



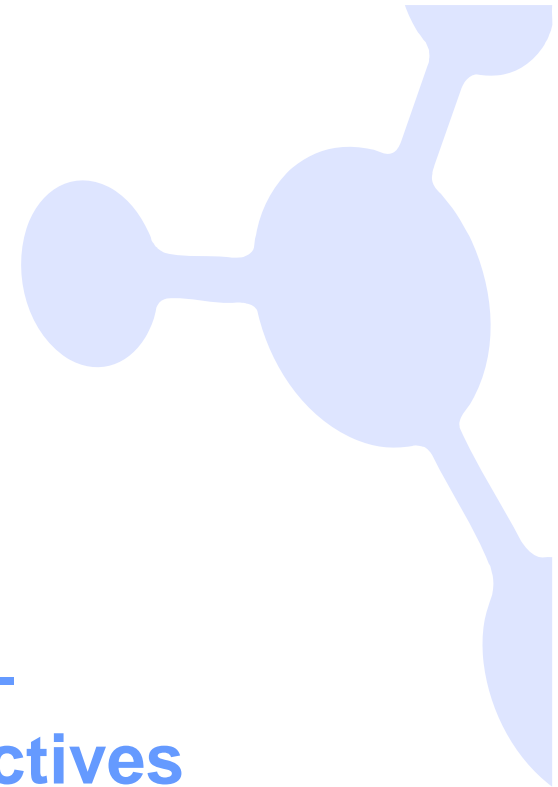
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# Network Management – challenges and perspectives

Stefan Klein



## Outline

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- NW management challenges
- NW management framework
- Relationship management & social capital

# Challenges

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## On the Management of Strategic Networks

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" ... eight significant changes were accentuated:

1. the outstanding importance of *boundary spanning* functions;
2. the increased *emphasis on (fewer) human resources*;
3. the need for a new *control strategy* combining responsible autonomy and market control;
4. the necessary overhaul of *managers' implicit organising theories*, towards an image of the organisation as a hyper-open and network-bound system;
5. the increased *relevance of organisational and inter-organisational politics*;
6. the need for organising *collaboration* among organisations as *learning process*;
7. to learn to handle *incongruities of formal authority and responsibility*, and finally,
8. the implications of *deteriorating industrial relations* for the management of strategic networks."

Sydow, On the Management of Strategic Networks, 126

## Required managerial skills

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"The managerial skills that become most important when employees work free of close super-vision - skills such as mentoring, aligning staff around a vision, nurturing relationships - require human contact." (Stewart 1994, 28)

"The new CEO will yield direct control over operations and lead by ensuring accountability, re-solving conflicts, and encouraging cooperation, thereby providing a more subtle but more powerful form of guidance that shapes the strategic factors that really count." (Halal 1994, 11)

## Three fundamental aspects of business alliances

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"They must yield benefits for the partners, but they are more than just a deal. They are living systems that evolve progressively in their possibilities. ...

Alliances that both partners ultimately deem successful involve *collaboration* (creating new value together) rather than mere *exchange* (getting something back for what you put in).

They cannot be 'controlled' by formal systems but require a dense web of interpersonal connections and internal infrastructures that enhance learning."

Moss-Kanter, 97

## Inter-firm Management Challenges

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- Safeguarding exchanges against opportunism
- Ensure learning from external relations: internalize knowledge (either formally codifiable or implicit knowledge)
- Align incentives of partners: interest balancing, negotiations with the counterpart in the relationships (inter-personal)
- Find and select the right partners (fit!), e.g. in terms of complementary resources (strategic management)
- Keep knowledge of prior relationships (relationship capabilities) (Normative/strategic management)
- Ensure effective and efficient execution of inter-firm tasks (operational management)
- Develop and establish inter-organizational information systems (IOS) → manage IOS effects

## Coordination strategy framework

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<b>Domain</b>	<b>Configuration parameters</b>
Market and industry structure	<b>Position</b> ... of the firm in the network, ... relative to other networks or groups, ... in the market
Governance Structure	<b>Combinations of governance forms:</b> ... distinguished according to functions and market segments, participation in different networks
Transaction and relationship attributes	Different <b>layers</b> of inter-organizational relations institutional, operational, technical layer
Resources	<b>Pattern of resource usage</b> proprietary, pooled, shared

## Network management domains

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- **Designing governance structures**
- **Coordinating exchanges**
- **Fostering social integration**
- **Developing and articulating shared visions and values**

