



#### **Executive Master**

## "Territorial Planning and Economic Development of Rural Areas"

# Booklet of Didactic Material

## Module 1 Institutions and Actors in the Territory

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#### Module developed by:

•	Tahani Abdelhakim,	International	Center for	Advanced	Mediterranean	Agronomic	Studies -
	Mediterranean Agro	nomic Institut	e of Montp	ellier, Franc	ce		

•	Elena	Kokthi,	Agricultural	University	of Tirana	, Albania
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The module entitled "Institutions and Actors In Territory" (IAT) has in general a twofold objective:

- Firstly to offer to the students a background related to the role played by the actors and institutions in economic and territory development.
- Secondly this module will introduce to the student's the necessary instruments and tools to analyze the institutions and actors dealing with the territory development using both qualitative and quantitative approaches.

#### Introduction

The IAT module is structured in three main parts: the first part is used as a general introduction to all the Smart-al module compendium with the main focus on the institutions and the actors in the territory. It is composed by four chapters. In chapter one will be analysed the concept of territory development, how it has evolved, is conceived and defined by different perspectives: from geography, economy anthropology etcetera. The emphasis of this chapter will be the evolution of the territory development concept from the institutional actor's perspective. At the end of this chapter the students will be able to understand how the concept of territory has evolved, the approaches of territory development, the role of the actors in the sustainable development in governing the commons and finally how to identify and analyse the different stakeholder taking place in the development processes. Students will be able to understand the difference between local development and territory development. In the second chapter students will be introduced to sustainability concept, how and why the institutions and actors can contribute to sustainable development in the territory base rural and urban. In the second chapter it will be introduced the concept of sustainability and the role of institutions in this process. The institutions will be analysed further in the second part of the module. In the third chapter will be introduced the concept of Common Pool resources and how collective actions are important to deal with dilemmas such as the tragedy of the common etcetera. While in the fourth chapter we will introduce the role of the stakeholder analysis and their importance in policy making process. The focus in this chapter will be mainly in the different methodologies of stakeholder analysis. As previously mentioned the first part will function as preamble for the rest of the modules but also for the two other parts of the IAT module.





## First part: Territory development and the role of actors and institutions

#### **Chapter 1: Territory development and the role of actors**

#### **Summary**

Before coming to the idea of "territory", economists first spoke of endogenous or "bottom up" development and then of local development. Geographers are, for their part, grasped the concept more frankly, by giving it clearly dimension which installs or "locates" the actor in his space and his environment. Today, the notion of territory is accepted in European literature but still ambiguous in the Anglo-Saxon literature. In the last the "Territory" is rather considered as a political territory, constituted and institutionalized (what I would call a territory " given "or" instituted ") preferring the notion of" Place "to the territories developed by the actors when seeking solutions to common productive problems (which I would call constructed territories) 4. It seems, however, that the notion and all the representations which underlie the word itself are progressing with advances and doubts and that the territory tends to impose itself as a crucial unit of analysis of the strategies of actors in the 'geographic space. We therefore propose for the word "territory" as for its variations "territoriality" and "territorialization", a reflection in two movements. First of all, the exhaustion of the much sought-after concept, so sure of itself as a Leibniz monad or a basic brick of a somewhat simple structuralism. The appropriation by the actors becomes the birth certificate of the territory. Indeed, the phenomenological perspective weighs heavily. The territorial space is lived and perceived. The notion of territory has worked on the geographic imagination but we have multiplied its meaning to the point where we can imagine an "overheating" of the concept.

From then on, the short circuit between the local and the territorial takes place. The difference between the two terms becomes blurred or even confused. This takes the form of a misunderstanding that is found in field practices. Local refers to the scale while the territorial refers to the mode of construction by the actors, whatever the scale. In terms of the economy, the contribution of Italian sociologists and economists (A. Bagnasco, G. Becattini) in the international debate with the specific configuration of "industrial districts", did little to strengthen the idea of the emergence of the small against the big. However, territorial analysis remains for geographers a fundamental analytical perspective. G. Benko6 relying on the work of R. Brunet recalls: "We generally call territory that kind of space that a group has appropriated and that it has appropriate to its needs, to its structure: nation-state is just one example. Appearance makes the landscape, belonging makes the territory (p.109) ".

Chapter will be used as an introductory chapter for the overall modules of SMART-AL study programme. In this chapter it will be examined the idea of territory and of territorial development as an emerging approach and charts the evolution of territorial approaches within changing perspectives on rural development. These include centralised and donor driven Integrated Rural Development Programmes





(IRDPs) of the 1970s and early 80s; the Sustainable Livelihoods (SL) approach developed in the 1990s, as well as the relevance to territorial perspectives of practical experiences in Community Based Natural Resource Management (CBNRM), and, in the francophone tradition, of Gestion de Terroir. It goes on to consider briefly the importance of urban-rural linkages and change in development policy, and the development of Local Economic Development (LED) approaches which have primarily addressed the urban sector. The analysis compares and contrasts the generic features of a Rural Territorial Development (RTD) approach with earlier IRDP and SL approaches on the one hand, and with LED on the other. The foregoing discussion of territorial by the European Union's LEADER programme's approach to strengthening territorial competitiveness in marginalised rural regions of Europe, and FAO's methodology of Participatory and Negotiated Territorial Development methodology. In this chapter the students will discuss the conceptual development of territorial approaches and their uptake by development programmes in Albania.

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To define the concept of the territory
- To understand the different approaches of territory development and how they have evolved in developed and developing countries
- To understand the role of the actors in this process

#### References

Abdelhakim Tahani. Lecture compendium

Quan, J., & Nelson, V. (2005). Territory and rural development: concepts, methods and approaches. *Land and Territory Research Paper*, 2, 836-853.

#### Chapter 2: Sustainable development and the role of institutions and actors

The issues connected with widely understood institutions are nowadays one of the most discussed problems in the social sciences. Especially the role of institutions in creation of economic performance and economic development in the context of sustainable development is crucial. In this chapter the students will acknowledge the role of institutions in sustainable development.

The concept of sustainable development was born in 70's along with the Stockholm Declaration and program documents and strategies referred to the sustainable development proposed between first global environmental summit in Rio de Janeiro in 1992 and the consecutive initiatives connected with global interests of many communities (scientific, political, business) and individuals. The concept of sustainable development is a complex issue but based on three fundamental aspects of sustainability: economic, social and environmental. In the most general terms it can be assumed, as defined in the report Our Common Future by World Commission on Environment and Development, that sustainable development





can be understood as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [WCED 1987, Harris 2000]. Such formulation of sustainable development definition implies its global dimension. The idea of sustainable development assumes that there is interdependence between economic development of societies and the environmental quality. It also states that exists a significant correlation between future economic growth and preserving the environment in the best possible condition for next generations. The issues connected with sustainable development spread quickly among new areas of social and economic development.

