Process of change of information system in an industrial district: a research on the ecosystem of “Valdarno inferiore” (Toscana).

Eleonora Caponi
Caponi@dss.unipi.it

Abstract

This report contains the results of enquires carried out on the socio-economic-territorial reality of a specific territorial area from a sociology point of view. The choice of this subject “Process of change of information system: a research on the ecosystem of “Valdarno inferiore”, requires a thorough study of the social relations of this organisation. Therefore this research has been carried out understand and determinate the changes of social relations that regulate this ecosystem. We are sure that this sociological type of analysis will be able to “understand” the complex and close relations formed amongst the various people of this specific area. Every single established relation must be considered, referring to Morin’s thoughts as a point in a hologram which contains nearly whole information about the subject represented. We are aware of complexity that appears from the numerous interactions amongst the actors that form it and for this reason we concentrated our attention to those processes that produce and spread “information resource” which is important for maintenance and reproduction of every system. The type of approaches used to investigate on the ecosystem phenomenon are important as we have used various methods we considered suitable to study this type of reality, for example structured questionnaire, free interview and the direct observation of the environment. All this allowed us to arrange the research in a original way, as we have used a social scientists point of view to rise the complex net of social relations in this specific contest. The first step we made was to define the unit of the research: the industrial district. The industrial district concept has now acquired a scientific dignity and, it has been accepted and used in many disciplines as economic, sociology and geographic. Furthermore in Italy there has been a legal recognition in the 1991 with an act dated 5th October. The industrial district has also formed a particularly important field of analysis and research and this has determined the outline and property of this singular model of industrial development. Amongst the various definitions of this concept the most well-know is that supplied by Becattini, referring to Marshal’s thoughts: “ the industrial district as social-economic entity circumscribed in a territorial area, naturally and historically determined, characterised by the active presence of a community of people and industrial firms”. The merits of Becattini is that he didn’t consider the study of a single firm, but the system formed by firms, so he analysed the interaction amongst the various elements that constituted the system itself: the local community, the firms, the human resource, the market, the competition and cooperation. In order to find out and understand the main features of the industrial district, an abstraction is needed, that is we have to build an ideal topic model that allows us to describe this phenomena in a general way even if its characteristics in the reality are more complex.

Giuliano Bianchi has rebuilt a very simple scheme regarding the industrial district divided in three logical models to identify its components, characteristic and mechanism: productive model, space model, social model.
1. The productive model

Before introducing the productive mechanism, it is necessary to point out that the industrial district is made of small and medium firms. This type of concentration isn’t a fortuitous or accidental event. In fact every single firm is specialized in a certain part of the final product for example, soles, shoe-uppers, heels as regards the shoe factory or in a different working stage for example: tanning, fleshing and splitting as regards the tannery. At this point we can understand that every single firm is not completely autonomous and so there is a continuous interaction between them: from a side the single firm is independent, on the other side it is a specific gear of a specific industrial district. The industrial district could not exist without the firms and vice versa. The huge availability in literature about this subject outlines characteristics as flexibility and elasticity originate from the productive process, which is mainly labor intensive.

2. Space model

The particular agglomeration of small firms that work in the same sector produces specific characteristics in the industrial district.

The first characteristic stated by Becattini is “competition and cooperation”. To understand this definition we have to analyse the labour-market. The labour-market is compound and so there is a continuous process of allocation, every singular individual is always looking for a better position. This leads to a constant research aimed to improve one’s own family situation. Moreover we must also specify that as many firms give and produce the same type of product, this causes competition. This competition however is not a constant hobbesiana fight against one another, as this would cause instability and uncertainty to the system. In the industrial district relations are established on a competing but also
cooperative basis. So the risky elements as opportunism, ambiguity and uncertainty are less evident compared to other places due to mutual knowledge and constant interpersonal relations. We can therefore speak of “community market”.

The second characteristic generated from the agglomeration is the active role the family has in the economic process. This has been of fundamental importance as regards the origin of the industrial district. Today the family still gives its availability to different kind of jobs as, work at home, part-time or informal jobs, this produces a fundamental role in the job allocation. Furthermore, the family has the duty to hand down their working know, from labourers to skilled workers, with out charges for the firms or public service. In family run firms workers formation therefore takes place directly during their work.