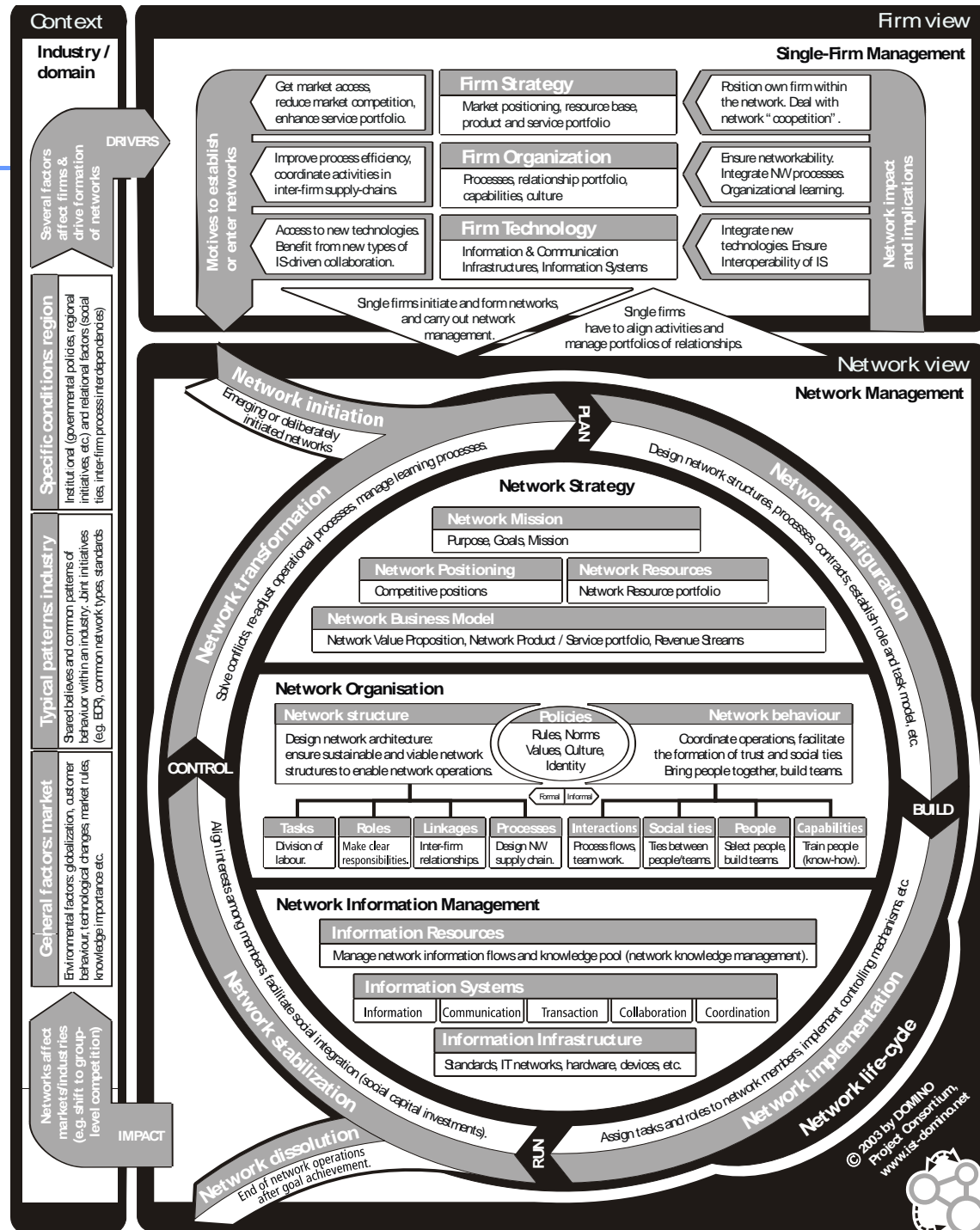
## Network characteristics

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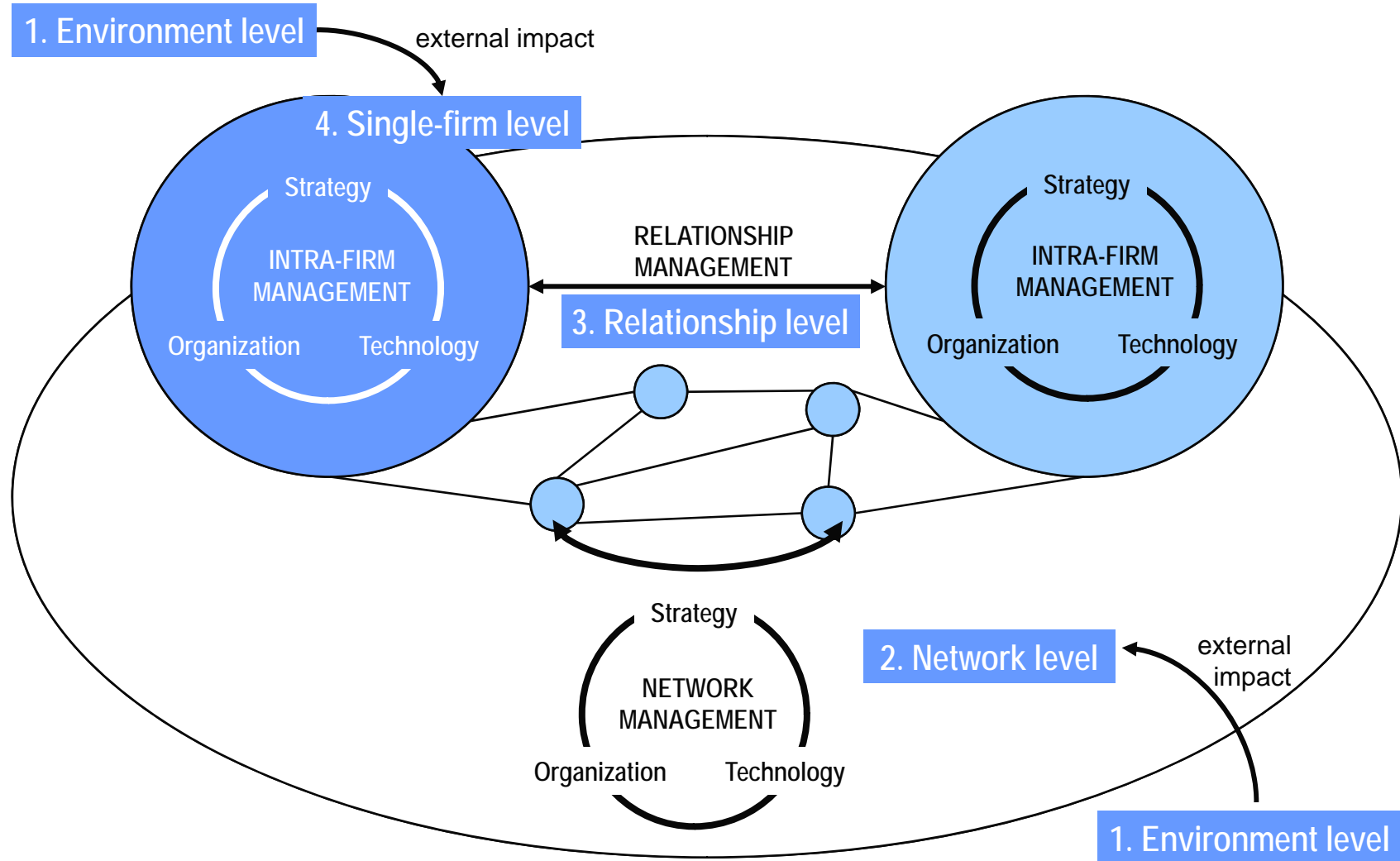
1. **Exchanges** of resources (e.g. financial, goods or services, technology, learning etc) are the economic basis of the interfirm relationship. Compared to markets, the nature of the exchanged resources require a closer relationship, e.g. knowledge exchange, or a level of commitment and responsiveness, which can not be covered by standardized contracts.
2. A specific type of **governance**, i.e. rules and related managerial structures, to coordinate the exchanges. Network governance is distinct from the governance in markets or within firms ('hierarchies' in the terminology of Williamson)
3. The differences in governance structure require higher levels of **social integration**, such as social capital or trust, mutual loyalty, identification with the network and commitment, to compensate for incomplete contracts and administrative controls. Networks are preferred over markets when "non-contractible issues" matter.
4. In contrast to markets, which facilitate the efficient pursuit of the participants' self interests, networks are characterised by some form a **common purpose**, which may be based on shared values or aligned strategies. The dynamic alignment of particular interests and common interests and the search for incentive compatible solutions is therefore characteristic for networks.