#### Why the institutions matter for sustainable development?

The constitutive element of sustainable development is a long-term socio-economic development, conducive to the development of all societies and each individual who takes account of environmental protection. There isn't a consensus among economists in the case of one, common definition of development. However arbitrary it is accepted that development relates to the increasing real GDP per capita, improvement in health and nutrition, positive changes in quality of education systems and social security, more equal distribution of income and access to economic resources [Amelung 1992, p. 32]. The integration of three dimensions: environmental, economic and social are commonly referred to the concept of sustainable development. But more and more often the fourth institutional dimension is considered [Valentin, Spangenberg 2000]. The conditions of long-term socio-economic growth and development are widely discussed on the basis of social sciences. In the search for sources of economic growth, the reasons of disproportion and divergence between countries in terms of their level of growth and income are considered.

The most discussed issue is the role of institutions and institutional quality in the economic performance, in poverty limitation and in the socio-economic development. The scientific debate on institutions provides various understandings of the term, derives from different sciences, such as historical and legal institutionalism, economics, sociology and political sciences [Van den Brande et al. 2008, p. 20]. Many authors examined the connection between institutions and economic growth and introduce institutional measures into cross-country growth. They indicate that along with technological progress institutions are the key determinant of long-term economic growth and development of economies [North 1990; Hall, Jones 1999; Acemoglu, Johnson, Robinson 2001; Acemoglu, Johnson, Robinson 2004; Rodrik, Subramanian, Trebbi 2002]. The growth of economy depends on how it is organized. It strictly refers to economic institutions. Institutions, mainly political, which are the fundamental source of long-run growth, determine economic institutions. In consequence the differences in economic institutions, which based on politics, structure of political power and the nature of political institutions, are the fundamental cause of differences in economic development [Acemoglu, Johnson, Robinson 2004]. The institutions are rules of a game that regularize behaviour and social relation and lead to uncertainty reduction and to improve the coordination of efforts and economic relations. Douglass C. North provides a clear institutional framework within which are both formal and informal constraints [North 1990]. North also introduces the distinctions between institutions and organizations: "It is the interaction between institutions and organizations that shapes the institutional evolution of an economy. If institutions are the rules of the game, organizations and their entrepreneurs are the players" [North 1997, p. 116]. In this context organizations are understood as: political bodies (parties, central banks, regulatory agencies), economic bodies (firms), educational bodies (schools) and social bodies (associations). Institutions are the rules of the game determining the functioning of organizations and the way they function in the societies. This distinction between institutions and organizations underlines the significance of governance quality, not only organizational structures [Ugur 2010]. The other approach to institutions is associated with Oliver





Williamson, who understands institutions as "governance structures" [1975, 1985], in opposition to North's rules of the game. Ronald Coase assumed that it was impossible to explain the economy's functioning without the reference to institutions and their influence on economic behaviour [Coase 1937, 1960]. This approach was widely studied by Williamson, who claimed that institutions caused the reduction of transaction costs between different actors. The high costs hampered ability to cooperate and taking up economic activities [Williamson 1985]. By reducing transaction costs and barriers to entry and because of efficient functioning of the market mechanism institutions supports economic activities, innovations and increase of production.

The lack of appropriate institutional environment causes the decline of economic activity and optimal resource allocation. The definitions of institution are different in the literature but conclusions are concurrent: institutions explain significant differences in level of incomes among countries. Although there is still far from a universal consensus on a clear verification of existing dependencies, on the basis of modern economics it is assumed that the institutions are important.

The fundamental aim of the recent research conducted on the field of institutional economics is the identification of the most important institutions, which contribute to economic growth rates among nations, and also to create the channels through which institutions may affect economic performance. These same solutions may influence implementation and effective realization of sustainable development strategy. Results from empirical analyses suggest that the existence of good quality institutions influences the socio-economic development and can contribute to poverty reduction and reduction in income stratification [Persson, Tabellini 1994]. North asserts that "the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the Third World.

Many institutions are effective in solving societal problems, maintaining order, reducing conflicts, and creating the foundations for economic growth but do not promote the sustainable development from global perspective. Some societies face various difficulties in achieving conditions of sustainability. Some actions are possible only from the national point of view, but others need global perspective and cooperation, which allow the society of global village to implement sustainable development principles through global partnership. From the sustainable development point of view both institutions (understood as rules of the game and organizations) matter. It is necessary to create simultaneously the rules of the game and institutions, in the sense of organizations, which are established in order to implement sustainable development at all levels of governance, especially at the global level.

#### Learning objectives

#### At the end of this chapter the students will be able to

- Understand what the sustainable development is and how institutions can have an impact
- Understand the role institutions in sustainable territory development





#### References

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### Chapter 3: Governing the commons and the role of the collective action **Summary**

In addition to the broad evolution of theory and practice in rural development the development of practical approaches to natural resource management at local level, Community based natural resource management (CBNRM) in Anglophone Africa and Gestion de Terroir in Francophone West Africa has also been significant for the development of a more spatially oriented, territorial perspective on development.

The interest in the potential of Community Based Natural Resource Management (CBNRM) schemes arose from the need for the state to develop partnerships with local communities in conservation and natural resource management, together with the recognition of the livelihood importance of common property resources. Restricting community access to wild resources and state reservation of land for conservation or productive purposes (national parks, wildlife and forest reserves) has led to frequent





problems of resource conflict, poaching and illegal harvesting and most sectoral natural resource management authorities in developing countries now recognise the need for a more participative approach. CBNRM is premised on the desires for equity of access and sustainable resource use, coupled with confidence in the CPR management capacity of local communities and the failures of top-down resource management. In this chapter the students will be introduced to three influential models The tragedy of the commons, The prisoner's dilemma game The logic of collective action. Several case studies will be furnished in order to understand the role of the actors in managing the commons and CPR.

#### Learning objectives

#### At the end of this chapter the students will be able to

- To understand the CBNRM and situate the context in Albania
- Understand the logic of the tragedy of the commons and the logic of the collective action
- Understand the context of CPR collective actions

#### References

Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action. Cambridge university press.

Quan, J., & Nelson, V. (2005). Territory and rural development: concepts, methods and approaches. *Land and Territory Research Paper*, 2, 836-853.