The third and last characteristic produced from the space agglomeration the is the conformity with social environment. This means that in the district the community of people have adopted a homogeneous system of values, that is expressed in terms of work and activity ethics, of the family and reciprocity. Infact Becattini states that “ the system of values forms one of the preliminary requirements for the formation of the district and is a fundamental condition for its reproduction. This means that inside the district the institution and rules, represented by the family, by the society, by the management, by schools, allow a diffusion of these values so there is always a consensus to the economic model of development. The public service and those supplied by the entrepreneur association must comply with the requirements of the local productive model and try to preserve the social traditional network. The value shared are fundamental as this allows the creation of a common identity that is built trough a daily communication and cooperation. Thus, importance is not given exclusively to a single actor but are joined in a local language that is valid intersubjectively and expresses a point of view regarding the system and not only individual.
For Rullani this considerations are the preamble to speak about the district as a system, because the same contest of experience becomes system: it has workings of control and feed back to reproduce, in communication and in action, a collective level of experience and so the practice possibility to act in a common contest. The singular actor lives every experience in two different levels but very near each other in a relationship of reciprocity: one is individual level, the other is inside of the net of system itself. And in this last level the involvement of singular actor is very strong.

3. Social model

From a social point of view the industrial district has two different characteristics: the common social origin of the entrepreneurs and workers and a very strong politic homogeneity. We have this characteristics because economic development and social integration were bound to the birth of industrial district. To be more precise we can say that in the industrial district it was a very peculiar ideological evolution, and this produced a continuity with the values of craftsmen and farmers.

The common origin of workers and entrepreneurs, that came form a pre-existent and local reality, had the function to create social peace.

In this contest it is important the role of politic institutions, a very important role to maintain the social cohesion. From Bagnasco and Trigilia’s research, in the 1985, came out a very strong politic homogeneity in the “red” regions of left: Emilia Romagna, Tuscany, and in the “white” regions of right: Veneto, Friuli Venezia Giulia, Trentino Alto Adige. Of course we refers in a moment of great expansion of industrial district, in the first half of ’80.

It useful to study in depth the dynamic of information processes. It is fundamental to study the characteristics of the process of information
when it is in the industrial district, it is necessary to find the path of information and its peculiarity.

When we speak of resource in a firm we think about capital, machines, raw materials and works. From a sociological point of view it is important to consider the information between fundamental resource. From the point of view of a singular firm and the point of view of the system of firms, the information is without doubts very important. Bianchi defines it as the real net of the industrial district. It means that the social integration, that is a characteristic bounded with the origin of industrial district, comes out from the information system and from the interactions between the firms of the district.

The local information is the result of historic experience of a specific area and the presence of this resource creates the know how of work, the specific cultural political environment. Marshall specked of “industrial atmosphere”: the union of professional abilities in a specific production field and the fast circulation of ideas inside the districts. The ability that comes out from a worked life, from the direct experience on work, doesn’t belong to a single individual but it belongs to the community. As Marshall said “the secrets are in the air”. This secrets change continuously by face to face relationship that are in the industrial district. The information that belong to a firm, from example the work ability of a worker or an innovation of process, has a low cost for the firm. The information inside of this productive structures has a very important role: it is decisive for the birth and the development of this system because it, doing an informal path, helps the professional refresher, the know how and it gives the capacity to innovate the system.

To understand in depth the centrality of the role of information is useful read the Maria Tinacci Mossello’s thoughts. She defines the district as a system: “a tidy theological set, where the yields give a production with low entropy because there is a “virtuosos circle” of organisation-information-innovation.”. This circular movement is able to reproduce
the system; Tinacci Mossello said “it is a logic consequence of the system opening to the environment. Because without it the system will die as a difference from the environment itself”. It is clear that the autoregulation lives together with the information inside the system because in the industrial district there aren’t external centres of control. Infact the information in the model of industrial district is the social product of the dynamics and interactions of subjects; the subjects make the survival of the system because they are able to create the right answers to the environment where they live. We can say that the resource of information produces the capacity of reaction of the system to the environment. Luhmann said that every system have to choose the simple way to answer to the different kind of possibility given by the environment for try to reduce the complexity of the world. For us the system is the model of industrial district and the information gives in this case the more suitable answer.

The general theory of systems in this sense underline the importance of information, because it is the element that gives the life to the system and in this specific case to the industrial district.
After having read the unit of the research from a sociologic point of view we analyse the answer that this system gives to an important phenomena, bounded strongly with the informative system: the impact of computerisation technology and the vocational training.

To do it we wrote a semi structured questionnaires and we made 80 interviews to a quota sample of entrepreneurs (the total of firms are 554); we also made free interviews to same important witness of the area.

The results are that we live in a growing internationalisation of every social-economic phenomena; in this contest if the local systems don’t want reduce their business they have to reorganise their structure to make an answer to the international dynamics. Our research finds same elements that can be a threat for the harmony of the system. Particularly the information flow that is the most important element of the district, has a precarious balance: on one side the formal information originated by the relationship with the tanners associations, is used to find the legal solutions of the problems of the local sector, on the other side the informal information, that Marshall called “industrial atmosphere”, seems to be uncertain. There are same evident elements – a general dissatisfied, a less important role of companies working on behalf of a third part and a less important role of show of tannery – that underline the crisis this kind of relations. It is very interesting to study the answer that the district gives to the introduction of new technology and to the vocational training.

