

# Social Network and Trust - Entrepreneurship in Higher Education Systems

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## Abstract

*This paper focuses mainly on social aspects concerning trust and network, especially in higher education institutions. Trust plays a crucial role as social capital and is an important factor of social order, especially in countries in transition. The hypothesis that low trust is one major problem of entrepreneurship will be examined. In low-trust environments, trust is abused as soon as it is placed instead of being honored. Different strategies to avoid the abuse of trust, like control by contracts etc., are not useful instruments. Whether networks help to increase trust is discussed briefly in this paper.*

*Universities worldwide are in a process of change. In these change processes, the entrepreneurial universities play a great role. Due to the lack of resources, income generating becomes an important activity of universities. Although research is a quite different activity from entrepreneurial ones, the paper examines the interrelationship between both activities prospectively.*

**Keywords:** *Entrepreneurship, Trust, Higher Education Institutions, Control, Network, Communication, Income Generation.*

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### **1. Trust in the Scientific World**

Trust has been discussed in different disciplines, as in economics (Williamson, 1993 and Ganesan, 1997), political science (Hardin, 2001) and sociology (Parsons, 1937, Luhmann, 1988) as well as in other disciplines in different ways. Sociologically, trust appears as a reduction of complexity and consequently the reduction of uncertainty. Finally, trust is for avoiding opportunistic behaviour. There are two different ways to deal with trust: to analyse trust with a set of complex methodologies in a certain environment (conceptual framework), or to use trust as an individual's tool for entrepreneurship (practical approach). In the second way, the distinction is between personal trust (limitation to non-commercial relations) and institutional trust, which characterizes commercial transactions in social, cultural and political settings. We discuss both issues separately and try to use trust as an instrument for the individual's entrepreneurship in so-called low-trust environments.

Research on trust is difficult and concerns the exact definition of the determinants of trust. The difficulty is the agreement upon the determinants by different scientists. We use the determinants of confidence, control, learning communication and networking as determinants for trust, taking Luhmann's complexity and autopoiesis as framework.

### **2. Trust as Social Capital**

Trust has become an emerging issue in post-modern complex societies. It is argued that trust has been experienced as a central element of social capital.

Historically, trust has been playing a role in political systems of hierarchy where the security of individuals has been regulated centrally while almost no, or only quite simple, networks exist. The anthropological impact of such systems is based upon a negative image of man. The placed trust by political systems goes almost against zero. Trust is placed rarely because of the belief in the abuse of trust.

In opposition to that, in radical liberal systems of societies, where the freedom of individuals is the predominant factor, trust is affected by the growing complexity of the society itself, or by the complexity of the networks. The extremely high disorder in an egalitarian system based upon a positive image of man does not allow for measuring the impacts

of trust (chaos system). In these societies, trust is placed, but it is not certain whether trust is abused or honored (high degree of uncertainty).

The societies based mainly upon security and/or autonomy are historically balanced by regulation through the law. The regulation of the extreme lines is guaranteed by social contracts and a rigid frame of behaviors with no, or small change, possibilities.

### 3. Social Capital and Social Order

In post-modern societies complexities have grown in almost all areas of life. The social order itself is highly complex. Trust has originally much to do with the social order. It is argued that trust plays an integrative function in the gestalt of social order (Miztal, 1996, Parsons, 1937). Parsons considers system-level trust in a normative system as the main source of social order, which is the result of norms prescribing trustful and trustworthy behavior. He rejects more individualistic explanations of trust according to which rational self-interest might be considered to be a basis for trust. Luhmann, 1988 takes trust as a reduction of complexity without which communication cannot be easily organized. He argues that actors increasingly need trust because of the growing complexity of modern society, and because the consequences of decisions are becoming more uncertain. Both arguments neglect to explain why trust emerges in individual cases, and what reasons individuals have for trusting each other. Arrow, 1974, and Buiskens, 2002, consider trust as a lubricant for cooperation between individuals and institutions in a society. It is assumed that trust is only possible if, for the trustor, the expected outcome of placing trust is preferred over the outcome of not placing trust.