#### Chapter 4: Actors identification and analysis

#### **Summary**

In this chapter the students will learn on the role of the actors in the policy making process and the bottom-up vs up-bottom approaches. The objectives of the participation process and some of the objectives that are fulfilled when actor's participation is assured. In addition to that students will learn step by step how to perform a stakeholder analysis.

Many theories address the role of actors in policy making processes and no single theory can be selected a priori as the best way to describe and explain these processes. Nevertheless, comparing different theoretical studies from policy science suggests some structures and mechanisms that characterize most multi-actor policy making processes. Several authors emphasize that public policies are generally generated within networks in which multiple actors are interrelated in a more or less systematic way (Kenis and Schneider, 1. Looking only at policy networks, however, has a limited potential to explain policy changes if not complemented by an analysis at a lower level in terms of properties of the actors (Rhodes and Marsh, 1992, p. 196). At this actor level, most theories converge around three basic





dimensions that help explain actor behavior: perceptions, values, and resources (Mitroff, 1983; Sabatier, 1988; Jobert, 1989; Scharpf, 1997)2. If, in a somewhat crude simplification, one takes the network level to be a fourth dimension, the object of an actor analysis thus can be characterized along the following dimensions:

- 1. Networks: "More or less stable patterns of social relations between interdependent actors, which take shape around policy problems and/or policy programmes" (Klijn, 1997: 30). In these networks, the institutional context and rules limit and structure the possible range of activities (Ostrom et al., 1994).
- 2...Perceptions: The image that actors have of the world around them, both of the other actors and networks, and of the substantive characteristics of a policy problem (Bots et al., 2000; Scharpf, 1997). Perceptions may also be labelled causal beliefs, cognitions or frames of reference. Perceptions here refer only to 'neutral' theories of how the world operates, and not to normative beliefs on what is good and desirable. The latter are discussed under the dimension of "values".
- 3. Values: These provide the directions in which actors would like to move; they describe the internal motivations of actors. Related concepts such as 'norms', 'interests' and 'purposes' function on a more abstract level, whereas 'objectives', 'goals' and 'targets' express values in more specific terms. 'Preferences' and 'positions' translate values into a (relative) preference ordering over specific solutions or policy outcomes. Variables on this dimension are closely linked to actors' perceptions (see also Sabatier, 1988: 131-133).
- 4. Resources: The practical means or instruments that actors have to realize their objectives. Resources are the "things over which they have control and in which they have some interest" (Coleman, 1990: 28). Resources enable actors to influence the world around them, including other actors, relations and rules in a network. As such, resources are closely related to power and influence (Thomson et al., 2003: 8).

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To understand the role of the stakeholders in the policy making process
- To analyse the actors and the objectives of participation
- To understand several methodologies in stakeholder analysis
- To apply the stakeholder analysis in territory development programmes

#### References

Hermans, L. M., & Thissen, W. A. (2009). Actor analysis methods and their use for public policy analysts. *European Journal of Operational Research*, 196(2), 808-818.





#### Second part: Institution and territory development

In the second part of the module we will present the concept of the institutions, the difference with the organisation, their role in the territory development. A specific importance will be conferred to the role of institutions in development, innovation, entrepreneurship, trust and social capital development, economic development etcetera. In this part the students will also learn how to analyse institutions. A tool to analyse institutions will be used in case study development.

#### **Chapter 5: Introduction to institutions**

Institutions involve rules, organisations and social norms that facilitate human and organisational action. Institutions are therefore important to the attainment of efficient, sustainable and equitable development outcomes (through, e.g., the creation of trust and confidence in societal systems such as the financial system, etc.). Formal institutions (e.g., the laws governing the workforce) are just as important as informal institutions (e.g., traditional system of labour in some societies). Organisations are structures that have been either created to take advantage of the opportunities for action provided by existing institutions, or created to implement new institutions such as laws and regulations.

The analysis of institutions is carried out from different points of view. Still, the birth as an economic current is related to the debate on the homo-economicus of neoclassical theory. According to the latter, the individual is at the centre of a market system; every individual is rational and will try to make rational choices based on marginal costs and marginal income. All individuals in the economy will act in this way, will achieve the optimum. But unlike neoclassicists, institutionalists start from the basic idea that the individual or economic agent does not make decisions in an isolated way but collaborates with others and in a certain institutional context. Institutionalist economists added to the definition of rationality the aspect of the environment, i.e. institutions. It is more than understandable that for the rational individual to make decisions, the free market and competition must be ensured by some basic institutions such as the right of private property and the laws that provide the implementation of contracts. The simplistic character of economic behavior and equilibrium according to neoclassical theory has always irritated institutional economists. Thorstein Veblen, considered the founder of American institutionalism, has opposed the neoclassical view that behavior, norms, and attitudes are taken for granted. He thinks that these characteristics that make an individual behave in a particular form are institutions, and neoclassical economics can not leave them out. For Veblen, collective action is as crucial as an individual action. Also, for Common (1931), collective shares have an increasingly important role in outlining individual claims. For a long time, institutional economics was "defeated" by the neoclassicists but in recent decades, a The generation of institutionalist thought. Now those who are called young neo-institutionalists emphasize transaction costs. One branch of transaction economics relates to organizational theory (Oliver Williamson). Another component is based on the work of Douglas North (economic history). The economic context is still dominated by agents aiming for the optimum. Still, already this individual will face limited rationality due to transaction costs and due to the addition of institutions with restrictions of various kinds. Williamson does not use the institutional economic concept but transaction economics. This author analyzes the relationship between transaction costs and organizational forms at the level of an organization and the market level. The institutional structure in an economy is essential because the





transaction costs will depend on it. The construction of a firm and a market will depend on the transaction costs. Williamson does not define institutions' precise definition, but he refers to them with the term transaction cost economics. While from the historical perspective of the institutions Douglas North, considers the market as the most fundamental institution of western economies. But he adds that to the theory of institutionalists, we must add the theory of property law, the theory of the state and the theory of ideology. Otherwise, would not be appropriately understood historical processes. In this context, North presents a different definition: "Institutions are the rules of the game in a society, or more formally, they are rules designed by individuals to regulate the relationship between them. Consequently, they outline initiatives in exchanges between economic agents, whether political, economic or social. Institutional change shows the evolution of societies over time and show elements in understanding historical change" (North 1990: 3).

