

Sources of Trust Building in Innovation Networks and the Contribution of Network Management

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Topics of the presentation

- What is trust? (definition)
- Benefits of trust (in innovation processes)
- Introduction of the networks under study
- Findings on trust benefits
- **Sources of trust:**
 - Introduction of the indicators
 - Results of the analysis
- Further findings on trust
- Conclusions for management of innovation networks

What does we mean when we talk about trust?

Definitions & characteristics of trust situations

- Behavioral uncertainty (Information asymmetries, Incomplete contracts/control)
- Risky performance/action in advance (inputs possibly get lost/destroyed)
- Trustor's expectation that the trustee (voluntarily) restrains from conducting opportunistic practices/actions
- Trustor's acceptance of vulnerability (trustful action may prove to be misplaced)
- Situations where coercion exists/the trustor has no alternatives there is no room for trust!

3

Economic Interactions: Trust matters!

Two main reasons for **benefits of trust**:

(1) transaction cost reduction (by reducing control)

(2) transaction value enhancement by increasing

- the willingness to contribute to (knowledge) exchange and
- the readiness to invest in R&D-partnerships

- Which are the **drivers for trust building**?
- in innovation networks?

4

The innovation networks under study*

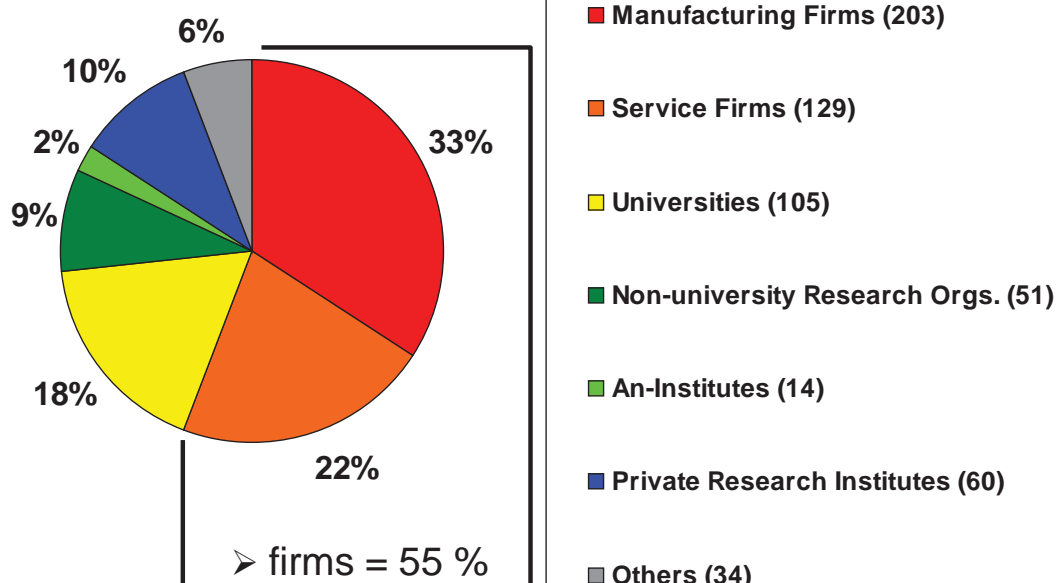
➤ 23 German regional innovation networks

- supported by regionalized innovation policy (BMBF 1999-2005; InnoRegio)
- 596 network participants
- Financial support to
 - inter-organizational R&D-projects
 - network management