The extent to which a trustor is willing to take the risk of trust being abused by the trustee is the trustor's trustfulness. Trust cannot be defined easily, because of the elements hope, belief, expectation, assumption and emotion.

The indicators for complexity in modern societies are discussed mainly in terms of functions and structures, human images, degree of freedom and security, participation, change qualities and quantities and finally the causalities.

In the theories of social systems the above mentioned indicators are

discussed in deterministic theories (pre-dominance of structure against function) and the self-referential systems as introduced by Luhmann.

This paper focuses on trust from non-deterministic theories, putting emphasis on functions rather than structure, dissension rather than consensus, disequilibrium instead of adaptation, uncertainty rather than perfect society...

Trust as a social capital is an indicator for the development of societies as well as individuals in a modern society. This means that a lack of trust hinders the development of societies. The process which leads to a lack of trust in a society is the risk of abusing trust. In this case the necessary changes affect parties involved in a trust situation, who may mutually obtain a kind of pay-off. The stagnation or change at a very low level is the result.

Trust however includes the possibility of acceptance to be depended from alters action. In modern societies (high-trust environments), this kind of dependency is organized rationally by mutual benefit between individuals who, in the majority of cases, do not know each other. In traditional societies dependency is accepted only within the ingroups, clans, and extended families, who are organized in traditional networks with an exhausted number of information inside the group and isolation against the outside world.

Luhmann talks about closed real systems with little or no need for energetic couple to the outside world. Raiser, 1999, identifies trust based on processes, on kinship relations, and extended or generalized trust, which allows us to enter into relations with unknown partners. From this, it can be assumed that there are differences between security and trust. In traditional societies trust is subject to security without any notion of uncertainty, foreseeability or risk. It is simply based upon the norms of the traditional society, the individual's experiences and acceptance. The difference occurs only in the case of the acceptance of risk outside the existing norms and in contact with outsiders whose behavior is unknown. In societies where an individual is secure that a system is functional without risk, there is no need for him/her to place trust. Trust is inherent within the system itself. Trust is, however, necessary as soon as a society is open in its structures and within which, according to the uncertainty and complexity, structural changes can take place due to strong functional activities. The

possibility of abusing trust is part of the game in this kind of society.

We have been discussing trust in modern societies in an abstract way. We have excluded the context in which trust can be organized in terms of minimizing the risk and abuse of trust by developing certain tools, like networks, and improving confidence, developing effective contracts, subcontracts and increasing honor trust, the trustfulness and trustworthiness in action with others.

#### **4. Trust and Confidence**

Trust has of course much to do with confidence. Although we have been mentioning the importance of the acceptance of being depended from alter in case of trust, we must assume that the quality of dependency goes hand in hand with the confidence of individuals in buying ones own autonomy, becoming one's own master, and being independent of any kind of timetable and controls imposed by supervision, either in a traditional society dominated by norms of the clan, ingroups and extended families, or by doing business in dependent systems of enterprise and in the public sector, especially focusing on the staff in public universities. Confidence also refers to decide, who are the customers, what are the products, and how is production technically executed. Confidence also means also understanding the risk and uncertainty and, finally, what is much more important, the irregular income or pay-off.

The uncertainty and risk as well as irregular income can be explained by the trust situation introduced by Coleman, J. S.1990.

#### **5. Placing Trust**

In his model, Coleman assumes that placing trust in an uncertain situation is crucial for the trustor as well as for the trustee. However, placing trust by a trustor allows the trustee to honor or abuse trust. The expected outcome is that trust is honored by the trustee. The trustor regrets placing trust if trust is abused, but benefits like the trustee from honored trust. In the case of placing trust, the trustor voluntarily places resources in the hands of the trustee without formal safeguards.

This needs time to meet the action of trustee. Figure 1 shows the system of placing trust.

