide recommendations to policy for a new perspective, also within the timeframe of WP3, continued after the project ends and in close cooperation with WP4.

5. Strengthen innovation capacity in Central Europe regions and increase transnational links for improving existing and developing new services by specific actions like projects or by using the synergies between the members of the RO network.

6. Further aims are to identify internally with the project, represent the project to the target groups and stakeholders externally in an efficient way, develop and share good practices, learn from other regions that carry out similar activities as well as reach and involve the target groups and sustain the contact with them by agreement.

6.1 Internal Regional Observatories network communication

Communication to animate the initial phase based on the project resources will be successful if it reaches high visibility of the network, strong relationships with the target groups and a high level of satisfaction among the target groups with the information provided.

Internal communication is the communication that takes place between project participants built around the network leader. Generally, this type of communication may involve a lot of back-and-forth discussion as plans, tools, activities or measures are worked out. The targets of internal communication are the whole partnership including the associated stakeholders as public authorities at different levels, institutions and agencies, enterprises, higher education and research institutions.

Internal project communication is essential to project success. It is aimed to ensure the same level of information to all key participants, identify with the main goals of the project, feel like they are part of the project as well as to know the responsibilities and tasks of all partners. Each partner is responsible to follow the communication objectives, activities and measures planned in the application form, programme manual and communication strategy both internally and externally to

the ROs network. An efficient and comprehensive communication inside and outside the ROs network is supposed to:

1. strengthen partners' cooperation and ensure regular partner involvement in communication and content implementation activities,
2. be implemented by all partners to circulate and disseminate the information on time,
3. support implementation of the content outputs as stated in the application form,
4. engage the work of the partnership in developing relationships with the beneficiaries of the project and the associated stakeholders,
5. facilitate common identity emergence and sustainability,
6. enhance the transfer of outputs to a new audience (new RO's),
7. keep partners informed on project progress and committed to the success of the ROs network.

Within the ROs network communication, a combination of tools to promote and maintain the project will be used: on & offline direct communication, digital activities, targeted events and social media. Some channels of communication are more effective than others depending on the needs of the audience, purpose of the communication and type of information. A project fraught with communication problems leads to delays, misunderstandings, frustration and a mismatch in participants expectations. Hence, employing effective communication methods are necessary to ensure project success.

6.2 Internal network communication channels and types

The most relevant and used communication channels and types with regard to the ROs network will be:

1. **Phone** (sometimes a direct phone call helps clarify things rather than a long email),
2. **Communication via E-mail** (always keep emails short: one email = one message, or one question, or one piece of information),
3. **Free messaging systems** like www.skype.com (to chat, make online calls and hold video conferences), all project managers are asked to provide SKYPE details or install

Skype in case they are not using it yet, Skype will be one of the major distant communication means,

4. **Face-to-face and online meetings** (always keep written minutes for easy implementation of decisions),
5. **Joint calendars** like www.calendar.yahoo.com (to create to-do lists, schedule events and send reminders),
6. **Online collaboration platforms** for file sharing and online storage of files (e.g. Dropbox, to avoid overloads in mailbox when communicating documents for the next monitoring committee meeting, next partner meeting, next field trip or official event),
7. **Intranet and extranet** accessible via the programme website (requiring login and password).

Face-to-Face communication

Face-to-face communication is any type of verbal or non-verbal communication where you are in the same physical location as the receiver. Face-to-face communication is very powerful. You can communicate verbally with the words you speak as well as non-verbally through body language. It also allows you to get immediate feedback from the receiver so you can adjust how you are delivering your message if necessary. Some examples of face-to-face communication include informal hallway chats, project meetings, annual performance reviews.

Interactive communication

This is an example of an effective communication method. For interactive communication, all stakeholders involved in the communication can respond to each other in real-time. Some examples of interactive communication include face-to-face meetings, video conferencing, phone calls and messenger chats. These methods of communication are often used in projects and are more effective than other methods of communication. Within interactive communication, face-to-face meetings are the most effective because they enable you to view the body language and facial expressions of the communicating stakeholders.