# Network Management

## Framework – The Big Picture

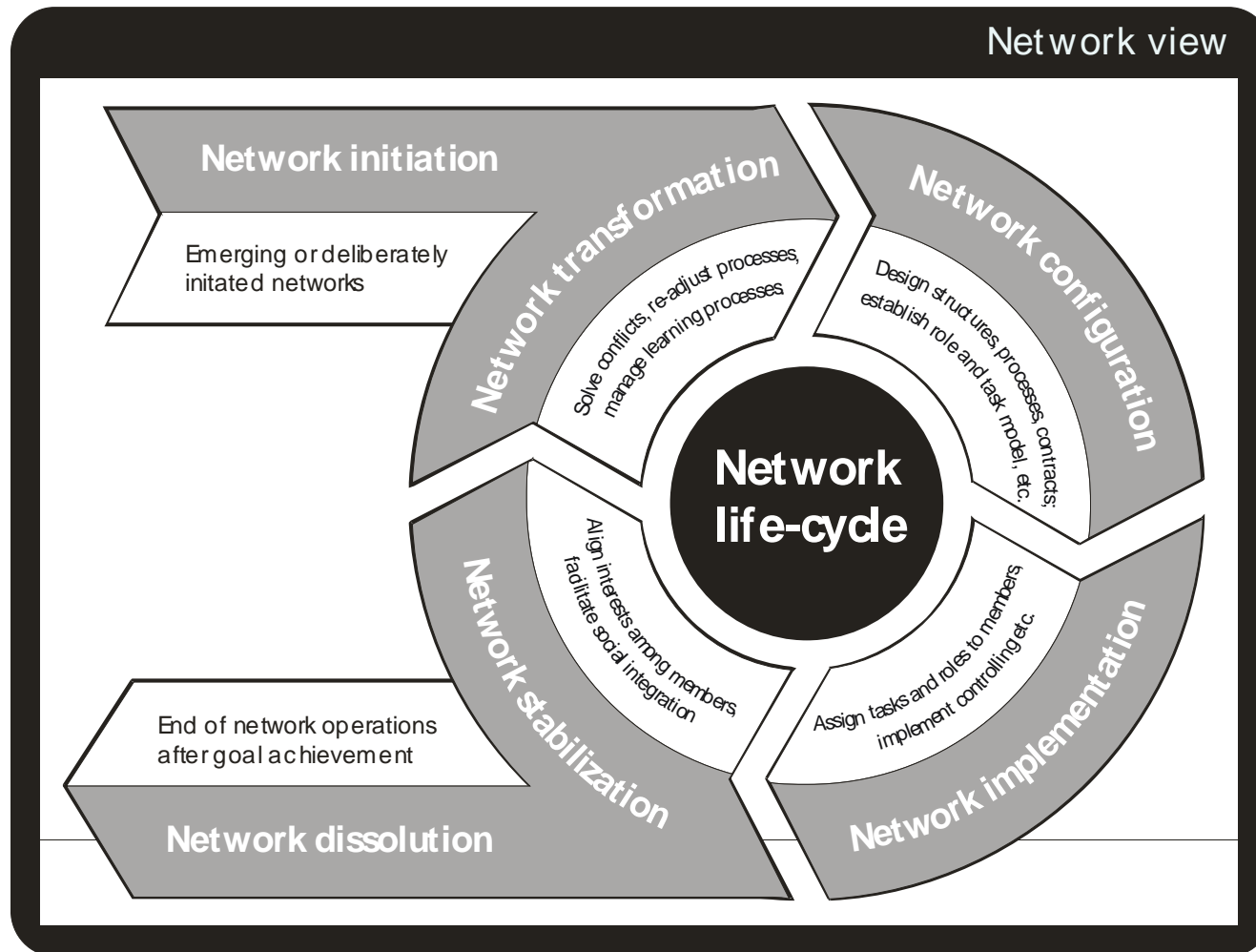


# Levels and views



# 1 The network life cycle

... changing requirements for management as the network develops



## Management issues in the initiation phase

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- What is the business idea for the network?
- What are the comparative advantages of a network arrangement compared to internal solutions, a merger or loose types of mutual understanding?
- What is the aim, what the scope of the network? How are the boundaries of the network defined? What are the relationships towards other networks?
- What are the criteria for member selection? Which capabilities are expected? What is the anticipated level of diversity or complementarity among the network members?

## Management issues in the configuration phase

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- What is the joint strategy purpose of the network? Have shared values been identified and articulated?
- Who is in charge of the negotiations?
- What are the incentives of the network members? How is an incentive compatible solution achieved? How are (intellectual) property rights resulting from joined activities assigned to or divided among the network partners?
- What are the exchanges among the network members? What are the exchanges of the network with the wider environment?
- What is the governance model? How are institutional rules selected and communicated?
- What tasks have to be fulfilled, what roles have to be established for governance purposes?

## Management issues in the implementation and operation phase

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- Which roles have been established? How will they be assigned to network members?
- How is the role of technology for the network determined? How will the shared systems and infrastructures and those of the network members be linked?
- What has to be done to ensure effective (IS-based) communication on the network level? In what way do network communication processes differ from communication within the partnering firms?
- How are network strategy and daily operations aligned? What practices have been established to extend the networking operations into the participating organisations?
- Which metrics are used for performance measurement? How is performance monitoring institutionalized? How are network rents divided among the network members?