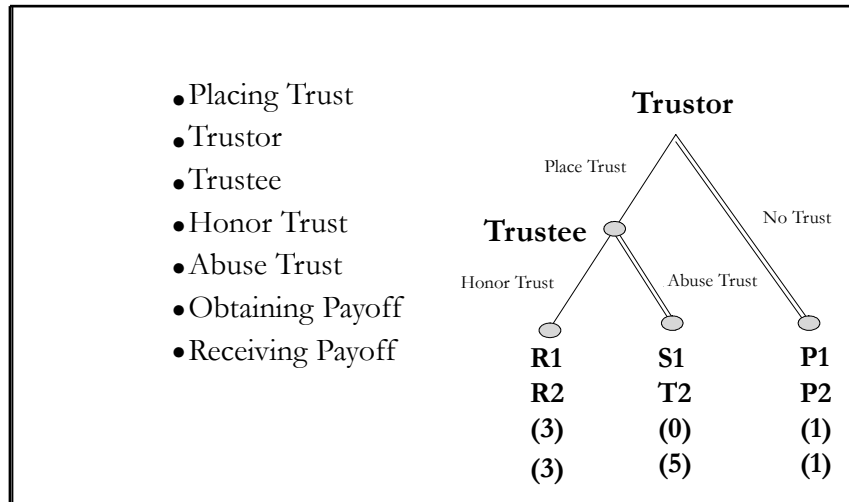


Figure 1: Trust Situation by Colemann, 1990 (after Buskens 2002)

In this model placing trust by trustor can be honored. In this case, the obtained and received pay-off is 3 for each, trustor and trustee. In the case that trust is abused, the trustee receives a pay-off of 5 and the trustor zero. The trustor puts all resources in the hand of the trustee. He regrets, however, placing trust. He/she stops placing trust. The system goes back to a situation where the benefits for both parties go down to 1 each. A low situation of trust is the case. Risk and uncertainty are removed. Security at a low level of performance is the case. The difference between R1 and P1 and R2 and P2 as well as S1 P1 and T2 and P2 make the situation quite clear.

### 6. Increasing Trust

We want to discuss some issues of trust in relation to business and entrepreneurship. Since the risk of placing trust can be high in terms of abusing trust, in business situations tools are used to minimize the risk. These tools are: Contract, Network and Communication. These tools will be discussed in close relation to individual's approaches and entrepreneurship focusing on Luhmann's autopoiesis and complexity.

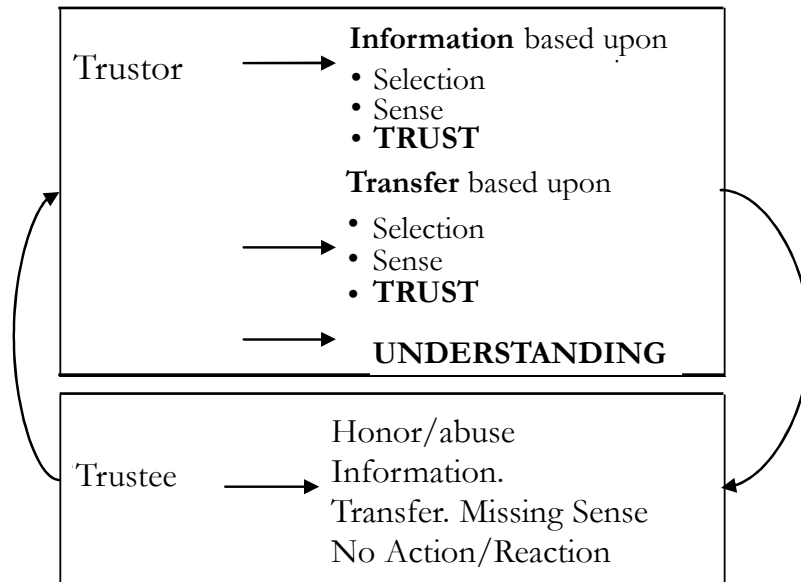
### 7. Contract and Control

If a trustor wants to do business a formal contract is necessary to overcome the lack of trust. Contact is assumed to decrease incentives of