Written communication

Written communication is any type of communication that involves the written word. This can involve both formal and informal communications. A key distinction between written communication and face-to-face communication is that feedback from the receiver may not be immediate. Although most of us consider ourselves honest and ethical, we are all human and can forget things we have said or misunderstand things we have heard. One of the major benefits of written communication is that it can be used to document what has been said or agreed to. It also can be used to clarify ideas to avoid misunderstandings. Some examples of written communication include letters, email, contracts, sms, reports and intranet content.

Two-Way Remote communication

Two-way remote communication is when you and the receiver are not in the same physical spaces but are able to receive real-time feedback from each other. Although you are able to receive immediate feedback from the receiver, the feedback is usually limited compared to face-to-face communication. Some examples of two-way remote communication include video conferencing, teleconferencing, cell phone calls, SMS (i.e. texting).

Social Media communication

Social media has become a very common form of communication. It allows for real-time feedback with a written record of what has been communicated. What makes social media so powerful for project work is the way it enables team collaboration. Examples of social media communication include instant messaging, Microsoft Sharepoint, Facebook, LinkedIn, wikis and Twitter. Many of the web-based project management tools are also considered to be social media tools since they enable better collaboration.

7 Conclusion

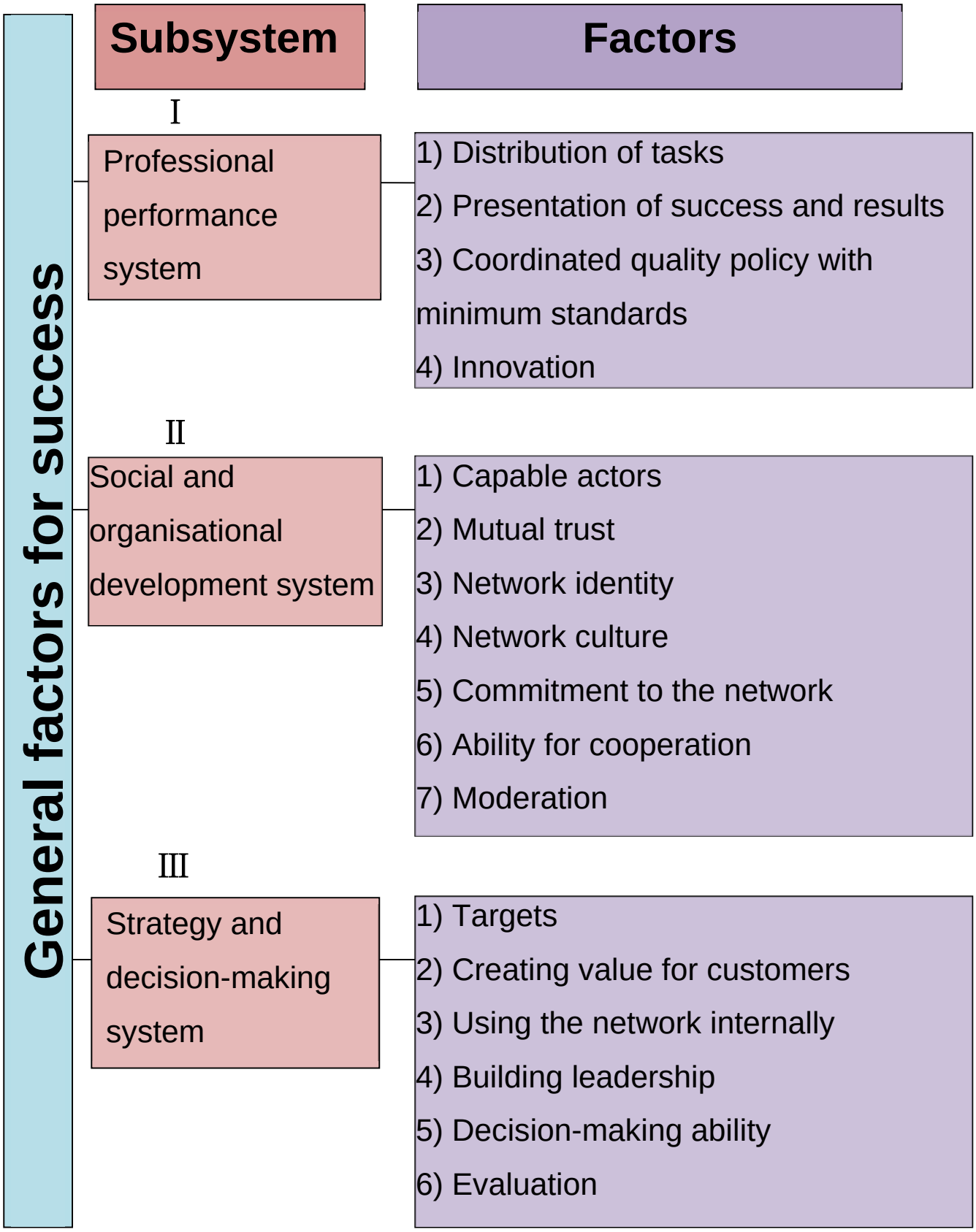
The planned SMART_watch network represents a form of organization in which organizational learning processes, as well as an expansion of the product and service spectrum, will take place, which will be shaped and maintained by the regional network actors. To be able to design these processes optimally, the network needs the competences and abilities of all the individual actors, which must be developed and made available for network operations through appropriate network management measures. On the background of the preconditions discussed in this report, the personality profile of a network member can be described as follows: The network actors are prepared to strive for cooperative solutions and actively engage in it. The network actors recognize that each partner has a benefit from the network, and are actively committed to this. The network actors are prepared to accept the risk of longer-term strategic cooperation. They are aware, that this is the only way to ensure the development of value creation processes. They know that this leads to new, valuable network know-how in the end. Inside the SMART_watch network, each network actor acts at the same time as a learner and lecturer and thus enables the synergetic interaction of risk-taking and value creation that is typical of strategic networks.