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To distinguish between the concept of institutions and organisation
- To understand the role of institutions in territory development

#### References

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#### Chapter 6: Institutions, economic theory and economic performance

According to Douglas North we cannot see, feel, touch, or even measure institutions; they are constructs of the human mind. But even the most convinced neoclassical economists admit their existence and typically make them parameters (implicitly or explicitly) in their models. Do institutions matter? Do tariffs, regulations, and rules matter? Does government make a difference? Can we explain the radical change in economic well-being when we step across the boundary between developed and developing countries? What makes markets work or not work? Does honesty in exchange make a difference; does it pay? How the territorial reform has changed the institutional framework in Albania and has the new reform achieved its role of increasing economic performance in Albania. In this chapter the students will be able to use several indicators of institutions development and how they impact the economy of a certain country. In this chapter the student will be able to review the scientific research on the impact that a given institutional framework has on economic development.





#### Learning objectives

#### At the end of this chapter the students will be able to:

To understand the role of institutions in:

- Cooperation
- Reducing uncertainty
- Innovation
- Entrepreneurship
- Social capital
- Territory and rural development

#### References

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#### **Chapter 7: Analysis of the institutions**

#### **Summary**

In this chapter students will gain additional knowledge by the application of the institutional analysis tool developed by Elinor Ostrom on the Common Pool Resources. The students will apply this tool in the Territorial Reform of 2014 that has taken place in Albania. The aim of the tool is to analyse the institutions that have a bearing on the core issue of a intervention project or policy. This tool is particularly useful at the start of the intervention and when the issue of strategies for change is raised. The tool will help the students to think critically about how different aspects of institutions influences a given intervention. It is important to note that there are no other 'widely accepted' tools for analysing institutions despite the fact that the concept of institution is so important to social change-focused development.

#### Institutional Analysis - Step by step

#### Step 1:

Identify the relevant institutions that have a bearing on the core issue of an intervention

Brainstorm to find out the key institutions influencing (positively or negatively) the core issue—values, norm, laws, policies; organisations, groups, structures, networks, services, citizens demands, actions, etc.

Group the institutions identified under the headings meaning, control, association, action (see examples below).





Examples of questions that you can use to help brainstorm on 'meaning':

- What are the general beliefs in the government and society about the emerging issue?
- What are the norms and values in the community and the society at large?
- What are the main theories, conceptual frameworks and bodies of knowledge being used to set policies and design interventions?
- How much alignment or contradiction is there between the different theories and between theory, cultural values and practices? Examples of questions that you can use to help you brainstorm on 'association':- Which organised actors are important to the emerging issue (government agencies, donors, NGOs, CBOs etc.)?
- What contractual, formal or informal relationships exist among these different organizations?

#### Examples of questions to help brainstorm on 'control':

- What is the national policy on the emerging issue? How is the emerging issue 'being dealt with in relation to other national strategies and policies (e.g., Poverty Reduction Strategy Papers (PRSPs))?
  - What are the specific mandates of the different organizations?
  - What are the rules and regulations governing the institutions?
  - What are the private sector policies and strategies?
  - What are the informal rules governing established practices?
  - What are the reasons behind these informal systems?

#### Examples of questions to help brainstorm on 'action':

- As a result of the above, what services are actually operating?
- Who is using them and what are the patterns of behavior?
- How significant is the informal sector and how would you characterize its behavior?
- How do staff of service providers behave towards their clients?
- What type of corrupt behavior exists in the sector? What is the level?

#### Step 2:

Reflect on: What are the implications for your intervention? Which positive institutions do you need to reenforce and build on? Which institution should you try to change? – indicate them on the analysis sheet.

#### **Learning objectives**

#### At the end of this chapter the students will be able to:

- To undertake an institutional analysis
- To give recommendation on the best framework
- To work in groups and collect qualitative and quantitative data on given policy and its institutional framework





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http://www.wageningenportals.nl/sites/default/files/resource/menu\_of\_tools\_for\_tlp\_power\_in\_msps\_v3. pdf (accessed 20 January 2014) • CDI course material (internal documents) • Woodhill, J (2008) Shaping Behaviour: How Institutions Evolve.

The Broker. See: www.thebrokeronline.eu/en/Articles/Shaping-behaviour (accessed 20 January 2014)

#### Third part: Social capital and territory development

#### **Chapter 8: Conceptual foundation of social capital**

#### **Summary**

Social capital is an instantiated informal norm that promotes cooperation between individuals. In the economic sphere it reduces transaction costs, and in the political sphere it promotes the kind of associational life that is necessary for the success of limited government and modern democracy. Although social capital often arises from iterated Prisoner's Dilemma games, it also is a by product of religion, tradition, shared historical experience, and other types of cultural norms. Thus whereas awareness of social capital is often critical for understanding development, it is difficult to generate through public policy.

Social capital is important to the efficient functioning of modern economies, and is the sine qua non of stable liberal democracy. It constitutes the cultural component of modern societies, which in other respects have been organized since the Enlightenment on the basis of formal institutions, the rule of law, and rationality. Building social capital has typically been seen as a task for "second generation" economic reform; but unlike economic policies or even economic institutions, social capital cannot be so easily created or shaped by public policy. This chapter will define social capital, explore its economic and political functions, as well as its origins, and make some suggestions for how it can be cultivated.

#### Learning objectives

#### At the end of this chapter the students will be able to:

- Define social capital explore its economic and political functions
- Understand the Functions Does Social Capital Play in a Free-Market Liberal Democracy
- How to Measure Social Capital?





#### References

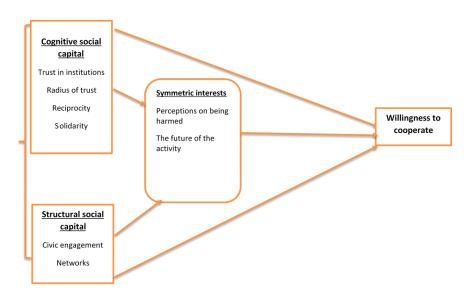
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#### **Chapter 9: Forms of social capital**