## Management issues in the stabilization phase

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- Who is responsible for the stabilization of the network?
- Which practices have emerged or have been established in the network to extend collaborative capabilities and social capital?
- Where can people meet and engage in social interactions to get to know each other and build social capital?
- How will collaborative capabilities be developed across the network members?
- How are conflicts among network members managed or contained?
- How is the network communicated internally within the network members? How is networking within the participating organisations encouraged?
- What does the power structure look like? How is power used?
- What is the identity of the network? What are its symbols for identification?

## Management issues in the transformation phase

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- Are the institutionalized rules of the network reviewed?
- Have rules been defined for growth and network extension, including necessary adjustments of the governance structure?
- Is the network strategy reviewed including the strategic alignment between the network members?
- Which mechanisms of environmental screening and competitive (network) analysis are used?
- How is network learning facilitated?

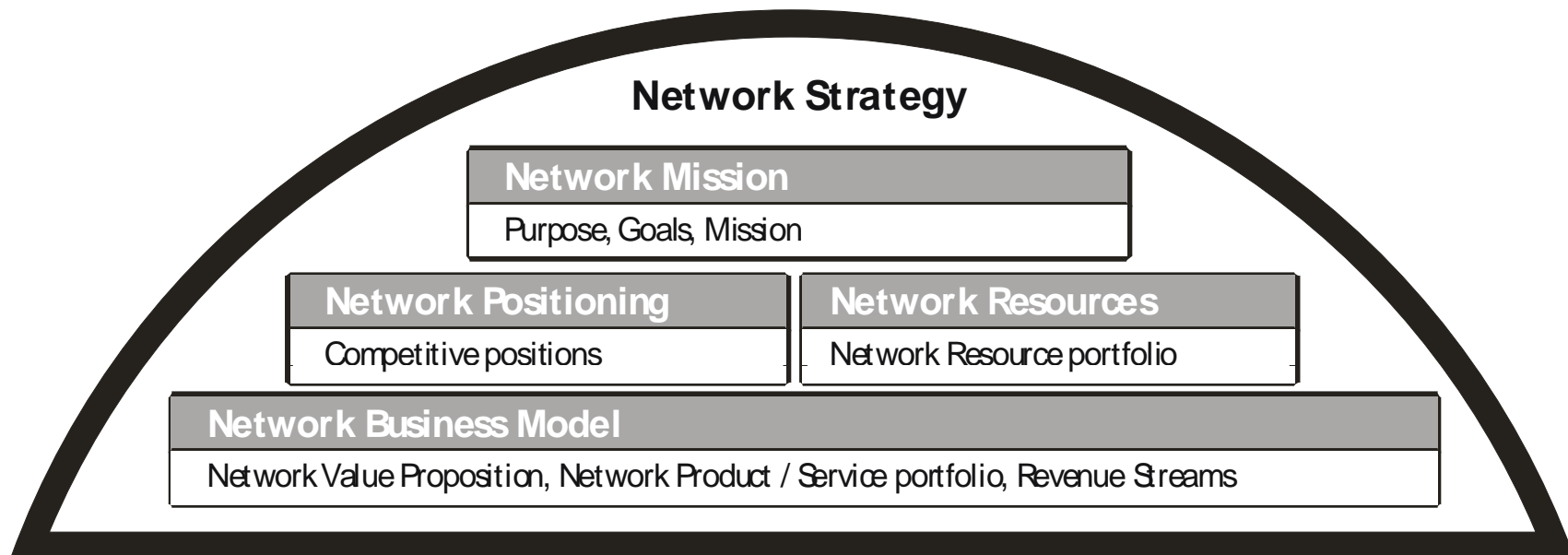
## Management issues in the dissolution phase

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- How do firms in the network protect their knowledge assets against exploitation?
- What mechanisms are in place to deal with partner exploitation and generally with conflict?
- How are assets and rents distributed in the end?
- In case of conflict, who is able to mediate between the parties in order to balance out interests?

## 2a Network Strategy Layer

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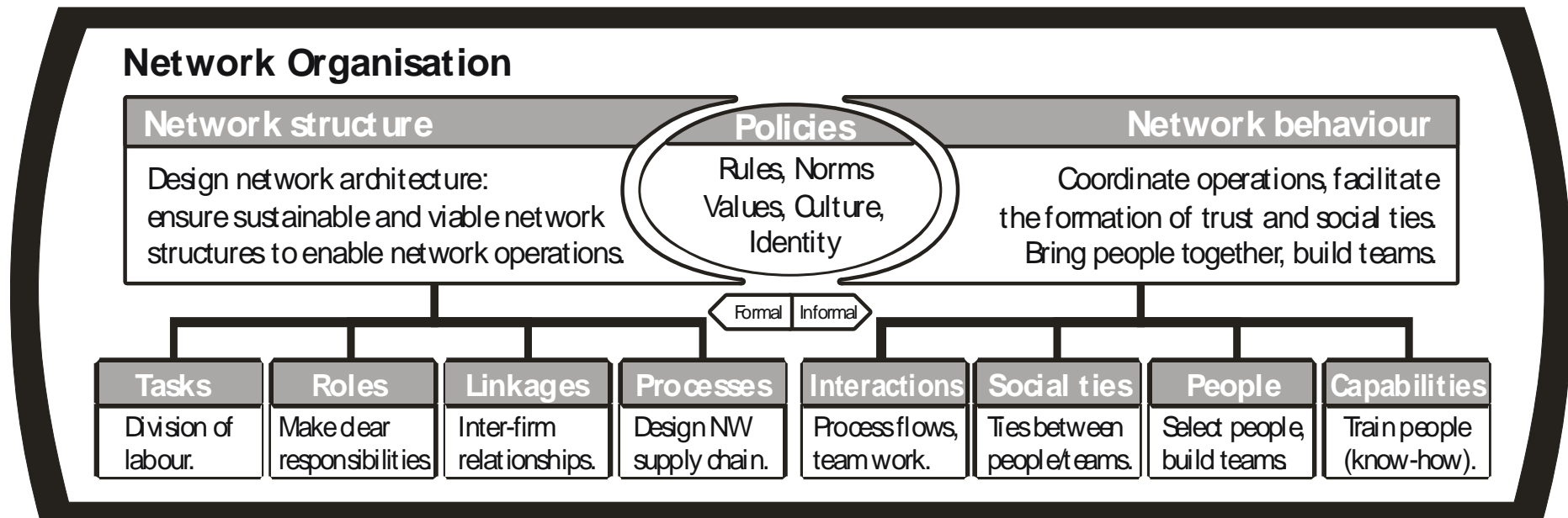