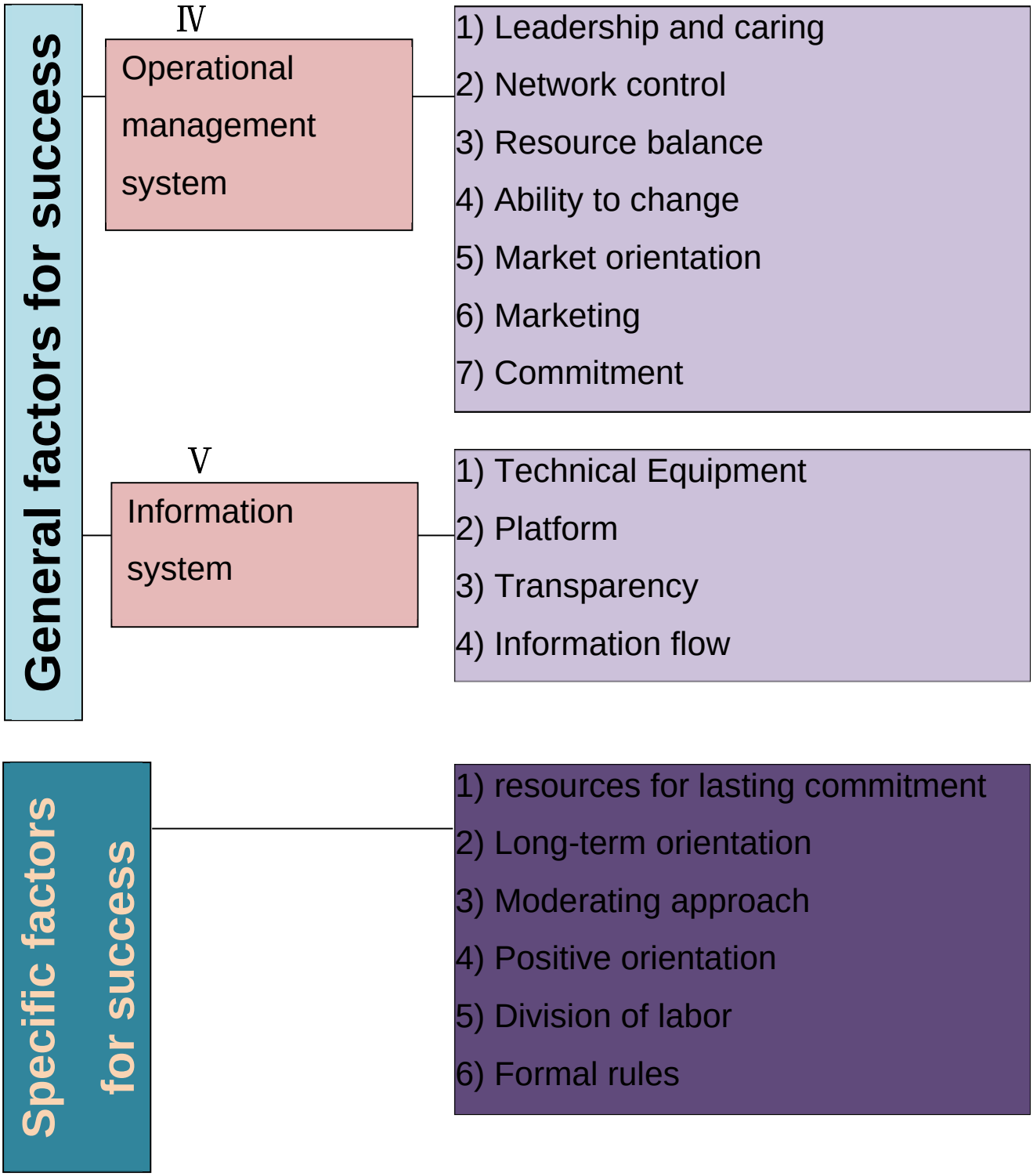
The main results of internal ROs network communication will be a well-informed team of committed partners. Partners that know their roles, tasks, responsibilities and have a clear indication of how they can participate, bring in new ideas, discuss topics and contribute to the overall success of the project. As a result of efficient internal communication, all the project partners will have a broad knowledge and tailored tools to disseminate information about the project and promote it among all the target groups. Internal communication issues will be discussed in meetings and briefings. That will give all project partners a possibility to express their expectations, state questions and discuss doubts and ideas.

The success of internal communication shall be directly measurable at the extent of joint involvement in the communication activities of the individual partners. It would mean in practice that communication that is done by an individual partner should have some content and visual element that was provided by another partner of the

SMART_watch project. The shared knowledge and information of the project partners would show clearly their linkage to the project.

8 Annex


General factors for success
Subsystem
Factors
I
Professional performance system
1) Distribution of tasks
2) Presentation of success and results
3) Coordinated quality policy with minimum standards
4) Innovation
II
Social and organisational development system
1) Capable actors
2) Mutual trust
3) Network identity
4) Network culture
5) Commitment to the network
6) Ability for cooperation
7) Moderation
III
Strategy and decision-making system
1) Targets
2) Creating value for customers
3) Using the network internally
4) Building leadership
5) Decision-making ability
6) Evaluation


General factors for success
IV
Operational management system
1) Leadership and caring
2) Network control
3) Resource balance
4) Ability to change
5) Market orientation
6) Marketing
7) Commitment
V
Information system
1) Technical Equipment
2) Platform
3) Transparency
4) Information flow
Specific factors for success
1) resources for lasting commitment
2) Long-term orientation
3) Moderating approach
4) Positive orientation
5) Division of labor
6) Formal rules