Information technology in the ecosystem of Valdarno inferiore

Gandolfi, Capello e Pozzana, when they analysed the introduction of Internet in the industrial district, said that is necessary the existence of same conditions of the actors and not of the production process:

1) technological culture
2) a collective use of Internet
The realisation of this conditions would permit the actors to use in an active way Internet, because Internet would be adapted to the ecosystem conforming with the globalisation process.

The result is that the 41.2% of firms has Internet and the 21.3% of them has the home page of the firms. Our intention is to find how the firms are using Internet. The function more used is the electronic post (e-mail), and then the research of information. It means that now Internet is using as a fax. This fact is confirmed because among the vantages that firms had had using Internet the first is the cheaper cost of Internet in regards to telephone and fax.

This graphic resumes the relation between entrepreneur class and the use of Internet.

Vantages by the use of Internet

As we can see the first vantage is the cheaper cost in regard to fax and telephone. From the intervie

interviewees with the entrepreneurs came out that there isn’t the need to use Internet and where it is used it is a accessory function. Same firms (in the graphic “other”) have better relations with customers by the use of Internet because this technology ensures faster and better exchange of
information. In this sense, Internet could give a new type of relations among firms.

Now the information technology in the tanner district has same difficulties. It depends on the lack of technological culture that is necessary for the development of this area and a resistance against the innovations, against the things that come out of the industrial atmosphere. Bagnasco stated that in the industrial district the innovations must pass through the sensibility and decisions of the society, but is true that when the process starts it goes very fast and in a original way. May be it is true also for the introduction of the information technology.

The vocational training

The vocational training Centre of Santa Croce depends from the province of Pisa. Regione Toscana’s research gives a valuation of courses in the 1994/96 building a list. The courses made in Santa Croce are in the first level of the list. It means that the work of this Centre is very good. But there are same problems: only the 2,5% of firms went to the Centre to find new workers, and the 50% of entrepreneurs doesn’t believe in the utility of vocational training, and the 50% believes that the best training is the one made inside the firm. The principal problem is that the entrepreneurs haven’t trust in the work of the Centre because it doesn’t give the direct experience that is fundamental for a job in a tannery. It is evident the gap between the good objective valuation of courses and the thought of entrepreneurs. Another time comes out the typical figure of tanner entrepreneur: a diffident person in regard to what is different from the traditional organisation of the district. But today the family isn’t able to learn the “kwon-how” to the labourers so it is necessary to intervene. There is an “institutional” answer to this problem but it is insufficient, there is a big gap in to the information flow between the Centre and entrepreneurs.
Also the entrepreneurs Associations are involved with the problem of vocational training. They made a “wedding” between University and tannery world. There are two university courses: engineering and one chemistry that have a tanner specialisation. They have a theoretic part and a training part. In the future projects of Association there is one of built a “technological centre” where it will possible a direct training on work. A positive element is that the 68,7% of entrepreneurs had stated that the Associations are the subjects that better could understand the needs of firms and the vocational training.

Subjects that would organise the vocational training

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<td>Entrepreneur association</td>
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<td>Other</td>
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<td>TOTAL</td>
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To conclude we can say that the vocational training in the industrial district is changing. There is the necessity to create a new informative flow among institutions and entrepreneurs. But also in this case there is a strong diffidence of entrepreneurs to accept the change that are necessary to maintain the success of the industrial district.

The research outlines the ecosystem of “Valdarno inferiore” where there is a informative system that creates the collective identity and his autopoietic capacity. This articulation has permitted to find right answers to the noise that came outside. There is a risk that for his closed structure, it will be without the new processes that are necessary for the life of the system itself. From the contact with the actor of system we can understand their lack of trust against all the things that are out of tradition and convention. It is evident in the associations, in the
introduction of information technology and in the activity of vocational training. In this contest there isn’t that process that Roniger called “formalisation of trust”, this element is in every modern and post-modern society. This survey outlines that in the information system of ecosystem of Valdarno inferiore there are same elements of instability.

The method using in this social research has produced a direct contact with the true reality of this ecosystem. Particularly the interviews give the possibility to realise over the words. We could observe all that things that only the interviewer can keep. All this help us to understand the atmosphere of the contest. This type of entrepreneur is able to work hard without chats or pauses and the interview can be for him a waste of time.

This research want give an incentive to the study in this field. This kind of studies helps the entrepreneur to keep conscious his role in the ecosystem. This sociological research trays to underline same elements that are strategic for the future of actors in this specific ecosystem.
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