trustee to abuse and at the same time compensates the trustor for the loss due to abused trust. Contracts increase furthermore the trustor's opportunity for sanctioning the trustee and adjusts the trustor's beliefs about the trustworthiness of the trustee. Contracts and subcontracts seem to be effective instruments of minimizing the risk of abused trust. However, in the long-term, the probability of arranging a relationship with a formal contract decreases with the number of years. Lyon, 1994, assumes that "subcontractors have been trading with their most important consumers". In many cases the contracts are seen as instruments for control. Trustfulness and trustworthiness are forced by contracts. This effects that learning about changing expectation are neglected and the control does not allow to influence behavior and make the conditional dynamic cooperation possible. The larger the dynamics of incentives, the smaller is the probability for honor. As a matter of fact, control effects, in principle, only explain the emergence of trust, but do not reduce trust. The effectiveness of the control is very much dependent upon the pattern of communication (see below). I will discuss this issue taking the communication model used by Luhmann.

### **8. Autopoiesis and Communication**

Autopoiesis and self-organisation introduced by Luhmann refers to the assumption that individuals in a society as well as institutions are self-organizing systems. They produce and reproduce their elements themselves and due to this, they are in a situation of dissension with other systems. The dissensus in Luhmann's system is the basis for trust. And trust itself is the basis for energetic coupling of the system with other systems. Every system produces its own binary code which is the basis for communication within a system. In order to understand the binary code, one may focus on his communication pattern. The elements of communication are information, transfer and understanding.



**Figure 2: Trust and Communication in Autopoiesis**

The first two parts are subject to selection and sense by one communication party. Understanding, however, by the other communication party is not necessarily the guarantee for an adequate expected reaction if the information and the way of transfer do not make sense to the communication party. In our model, the trust is honored only if the trustee identifies a sense behind the information of the trustor. If not, the placed trust is either abused or neglected.

The most important issue in this model is the information which is, in any case, a subject to learn: to increase knowledge by collecting new information in order to be able to select among a larger number of alternative information. Since consciousness about the selection of information by individuals is limited, and knowledge about the communication (jargon) with other systems is not given easily in a complex society, the probability of abusing trust is extremely high.

Therefore, it is very important to embed the communication in special social networks in order to get more information and overview about the expected behaviour and thus this minimize the risk and uncertainty.



## 9. Social Network and Trust

Social networks are necessary settings in complex social systems. To improve learning (social aspect) and controlling (economical aspect), the network plays a great role. Social network is a "social resource" or "social capital" for reducing distrust (Colemann, 1990). Effective control in social networks in case of force majeure as well as in case of opportunistic pattern of communication is much higher than outside organized networks. Control effects work particularly well if a trustor can convincingly inform other trustors about the deceit. As a matter of fact, trustors who are embedded in social networks will generally learn faster from other trustors, and are in a better position to control a trustee smoothly because they receive simply more information and transmit information faster through the network.

As far as confidence is concerned, in a case in which a trustor is confident about her/his relation to trustee, she/he would not follow the claims of another trustors within a network. Once a trustee asks for forgiveness for abusing the trust, the reaction depends on the previous experiences and introduced by others within the network (deceived or not deceived).

Social network analysis shows, however, that networks with different densities, centralized positions (outdegree, indegree variances and outdegree-indegree-covariances) transitivities and the network sizes have different impacts on the effectiveness of trust and control as well as distrust. For example, in dense networks trust and distrust may occur with the same density (an important example is the bazaar transactions in Tehran, where millions of rials are handed over to persons without any safeguard, because of a dense network with severe sanctions in case of distrust). Individual network parameters are properties of a trustee within a network. They can explain why one trustor in a network can place more trust in a trustee than another trustor in the same network. It can be expected that trustors in networks with fewer ties, and that trustors with more ties trust a trustee more than trustors with fewer ties. It can be assumed that learning effects and control effects differ not only between networks but also within networks (Buskens, 2002).