5

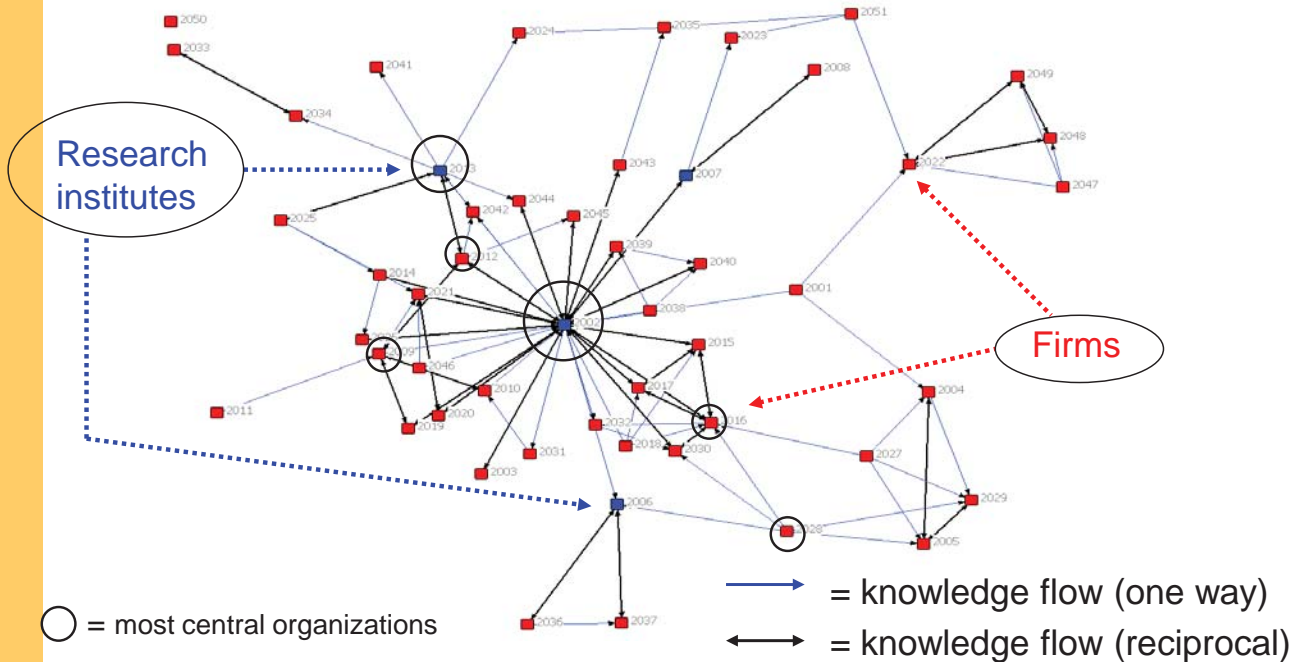
*Research/Evaluation: DIW Berlin & Partner

596 Network participants by organization types



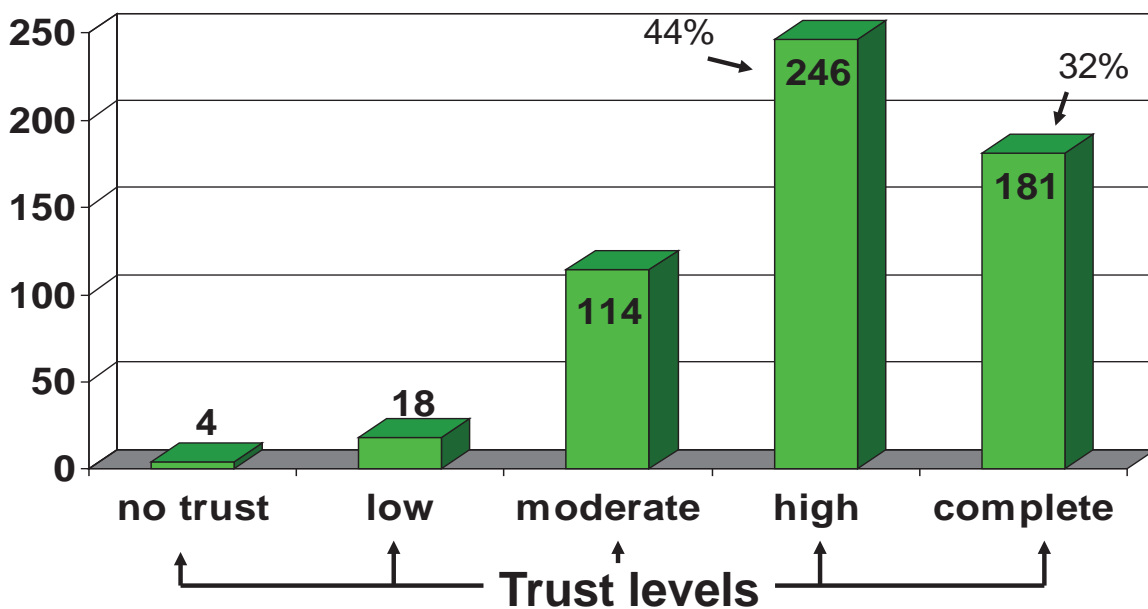
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Illustration: One of the networks (51 organizations)



Trust measurement: by 5 trust levels

Assessment of trust by the network participants



Findings on benefits of trust (23 networks)