## Management issues for network strategy

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- What are the network specific mission and core value propositions?
- How is the network positioned in the market? What is the basis for collaborative competitive advantage?
- What is the unique network portfolio that provides the network with competitive advantage?
- Who are the network members? By what means are resources of the member firms combined to achieve collaborative advantages?
- How is the dynamic alignment of firms' strategies and the network strategy achieved?
- What is the business model of the network? Specifically, how are relational rents (network benefits, positive network effects) generated and distributed among the partners?

## 2b Network Organisation Layer



## Network management roles

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Role	Role description
<b>Network facilitator</b>	The facilitator facilitates the initial configuration of the network by bringing together partners, consulting in establishing the necessary linkages and balancing out the incentives and contribution.
<b>Network coach</b>	The network coach is responsible for the entry management, the infrastructure development and settlement of the relationships between the partners of the network.
<b>Network broker</b>	The broker takes care of external customer relationship management, the order acquisition and other market specific tasks.
<b>Performance manager</b>	The performance manager configures a project-specific value chain to fulfil a specific customer order (in a manufacturing network).
<b>Order manager</b>	The order manager is responsible for the order transaction, the process management and if necessary the project planning and management.
<b>Auditor or mediator</b>	The auditor or mediator takes care of co-opetition aspects. In unexpected situations and in the case of conflicts this role mediates between partners in order to (re-)stabilizing the relationship.
<b>Standards manager</b>	The standards manager takes care of interconnection issues on the process and technology level between the network partners.

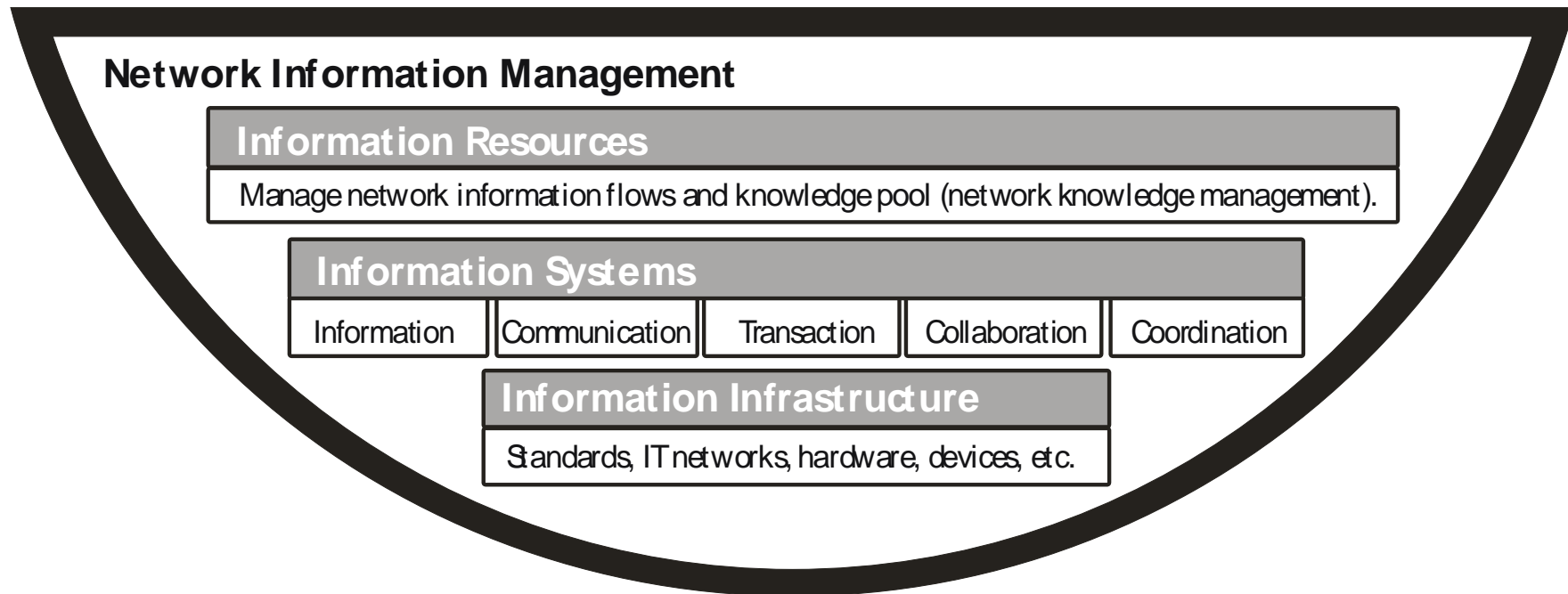
## Management issues for network organisation

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- What are the general tasks, operational and management-wise, which have to be fulfilled by the network partners to ensure effective network operations?
- To whom will the tasks be assigned? What are the operational and management roles and who is capable of fulfilling these roles? Have all roles been assigned at the end?
- Are the linkages between the partners clearly specified in terms of knowledge, materials, product, and financial exchanges?
- What relational investments have the partners to make to participate in the networks and in order to be able to engage in joint activities (e.g. investments in IT and systems)?
- Are all network processes spelled out in detail? Do the partners know how network operations work?
- Which people will work in the network processes, e.g. have “networkable” people with collaboration experience been selected? Have all tasks been assigned to people?
- Do the people have enough opportunities to build social relationships? Are events being planned for people to meet outside the work settings (in informal social settings)?
- Will there be mentors to guide people regarding cooperative behaviour with people from other organisational and cultural backgrounds?
- Have formal rules and policies been established to guide people in their network interactions?
- Who is in charge of network governance? Is there a governing body/entity, a management role, or certain people been appointed to take care of coordination, governance, and controlling?
- Do network managers display authentic cooperative behaviour to encourage cooperation and the development of a culture of cooperation?