In order to summarize the empirical evidence for networking and in terms of business networks, we refer to Buskens, 2002.

Experiments with sellers and buyers show that dense networks were extreme opinion about trustworthiness. This is a subject learning through networks about others, experiences (Kollock, 1994). Gulati, 1995 assumes that interorganizational ties between advertising agencies and their clients have a smaller probability of being dissolved. This is due to network properties and experiences in alliances. Uzzi, 1996/7 discovered out that failure rates are lower the stronger the partners are integrated in networks. This seems to be the comparative advantage of trust in strong relationships in networks. Larson, 1992, remarks that increasing trust after a trial period is easier in networks. He also remarks that relations between firms starts with small transactions in order to increase trust after a trial period.

At a higher level of operation, the relation between organizations, the so-called "network governance" (a group of firms that engage in exchange relationships), the trust increases even more. This can be the case because in such network governances the "structural holes" are higher than in dense networks, and the absence of a tie between two actors who are connected to a focal actor leads to more information and promotion than dense networks.

Goods produced are not homogeneous. If trustors consider the bad performance to be product-specific, it is not likely that they will sanction the trustee if they purchase another good. Information flow is bad if the trustees are competitors, especially in the case of untrustworthy by investments. If the trustee is a large firm, the actors who represent the trustee are not always the same (heterogeneity of agents).

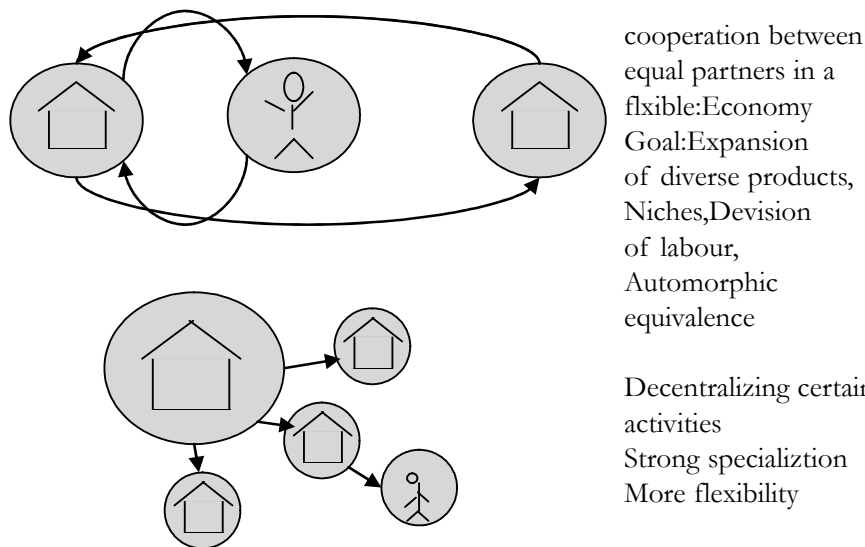
Conclusion: Dense information in networks does not necessarily lead to more trust, but the content of the information; dense network improves trust, but distrust is often disregarded; network increases the control of behavior of trustees due to experiences and risks shared.

## **10. Practical Implications of Networks**

Different systems of economic networks exist in practice. As ideal models, Prior and Sabel, 1999, introduce two different models for building of trust. Horizontal networks refer to cooperation between equal partners in a flexible economy. The goal of such networks is the expansion of diverse products, niches, division of labor and automorphic

equivalence. Cooperation is based upon the identification of strengths of partners for the division of labour during negotiations with the aim of achieving maximum trust. The vertical model is cooperation between unequal partners. Large enterprises decentralize their activities and move towards strong specialization. They outsource their general activities in a flexible system by keeping management, accounting and marketing.