The multi-dimensional framework of social capital, induces scholars to employ several indicators to analyse this phenomenon. In the literature, common indicators such as civic participation, trust, bonding, bridging and linking have been employed so far when referring to social capital regardless its field of application such as health studies (Harpham et al., 2002; Shiell et al., 2018) (E. Villalonga-Olives & I. Kawachi, 2017) (Alvarez & Romai, 2017), environmental aspects (Notaro & Paletto, 2011) (Irwin & Berigan, 2013) (Frey & Bohnet, 1996), local/territory issues (Brehm & Rahn, 1997) (Callois, 2004) (Callois & Aubert, 2007) and impact on developing entrepreneurship (Welter, 2012). Independently from the applied field of this concept, scholars argue that social capital is a western construct, developed to understand processes within established democratic systems and might be difficult to transpose it to any country (Murray, 2005)). However, the concept of social capital can be employed as an instrument for analysing how trust is formed, and for understanding cooperation amongst individuals. Considering the characteristics of our study-area, we draw upon three theories, which are considered as relevant to analyse social capital in post-communist rural areas,: a) rational choice theory; b) civic engagement and voluntary activity; and c) network theory (ibid). Rationale choice theory is grounded in strategies of rationale, which enforce group norms in favour of cooperation due to future benefits. Within this theoretical approach, trust is an essential ingredient. Civic engagement theory, based on Putnam's linear relationship, argues that higher civic engagement generates higher level of trust, which in turn creates cooperative relationships. While the theory of network, analyses the mechanism of transmitting information/knowledge amongst network members. With respect to rural areas, network aspect of social capital has been studied in relation to cooperative farms and privatisation of agricultural land. Gatzweiler & Hagedorn, (2001) showed that certain cooperative managers progressed in the transition period due to the good business practices, on how to exploit the potential of social capital. A wide strand of research analysing social capital in post-communist countries is focused on how macro structures brought by the legacy of communism - i.e. collective cooperatives and state-owned farms - affected trust, reciprocity and cooperation between individuals. In this chapter we will introduce the Case study of smart al undertaken in the framework of Geographical indications.



Figure 2: An integrative approach to measure the willingness to cooperate



Source: Adapted from Ostrom, 2009

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To define social capital components
- To define structural social capital
- To define social cognitive social capital
- To analyse how both influence the cooperation levels in a given community

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#### Chapter 10: Social capital and territory development

#### **Summary**

Recently, there has been a revival of interest about the role of sociological factors in explaining development in lagging areas. The attractive notion of "social capital" has been popularised (after PUTNAM's (1993) seminal works) by the World Bank's Social Capital. Initiative launched in 1996. It gave rise to an unprecedented excitement among researchers concerned with development issues, associating not only economists, but also sociologists and political scientists. Whereas early studies on social capital concerned developing countries, more recent work transferred the concept to developed countries, especially to rural or peripheral regions. In this chapter will be explored the role of SC in territory development. An analysis of the indicators that can explain the differences between different territories will be analysis

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To define economic and sociological indicators in territory development
- To analyse their role in territory development
- To use secondary data in Territory development analysis

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## Chapter 11: Measurement of social capital through cohesive approaches (Case study Gjirokastra cheese)

Case study of social capital measurement case study attached to the booklet

#### **Summary**

This ex-ante study explores the readiness of local stakeholders in a rural area, to undertake the collective actions necessary to create a Geographical Indication on Cheese to protect it from unfair competitiveness provided by brand-usurpation. This provides an analytical model employable to assess the willingness of local stakeholders to cooperate on achieving a common goal in other post-communist rural areas. The proposed model combines the analysis of operationalised, cognitive, and structural social capital indicators with Ostrom Conditions on collective action, referring to symmetric interests. Thus, it represents a methodology to realize a priori whether a local rural community is willing to undertake collective action to achieve a common objective. 100 cheese producers were interviewed using scenario type questions. The results show that symmetric interests have the lowest effect on willingness to cooperate compared to structural social capital and demographics. The study shows that better educated respondents are more willing to cooperate than those who are less well educated. As in other post-communist countries, the educational and demographic factors can become an important element and this in turn may help to overcome the negative perceptions of cooperation from the past.

#### Learning objectives

#### At the end of this chapter the students will be able to:

- To analyse the use cohesive approaches in SC measurement
- To analyse the propensity of cooperation among stakeholders in a certain territory
- To use primary data in Territory development analysis

#### References

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#### Chapter 12: Social network analysis

#### **Summary**

Social network analysis has emerged as a key technique in various disciplines such as sociology, psychology, and organizational studies. In the last few years social network analysis also made its way





into political science and international relations and security studies. This approach has been used so for in the analyis of social capital in a given territory.

Social network theory differs from traditional sociological studies, which assume that it is the attributes of individual actors that have the most effect on social interaction. Social network theory attributes less power to individuals than to the relationships and ties with other actors within the network.

A social network is a social structure made of nodes which are generally individuals or organizations. The ties between the nodes represent the relationships between the actors in the network. The graphic display of the network serves to visualize ways in which the actors are connected. In this chapter students will be akcnowledged with the concept of networks and their analysis in the context of territory development. Students will learn the basics of social network analysis.

In the world of social networks, actors never act in isolation. Instead they influence and are influenced by others. Therefore, the consequences of their actions may reach well beyond their immediate environment. The goal of this chapter is to provide the reader with the tools to understand these interactions and interdependencies that affect the development processes in a given sector being territory, rural, food sector, waste management the topic of analysis.

#### The Social Network and How to Represent It

A social network consists of a set of nodes (sometimes referred to as actors or vertices in graph theory) connected via some type of relations, which are also called ties, links, arcs, or edges. The nodes usually represent the stakeholders actors, be that individuals, groups, teams, communities, organizations, political parties, or even nation states. Social networks thus either have nodes that are social beings or organizations (producers, voters, parties, farmers, extensionist, public employee etc.) or ties that represent some form of social interaction (voting for a candidate, re-tweeting a message, etc.). The relations between the nodes can be multidimensional and can include a whole array of different relationship types. Unlike data used in other fields of statistical analysis, network data always consists of at least two datasets: a regular dataset—sometimes called the nodelist—where the nodes are the units of observation (i.e., the rows) and a dataset that defines the relationships among those units of observation. The latter may have different shapes—the two most common ones are called adjacency matrix and edgelist. In an adjacency matrix (or simply network matrix), the nodes constitute both the rows and the columns, and the cells specify if and what kind of relationship exists between the nodes in the row and in the column. An edge list is a dataset in which each existing tie, with both actors involved and the nature of their relationship, is listed as one observation. Adjacency matrices can be transformed into edge lists, and vice versa. The figure illustrates this with an example network of 10 individuals: At the bottom right, we see the graph or network illustration; the actors or nodes are usually represented as circles. Different shapes or colors can be used to indicate different groups or types of actors. In this example, the two colors indicate the actor's genders. The relations are represented by lines between the two actors.