## 2c Network Information Management Layer

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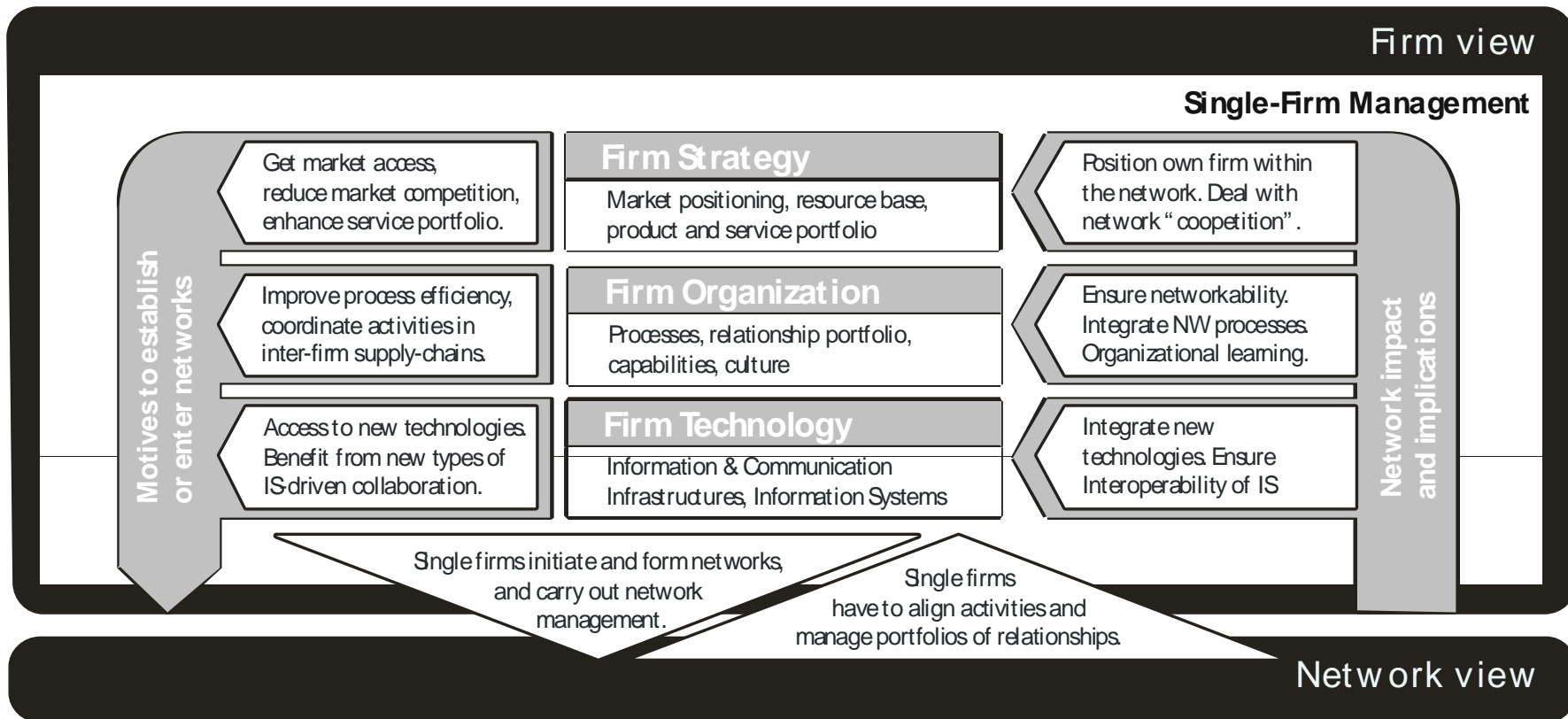


## Management issues regarding network information management

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- What role does information and thus ICT play for the particular type of network? Is the network build around an information system (e.g. an Internet business model) or is ICT only supporting network operations?
- For what specific purposes do the network partners have to share or jointly use information? What about the information intensity of products and processes?
- How do the firms go about information sharing? Is there enough trust to ensure open information exchange? How are intellectual property rights and confidentiality protected?
- What types of joint IOIS are needed in the network and for what reason?
- Who is in charge of IOIS selection, adaptation, or development? Do the partners feature a participatory requirements analysis that involves all partners?
- Modes of integration and technical coupling of internal systems is used? Will an integration of the partner systems be necessary or is a loose coupling enough?
- Does the network need to invest in IOIS and joint infrastructures? By what means is the distribution of cost managed?

### 3 The firm view



## Firm strategy in a network setting

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- What is the strategic rationale to join the network? How is the balance between individual autonomy and inter-firm interdependence managed?
- How does the firm deal with competition in the network? How can the individual goals be pursued without sacrificing the cooperative solution?
- How are the firm and its representatives positioned in the network?
- What are the mechanisms for collaborative resource development? How are the firm's benefits secured in this?
- What are the mechanisms to learn from network participation? How can the firm make best use of external resources?
- How can the firm learn and at the same time protect strategic resources from external partners?
- How is the portfolio of network relations managed by the firm?