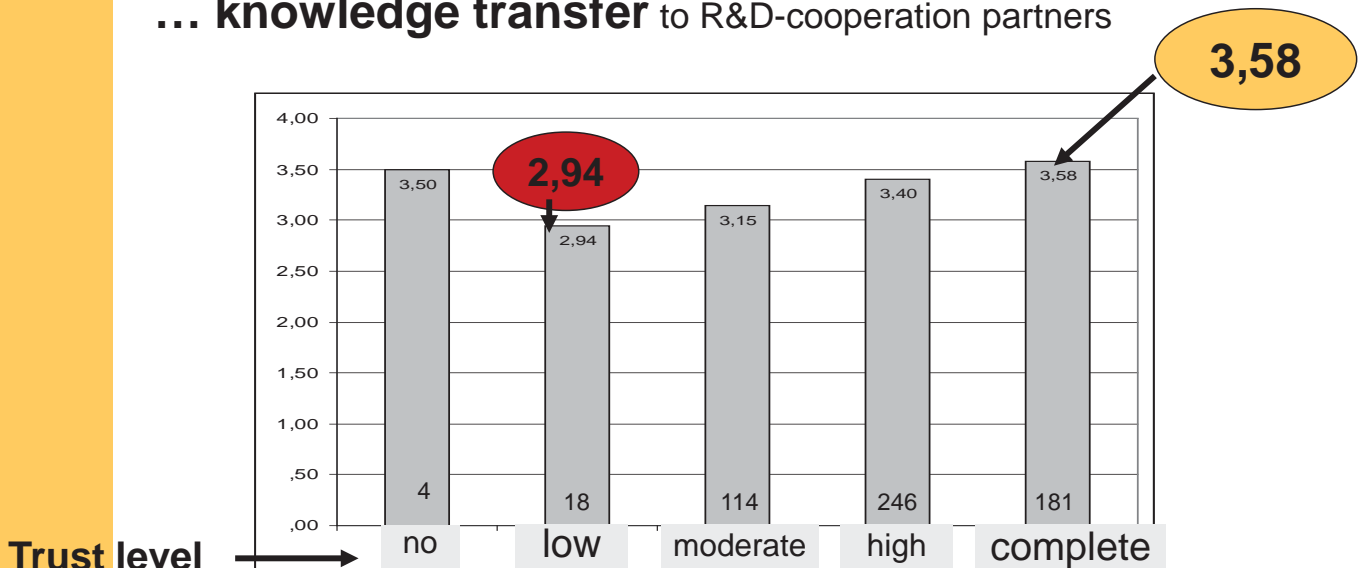
Trust level matters with respect to ...

- Information and knowledge transfer to R&D-cooperation partners
- Innovativeness of products
- Benefits of network participation in general

9

Illustration: Trust matters with respect to ...

... knowledge transfer to R&D-cooperation partners



Correlation coefficient (Kendall-Tau b): 0,155** (**significant at 1 percent level)

10

The sources of trust building in innovation networks (model)

A's trust in B results from ...

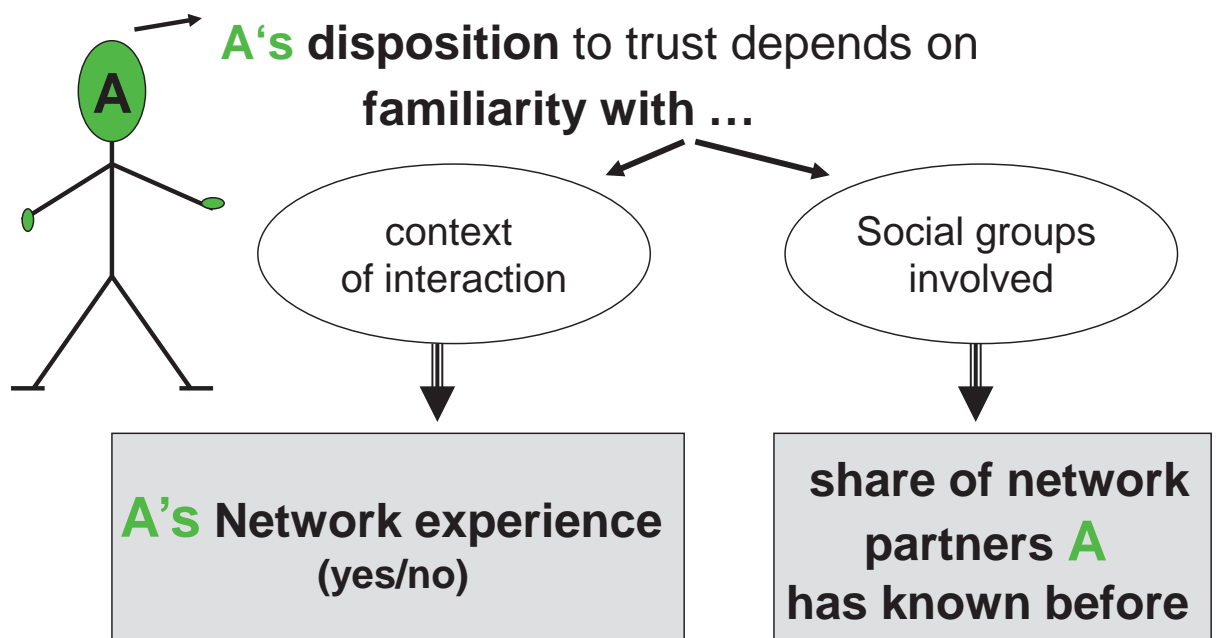
(1) Generalized trust (A's disposition)