Although such a visual display of a network can be insightful, it is not useful for statistical analysis, for which we need the nodelist (top left) and the adjacency matrix (top right) or edgelist (bottom left). The nodelist can have all sorts of additional information about the actors. Only one thing is absolutely necessary: an unambiguous identifier for each actor. This identifier can be a name, as long as no two actors share the same name, or a number. In our case, it is the first character of the actor's name.





An unambiguous identifier is important because it links entries in the relationship database (the adjacency matrix or edgelist) with the corresponding node. In the case of the adjacency matrix, the identifier appears again as the names of the rows and columns. We therefore know that column and row A indicate A's (Andrei's) ties. In the simplest case, the binary network, we simply distinguish whether a tie does or does not exist between a pair of actors. A cell with a one indicates that the actor in the row and in the column share a tie, a zero that they do not. Another way to represent the same information is the edgelist. This dataset has as many rows as there are ties and two or more columns. In each row, the two identifiers of the nodes connected by the tie are listed.

- > Sociologists often take the individual as the node, focusing on the formation of friendship, liking, trust, and support between different individuals. They may also study networks between aggregate units, such as communities, teams, organizations, and states.
- ➤ Political scientists analyze networks between political actors on both levels, such as politicians, voters, parties, or nation states.
- > Economists and management scholars are interested in for-profit firms as actors, the process of maintaining and managing of network alliances, the evolution of network alliances, and the consequences of networks on the firms.

Example (Undirected, Binary) Network Graph With Its Nodelist, Adjacency Matrix, and Edgelist

A	Matilda	female	Albania	
В	Rovena	female	Albania	
С	Adriana	female	Albania	
D	Denada	female	Albania	
Е	Orieta	female	Albania	
F	Ani	female	Albania	
G	Robert	male	German	
Н	Gitte	female	German	
I	Elena	female	Albania	
J	Bledi	male	Albania	

#### Types of networks

Depending on the nature of the relationship, networks or graphs can be directed or undirected. Directed graphs consist of relations between pairs of actors, or dyads, which are not necessarily mutual. Figure 2 shows a directed version of the network discussed earlier: Now, friendships are not necessarily reciprocated. Although A considers B to be her friend, B does not share that feeling. Many other relations are directed, for instance, seeking advice from someone or passing a message to him or her. The members of a dyad connected by a directed tie cannot switch places without change of meaning: A seeking advice from B is not the same as B seeking advice from A. In the latter case, B would thus often be called the





receiver, whereas A is called the sender (Knoke & Burt, 1983). Note how the edgelist now distinguishes between a source and a target column.

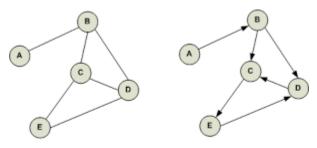


Fig 1. Undirected Graph

Fig 2. Directed Graph

A directed tie implies an asymmetric relationship. But it may still be reciprocated in some form, and this can make the label "sender" or "receiver" somewhat arbitrary: Employer–employee relations are clearly directed, but the employer could be the receiver (of the work carried out by the employee) or the sender (of the salary). It is thus particularly important to specify clearly what a tie signifies in a particular network.1 Undirected graphs, in contrast, contain relations that do not distinguish between senders and receivers. Alliance partners, classmate or co-worker relationships, information exchanges, or marriages all fall into this category.

It is possible to combine both directed and undirected ties into one network: If John considers Aisha his friend, and Aisha shares this feeling, then John may have a directed tie to Amy (who does not consider him to be her friend) and an undirected tie to Aisha. Nevertheless, it is more common and usually less confusing to stick with one type of network and instead to create a graph in which a tie leads from John to Aisha and another one from Aisha to John. Such a configuration is called a reciprocated tie. In many social networks, reciprocated relations occur much more frequently than would be expected if such relations were formed at random. In Figure 1.5, there is a reciprocated tie between Andrei and Hans, who both nominate each other as friends.





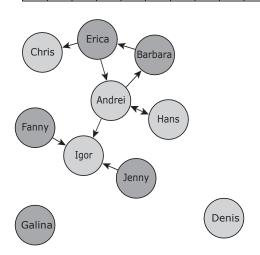
#### Adjacency matrix

Andrei	male	Russian
Barbara	female	US
Chris	male	US
Denis	male	Russian
Erica	female	German
Fanny	female	British
Galina	female	Russian
Hans	male	German
Igor	male	Russian
Jenny	female	British
	Barbara Chris Denis Erica Fanny Galina Hans	Barbara female Chris male Denis male Erica female Fanny female Galina female Hans male Igor male

	Α	В	С	D	Е	F	G	Н	I	J
Α	0	1	0	0	0	0	0	1	1	0
В	0	0	0	0	1	0	0	0	0	0
С	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0
Е	1	0	1	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	1	0
G	0	0	0	0	0	0	0	0	0	0
Н	1	0	0	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0	0
J	0	0	0	0	0	0	0	0	1	0

#### Edgelist (directed)

Source	Target
А	В
А	Н
А	I
В	E
E	А
E	С
F	I
Н	А
J	I



Social network data can also be distinguished by the values that are attached to the ties that link network actors. If the network data only capture presence or absence of certain relations, then the social network is called a binary network, in which values of 0 and 1 indicate the presence or absence, respectively, of the specified ties. In contrast, other network data reflects relational intensity between network actors on an ordinal or continuous scale, which results in a valued network. The choice between collecting binary or valued network data rests with the researcher. Compared with valued data, binary data are easier to collect and do not create as much of a burden to the informants. But valued data are usually more informative than are binary data. For example, a communication network among co-workers measured on a binary scale (0/1) may not be as revealing as on a valued scale (0, 1, 2, 3 . . .). Almost all co-workers communicate with each other at some point, but some of them exchange a great deal of information, whereas others have short and superficial interactions. Unlike binary data, valued network data capture those fine-grained differences.





#### Typology of network ties

According to David Knoke and Song Yang (2008, p. 12) the networks ties can be:

- 1. Transaction relations: actors exchange control over physical or symbolic objects; most economic exchanges fall in this category.
- 2. Communication relations: almost all kinds of social networks can be used to pass messages between the actors.
- 3. Instrumental relations: actors contact one another to obtain tangible goods, assistance, or information. Examples of instrumental relations include employers using existing employees for recruitment of talents, employees using personal networks to obtain jobs, people using friends or neighbors to attend to their houses while they are away, friends giving rides, fixing cars, repairing houses, and providing day care.
- 4. Sentiment relations: relations that are used to express emotions, such as affection, frustration, admiration, deference, and hostility.
- 5. Authority/power relations: most of those network relations occur in formal hierarchical organizations where social actors assume formal roles and positions; accepting responsibilities, obligations, and privileges; receiving and sending commands; and reporting or being reported to.
- 6. Kinship and descent relations: relations between family members linked via biological ties.