## Firm organisation in a network setting

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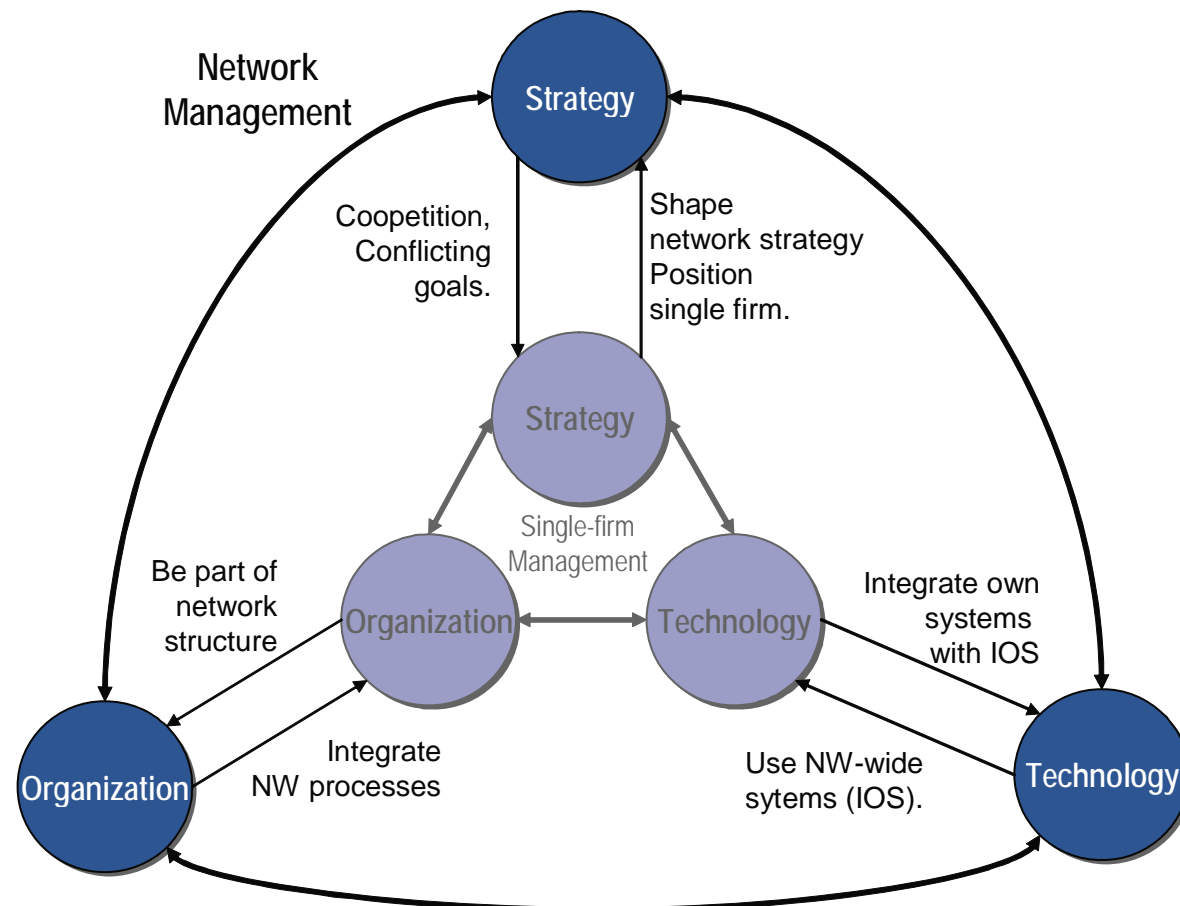
- How can operational efficiency goals be achieved by setting up collaborative arrangements with supply chain partners?
- What are suitable value creation processes that benefit from closer coordination with other actors in the supply chain?
- How can the company build cooperative capabilities (networkability) in terms of processes, people, and organisational culture?
- What internal structures do have to be set up to manage network participation? Who will act as boundary spanners and firm's representatives in the network?
- What operational adjustments on the process level do have to be made (logistics, manufacturing etc.)?
- How will the increased network participation be managed on the team level? How can psychological boundaries be managed to preserve the organisational identity of the firm without creating a harmful "us vs. them" attitude in the network at the same time?

## Firm information management in a network setting

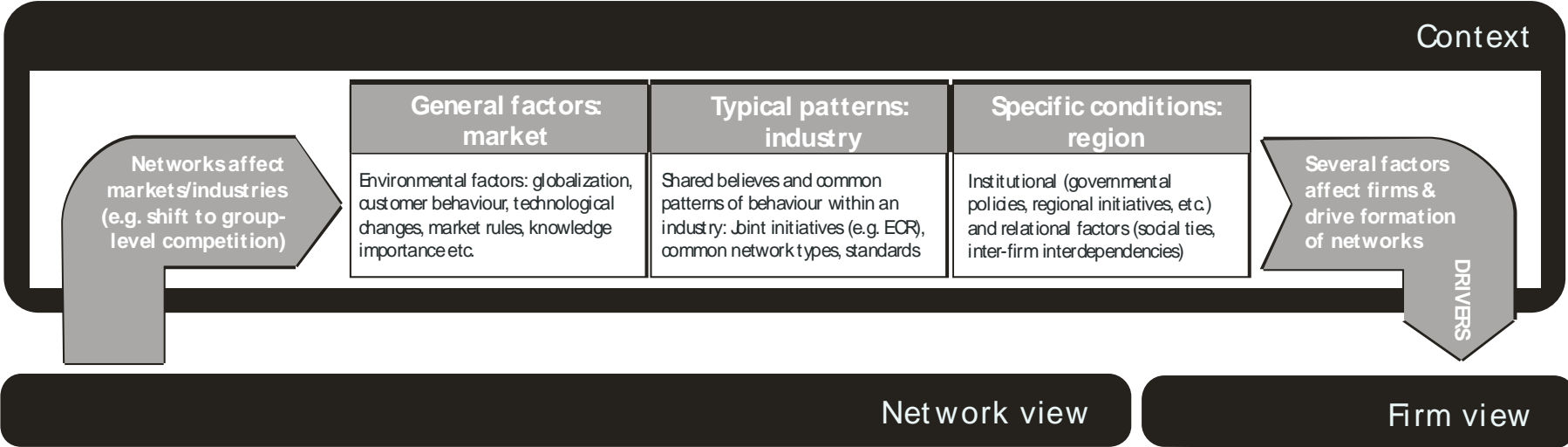
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- How can internal systems be efficiently linked (interoperability) to the IOS and/or partner companies' systems?
- Which capabilities are needed to function in a networked environment?
- What technologies can be built in house and which part of the technology portfolio lends itself to inter-firm cooperation?
- What IT/IS services are suitable for outsourcing? What is the risk of outsourcing strategically relevant technology?
- Standards?