Both models are a trial to increase trust at the margin of network economy. They concern the disintegration of large vertical firms and introduce global business networks and make flexible cooperation,



especially in non-industrial areas, possible. The major aspect in achieving these goals is the development of confidence and honor trust in large enterprises. Leading enterprises outsource their inferior tasks to small enterprises, or consultants, and keep command key functions, e.g. design, product development, marketing and flow of information, whereas small enterprises take the outsourcing tasks in a system of independency, free decision and autonomy into their hand and honor trust. Trustfulness and trustworthiness are the major elements in for the function of these kinds of networks.

### **11. Entrepreneurship and the University**

The above-mentioned issues play a great role in restructuring universities in the future. These are moving towards political, and what is much more important, financial autonomy.

The basic idea is to combine university activities with extramural activities in order to generate income and make the entrepreneurship possible. From my point of view, the problem of the staff is the lack of trust and confidence in starting activities that are of benefit to them and to the society. Especially in countries with low income of staff members at the university, there are good opportunities for entrepreneurship. However, many experiences of the staff are based upon low trust, low confidence, and the lack of a functional network. The majority are self-employed while withdrawing from common activities. For these groups, even a high degree of trust leads to establishing only small-scale enterprises while avoiding risks, and in some cases small-scale networking. Staff with high confidence but low trust tend to become classical entrepreneurs with a tangible portion of individual's need for achievement and opportunism in cooperation.

Staff members with a high degree of confidence and a high degree of trust are missing. The personal beliefs and values, contracts and organizational cultures are reflected in individual economic behavior such as strategy formulation, regulation of inter- and intrafirm relationships, recruitment practices or networking behaviour as well as in the general patterns of consumer, saving and investment behaviour in different cultures and societies (Bachmann, 2001). We call them the real networkers (Ruuskanen, 2003), committing to common activities and sharing risk among the members of the network (Figure.2). The reason for this specific situation is in many cases probably the inconvenient system of network (if any) and the probability of abusing trust.

The only activity which brings the staff closer to entrepreneurship is research. However, research at universities in developing countries is a minor activity and less trustworthy than any other activity. In case of research trust is abused permanently after starting research, collecting data, analysing data, etc. But the final result is missed in the majority of cases, especially in the case of cliental research. Experience, however, shows that good researchers, especially those who have cliental research

projects at universities, are good entrepreneurs. Research activity at the university sometimes goes beyond the requirements for entrepreneurship activities. In other words, improving research activities is simultaneously improving result in entrepreneurship. But we are not talking about client research, especially from enterprises and the society at large in terms of research and development rather than governmental general support of research.