There are at least two ways to deal with data on several kinds of relationships: One option is to combine them all into one *matrix* or edgelist. In this case, the matrix cell will be filled with a description of the relationship or a number corresponding to the relationship type. This approach becomes difficult if several different types of relationships exist between the same pair of nodes. In edgelist will contain an additional column, in which the relationship is described. An alternative approach is creating multiple matrices and edgelists among the same set of nodes: one for each type of relationship.

So far we have discussed only networks in which the nodes are on the same aggregate level: They are either all individuals or all organizations or countries, for instance. We have a special name for those types of networks: one-mode networks. Bipartite networks (also called bipartite graphs), on the other hand, have two sets of nodes on different levels of aggregation, and the ties indicate membership or participation by the members of one set in the other. For example, individuals (one set of nodes) have a tie with each organization (the other set of nodes) to which they belong. Such net- works are often used when social scientists cannot ask actors to report their relations with other actors or directly observe their interaction. They then resort to indirect methods of inferring ties through reports or archival data of the social events in which actors participate, or the organizations to which they belong.

#### **Network Parts and Levels of Analysis**

One of the biggest advantages of social network analysis is that it helps address the multilevel phenomenon by combining individual-level (micro-level) behavior with macro-level environments. In a non-network setting, we are often forced to focus unduly either just on the individual and his or her behavior (why does a pupil skip class?) or only on the level of society (how does the high school or the government address truancy?). The network perspective makes it easier to build the connection between the individual behavior and the systemic changes or vice versa. For instance, a pupil may be the first to





form a friendship with someone from another classroom. This individual act builds a connection between two gossip networks that were not previously connected. The fact that rumors now can spread between both classrooms may create changes that affect everyone involved, not just the two new friends.

Depending on one's viewpoint (the level of analysis), a social network is a collection of individual actors, of dyadic pairs, of small groups (triad structures, cliques, or clusters, as we will discuss shortly), or of a wider environment or society (the entire network). We can thus easily switch from an analysis of the individual to that of the group, examining the influence and position of an actor within the group (or cluster), and the effect of the group on the actor and vice versa.

Individual actors are the lowest level of analysis, often representing the individual human being, or else collective entities such as organizations or communities. Nevertheless, unlike in the atomistic model (see Sections 1.5 and 1.6), where individual actors do not influence each other, actors in a network design are at least aware of each other's existence, and their interaction is likely what interests us most.

Dyadic pairs, pairs of two actors in a network, are the most important units of analysis in many network studies. In undirected full networks with N actors, where the direction of relation between a pair is irrelevant (because if John marries Amy, Amy also marries John), the total number of dyadic pairs is

$$\frac{N!}{2(N-2)!}$$

or simply (N(N-1)) / 2. For example, a network with 20 actors would have 190 dyadic pairs

$$\left(\frac{\square_{20}!}{2(20-2)!} = \frac{19 \times 20}{2} = 190\right)$$

In a directed network with N actors, the total number of dyadic pairs is

$$\frac{N!}{(N-2)!}$$

Thus, a network with 20 actors would have 380 dyadic pairs. Note that this computation ignores the possibility of loops (ties that connect an actor to him- or herself), the occurrence of which presents great challenges to the computation of dyadic pairs (Newman, 2010, pp. 137–139).

Dyadic level network analysis is common in social network studies. In management science, strategic alliances between pairs of firms form the fundamental unit of analy- sis for interfirm network studies (Carpenter, Li, & Jiang, 2012; Gulati, 1995). In public health, Suzanne Wenzel et al. (2012) studied pairs of homeless youth and showed how risky sexual behavior leads to HIV/AIDS infection. Dyadic studies also often explore the commonality between two connected actors. In social networks, homophily is common a term indicating that individuals who are similar to each other are more likely to form a tie between themselves. Do birds of a feather flock together, or do opposites attract? Those questions are often asked and addressed by network studies focusing on dyadic levels.

Triadic structures, consisting of three social actors, are a level of analysis that has particularly fascinated sociologists. They were the first to notice the phenomenon of triadic closure (Davis & Leinhardt, 1972) or





transitivity. Triadic closure is the tendency of friends of friends to be friends": If John is friends with Amy and with Yuki, then Yuki and Amy are also likely to be friends (in Figure 1.4, Erica, Barbara, and Andrei form such a triad). Such a process is common in social networks. Sometimes, the triadic process is more complex, however. The enemy of my enemy may not be an enemy but an ally, for instance. Triadic structures can be overwhelming in number—the total enumeration of triadic structure for a network with 20 actors is 1.140 or

$$\frac{20!}{17! \times 3!}$$

triads for undirected graphs and 6,840 or

 $\frac{20!}{17!}$ 

for directed ones. Fortunately, high-speed computers and recent developments in social network modeling make systemic analysis with triads possible. In particular, exponential random graph/p\* models, can help analyze such endogenous structural features.

A substructure, subgroup, or subgraph, such as a clique, is an important unit of analysis in social networks studies. In its most general definition, the clique is a sub- structure in which actors are connected with each other in a particular way. Often they are more densely connected to each other than to other members of the network.

The full or complete network, or graph, is the most important macro-level unit of analysis in social network studies. Networks have many different characteristics that can explain outcomes on the individual and the network level, such as density (the proportion of ties present;) or centralization (the degree to which nodes have, for instance, the same number of ties;). Empirically, researchers that use this level of analysis sometimes compare several networks with each other: Michael Fritsch and Martina Kauffeld-Monz (2010), for instance, have studied 16 German innovation networks, finding that strong ties and dense networks disseminate information and knowledge more successfully than sparse networks with weak ties. Other researchers are interested in knowing what formative processes have led to the shape of a particular network, or how unusual specific features (e.g., the number of closed triangles) in a network are.