(2) Specific trust (interactions A & B)

(3) Institutionalized trust (nw-characteristics)

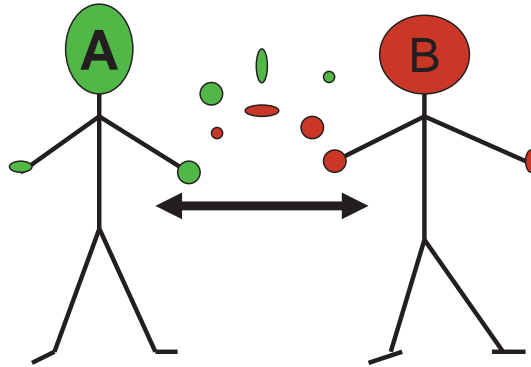
11

Sources of trust building: (1) Generalized trust indicators



12

Sources of trust building: (2) Specific trust indicators

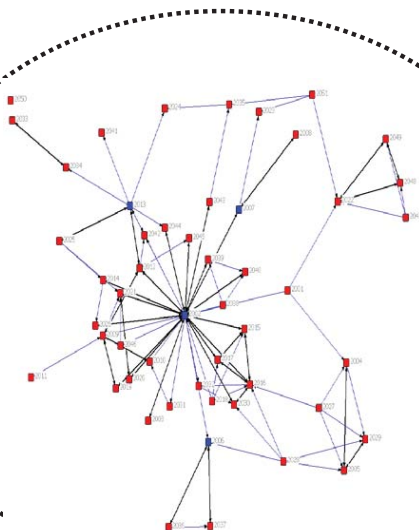


❖ Interactions between **A** & **B** (current + historical)

- Amount of Information & Knowledge **A** received from network partners (for example **B**)

13

Sources of trust building: (3) Institutionalized trust indicators



➤ Qualitative network characteristics that constrain opportunistic behavior (social capital)

- network partners' **identification** with their network
- shared **norms/values** in the network
- network partners' **compatibility of interest**

14

From 8 sources of trust to 3 components: A factor analysis

	Components		
	1	2	3
Network experience yes/no (context familiarity)	0,718	0,171	-0,036
Share of network partners known before (social group familiarity)	0,684	-0,128	0,214
Information received from network partners	0,025	0,861	0,191
Knowledge received from network partners	0,011	0,795	0,321
Dependence of the partner's project from the trustor's inputs	0,388	0,424	-0,014
<u>Identification</u> of network partners with their network	0,054	0,256	0,713
Existence of <u>norms/values</u> in the network	0,067	0,181	0,792
<u>Interest compatibility</u> of the network partners'	0,069	0,055	0,867

15

Measurement of the variables: Likert-scale ranging from 1 to 5

Sources of Trust: Findings

Regression OLS: Level of trust towards network partner(s)

	standard. Coefficients	Significance
Factor 1: Generalized trust	0.094	0.007
Factor 2: Specific trust	0.240	0.000
Factor 3: Institutionalized trust	0.603 (!)	0.000
Adjusted R ² = 0,419		

16

Findings: How can network management contribute to institutionalized trust?

By ...	Relevance ...
➤ Involving the network partners in decision making	high
➤ Being open for criticism and suggestions	high
➤ Target-oriented network conduction	moderate
➤ Mediation in conflict situations	moderate

17

Further findings on trust (of interest for network management)

- **Contracts & trust:** not substitutive but complementary
 - If there is no trust, there is no contract
 - In case of low trust: contracts are relatively rare
 - Even if trust is very high/complete: Very much R&D-partnerships conclude a contract (77%)
- **When „time to market“ approaches:** Trust shifts slightly down
- Relation between **trust and knowledge exchange** (over time)
 - Strong inter-dependency
 - Balance of knowledge exchange has to remain positive
 - If the amount/value of knowledge acquired from partners declines over time: trust decreases as well

18



Conclusions (1)



- **Trust matters** with respect to R&D-Cooperation
- Regarding regional innovation networks:
Institutionalized trust is a very important source of trust building
- **Institutionalized trust is manageable** by network management (in particular governance by participation and transparency)

19



Conclusions (2)



- Also **specific trust** can be supported by network management (by arranging for rich opportunities that foster (direct) exchange of information and knowledge)
- Special guidance/instruments for “newcomers” (without any network experience) and when “time to market” approaches?
- How to develop a “network governance” that exploits the power of contracts and considers the prospects/benefits of trust (building)?

20



Thank you for your attention!