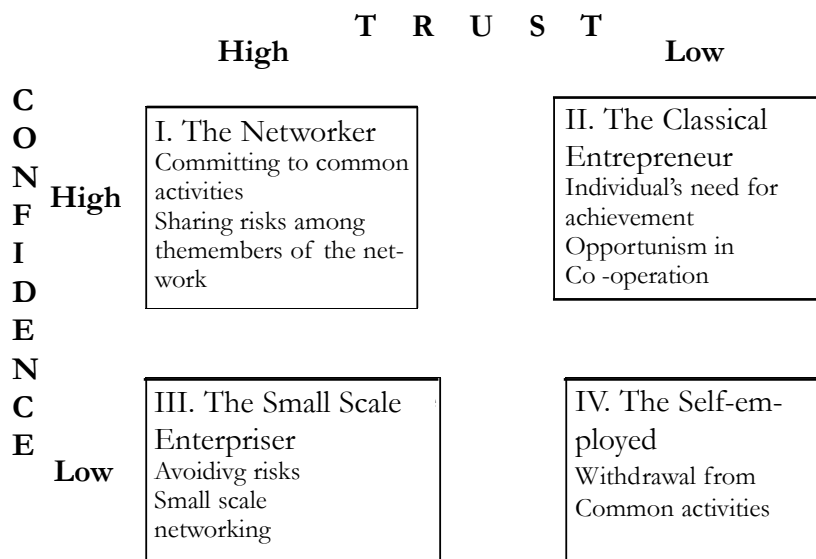
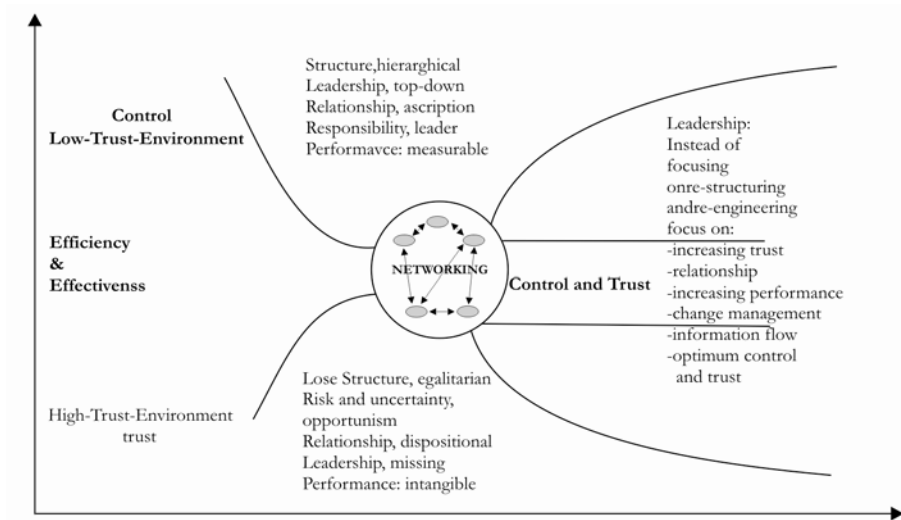


Figure 4: Categories of Trust & Confidence after Ruuskanen

In order to improve this kind of research a balance between trust and control in higher education systems must be introduced. Trust and control are both necessary elements of all progressive activities. In low-trust environments, however, the control becomes predominant because trust is low. In high-trust-environments, the trust is high, but low control does not allow the performance measurement.

In low-trust environments with a high degree of control we face hierarchical and top-down leadership and relationships. Tasks are done descriptively and the responsibility lies with the leader. The measurement of performance is easy. Due to this the efficiency can be at a high level, but not necessarily the effectiveness. In contrast, in high-trust environments with little or no tangible control, we face a loss of egalitarian

structures with high degree of uncertainty and opportunism with dispositional leadership. The measurement of performance is difficult. In both cases it is necessary to move towards a balance between trust and control in order to achieve both efficiency and effectiveness. In this system the leadership turns from focusing on re-structuring and re-engineering to increasing trust, improvement of relationship, change management and information flow. Instead of control by leaders, the involved parties control each other in a network system with a high



**Figure 5: Trust, Control and Networking for Quality Improvement**

degree of information exchange.

This model is especially interesting for universities with a high degree of financial autonomy, for motivating entrepreneurial researchers and income generating and high performance of research.

However, research must be done on how to answer the following questions in relation to our hypotheses mentioned above:

What can be learned through the social networks by the trustor, and what are the effects of learning related to individual and global parameters of the social network, especially in terms of client research activities in low-trust environments?

What are the effects of control through social networks and how are these effects on individual and global parameters of the social network

(trust), especially in terms of entrepreneurship?

How important are individuals compared to global network parameters for the description of various network effects on trust, especially in terms of improvement of the staff?

### **Conclusion**

Trust is a major issue for societies in transition and corresponding higher education systems. In the process of change, increasing trust plays a crucial role. Especially in case of political and financial autonomy of higher education systems, growing competition requires entrepreneurial activities. The organization of entrepreneurial activities requires the achievement of a balance between trust and control in favour of quality improvement. Establishment and strengthening networks seem to be efficient instruments for moving towards entrepreneurial universities. Research and knowledge organization is an activity which promises the highest degree of achieving entrepreneurship in future activities of universities and can be taken as a start for change management.

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