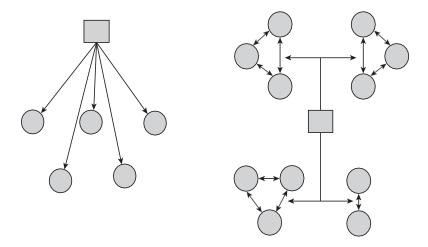
The previously mentioned studies are representative of two different approaches in social network analysis: The latter treats the network as a dependent variable, trying to explain its formation. In the former, the social network is an independent variable, which affects the outcome on the aggregate level. Such a separation of the analytical focus suits the scientific study of social network well, but in reality, the two processes (the formation of the social network and its impact) are usually interdependent, creating a fascinating challenge to social scientists. One application of full network analysis is to map the instructorship in different classrooms. The figure below displays the two hypothetical types of instructorship. On the left is the traditional teaching method, in which the instructor only gives lectures to students. On the right is the innovative teaching method, in which the instructor also organizes small discussion groups. Such different network configurations can serve as dependent variables in empirical studies that endeavor to identify the causes of such disparity in instructorship. The network configurations can also be the key independent variables that produce different results to students, measured with student evaluations of the class, or the average grade.





By following such an approach, one can examine an important empirical question "is student-participatory teaching more effective than the traditional method?"

Typology of different teaching methods



Source: Sage, 2017

Another well-known characteristic of a network is its average path length, popularized in the term "six degrees of separation." We can calculate the average path length by measuring the shortest path that connects each pair of individuals along network ties and by taking the average of all those paths. Researchers have found evidence (see box) that all individuals on this planet can reach another through on average only five intermediaries (i.e., through six intermediate ties or steps). This is also known as the small-world phenomenon.

#### **Networks as Social Structure and Institution**

Social sciences often divide their research subject into two spheres: that of the individual and that of a more abstract, aggregate social context that constrains the individual's actions and which he or she is able to influence only marginally. In the case of political science, the latter is the state and its institutions, whereas economists focus on the market, and sociologists study society. In such a framework, networks hold, as hinted at in the previous section, an oddly intermediate position. Network relations, directed or undirected, are not individual attributes. Rather, they are dyadic proper- ties connected to both actors involved. Like the social context, the network is thus in many ways external to an individual actor, who might only have limited ability to change its structure. The actor's position in that network can enable or restrict: Having a tie to an owner of a company may grant access to a job, whereas holding a peripheral position in the network makes it less likely that one hears certain news. And the network structure does not just influence the outcomes of individual nodes but also of the whole group connected through it: Diseases may travel slowly or fail to spread among a group of individuals with few connections, for instance.

But neither is the network just an externally given group-level characteristic: The network structure is the result of the combined actions of its nodes, who form friendships, send e-mails, or dissolve contracts.



These combined actions are not a simple aggregation of individual attributes either: A marriage between two "nice" persons does not guarantee a lifelong relationship, and simple summation of the actor attributes of a social network does not always predict the performance or outcome of the network system—a network with the most talented physicians isolated from each other is not conducive to information sharing and mutual learning. Conversely, social network performance cannot be reduced to individual attributes. A highly successful team with many innovations and patents can be the result of great collaborations between its members who complement each other's expertise through networking but who might not be (individual) geniuses. Sociologists like Mustafa Emirbayer (1997) have thus argued that networks are a conceptual bridge between the individual and the societal level, explaining how both levels influence and mutually change each other.

#### **Theoretical Assumptions**

Social network analysis is thus not simply a set of methodological tools to detect and analyze human relationships and interaction. This point is best illustrated by Mark Granovetter's (1985) classic piece on social embeddedness and economic action and by Emirbayer's (1997) manifesto on relational sociology. Granovetter (1985) emphasized the importance of embeddedness, social relations, and social networks to overcome both the economist's under socialized view of human behavior and the over socialized view by sociologists. He proposed decentralized networks as a third way to govern interfirm relations, challenging transaction-cost economy's standard view that the only two options are either hierarchical integration into one entity or lateral contract between two different entities.

The network perspective stresses structural relations as its key orienting principle where social structure consists of regularities in the patterns of relations among concrete entities. The central objectives in social network analysis are to measure and represent these structural relations accurately, as well as to explain both why they occur and what their consequences are. Knoke and Yang (2008, pp. 4–6) suggested that social network analysis relies on the following three assumptions.

First, structural relations are often more important for understanding observed behaviors than attributes such as age, gender, values, race, education, and income. For example, people make decisions about their political views and actions, such as whether to vote, whom to vote for, or to support or oppose certain political bills based on their network and interpersonal ties with other people. Several studies by a group of political scientists (Fowler, Heaney, Nickerson, Padgett, & Sinclair, 2011) have shown that social networks often exert independent influences on political actions. Social network analysis rightly treats attributes and identities of social actors as more fluid than in the traditional atomistic studies, which examine individuals without taking into account their relationships with others. But in the social network approach, almost all individual-level attributes are highly contingent on specific time and place. Student—teacher relations, for instance, dissolve with the end of the class and have a different meaning inside and outside the classroom. A woman who holds a menial job requiring little initiative could become an outspoken and assertive leader in local city governance. Such drastic changes sit perfectly well with the network view that is premised on a structural-relational model. One's behaviors, such as with whom one talks, how he or she talks, and what he or she talks about, are highly contextual, depending on the social context that is constructed by many other relations and ties between many other actors.

Second, social networks affect perceptions, beliefs, and actions through a variety of structural mechanisms that are socially constructed by relations among entities. In his famous study on the





"strength of weak ties," Granovetter (1973) demonstrated that job seekers often obtain less useful information from their close contacts than from acquaintances because the former mainly provide redundant information already known to the job seekers.

The third underlying assumption is that structural relations should be viewed as dynamic processes. Network structures are continually changing through interactions among their constituent individuals, teams, organizations, or nations. Scholars in management have long observed the evolutionary nature of interfirm relations (Gulati, 1995, 1998; Kenis & Knoke, 2002). In organization field networks, antecedent communication affects subsequent strategic alliance choices, which alter the later flow of information, providing constraints and opportunities to each firm in the network (Kenis & Knoke, 2002). Between a pair of firms, strategic alliances start with the most contractual governance forms; but over time, they are relaxed to adopt less rigorous contractual forms to reflect more mutual understanding and trust developed between the pair (Gulati, 1995).

In addition to social influence and homophily, there is a third possible mechanism: environmental confounding. Unobserved environmental factors can also play a role in determining the outcomes of interests between network peers. For example, grow- ing up in a social environment where smoking is either stigmatized or encouraged can explain why nonsmokers or smokers tend to cluster together. Fortunately, recent social network research has developed methods to distinguish among influence, homophily, and environmental confounding, identifying a clearer pattern of causality between network variables.

## Chapter 13: Measurement of social capital through SNA an application to local development policies (Case study 1)

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#### **Chapter 15: Application of SNA to environment protection (Case study 3)**

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