# Alignment between firm and network level



# The Network Environment



## Management challenges

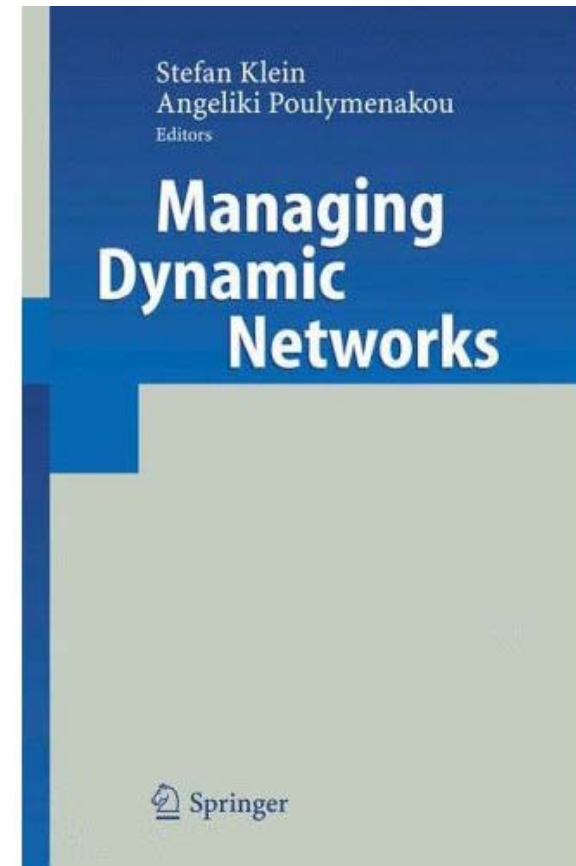
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- Managing boundaries
- Creating potentials
- Improvisation

## Source

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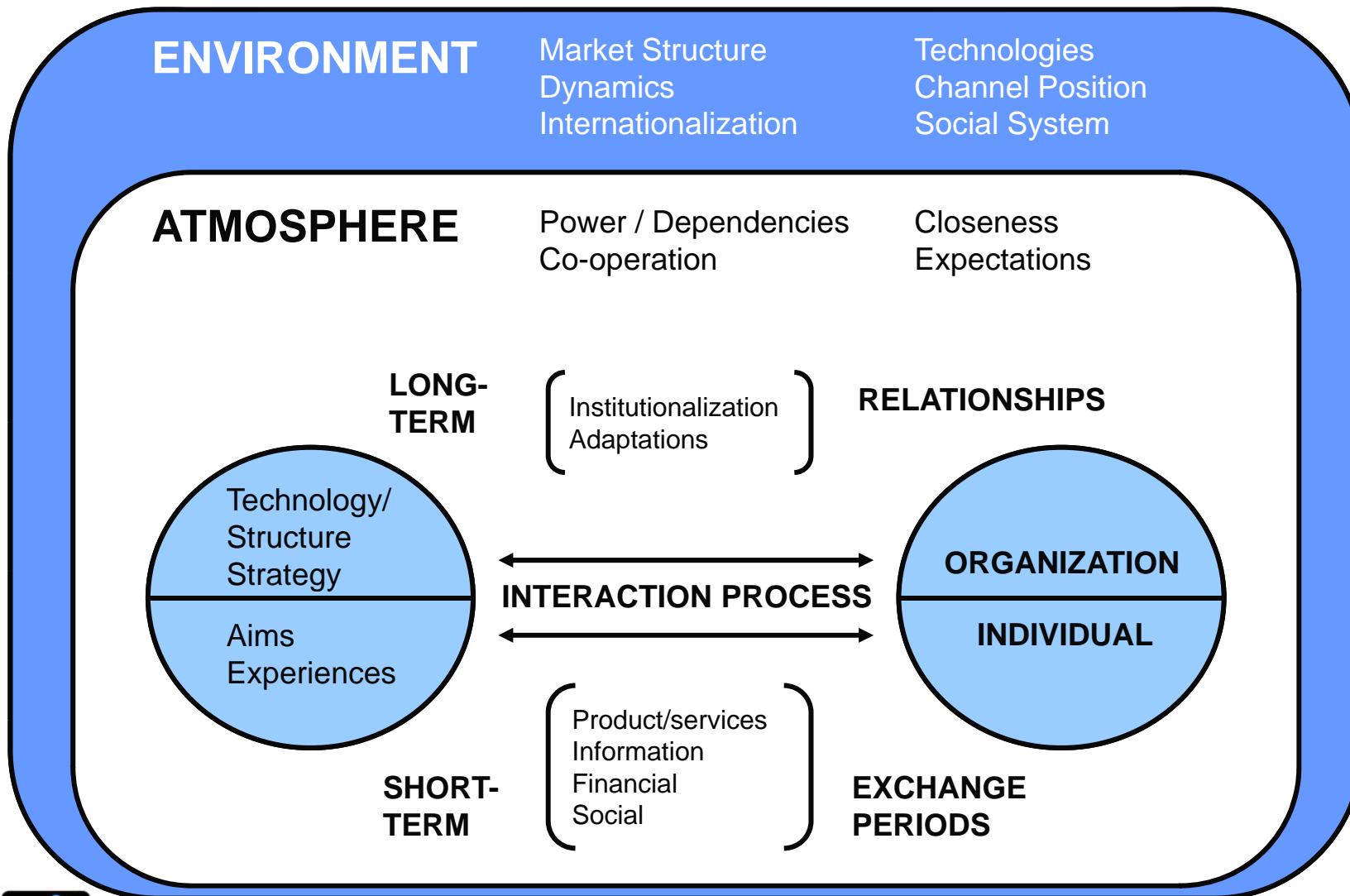
Klein, Stefan; Poulymenakou, Angeliki (eds.) (2006):  
*Managing Dynamic Networks - Organizational Perspectives of Technology enabled Inter-firm Collaboration*,  
Heidelberg: Springer, 2006.



# 3 Relationship management

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# Context of inter-firm management: Interaction model (Hakansson 1982)

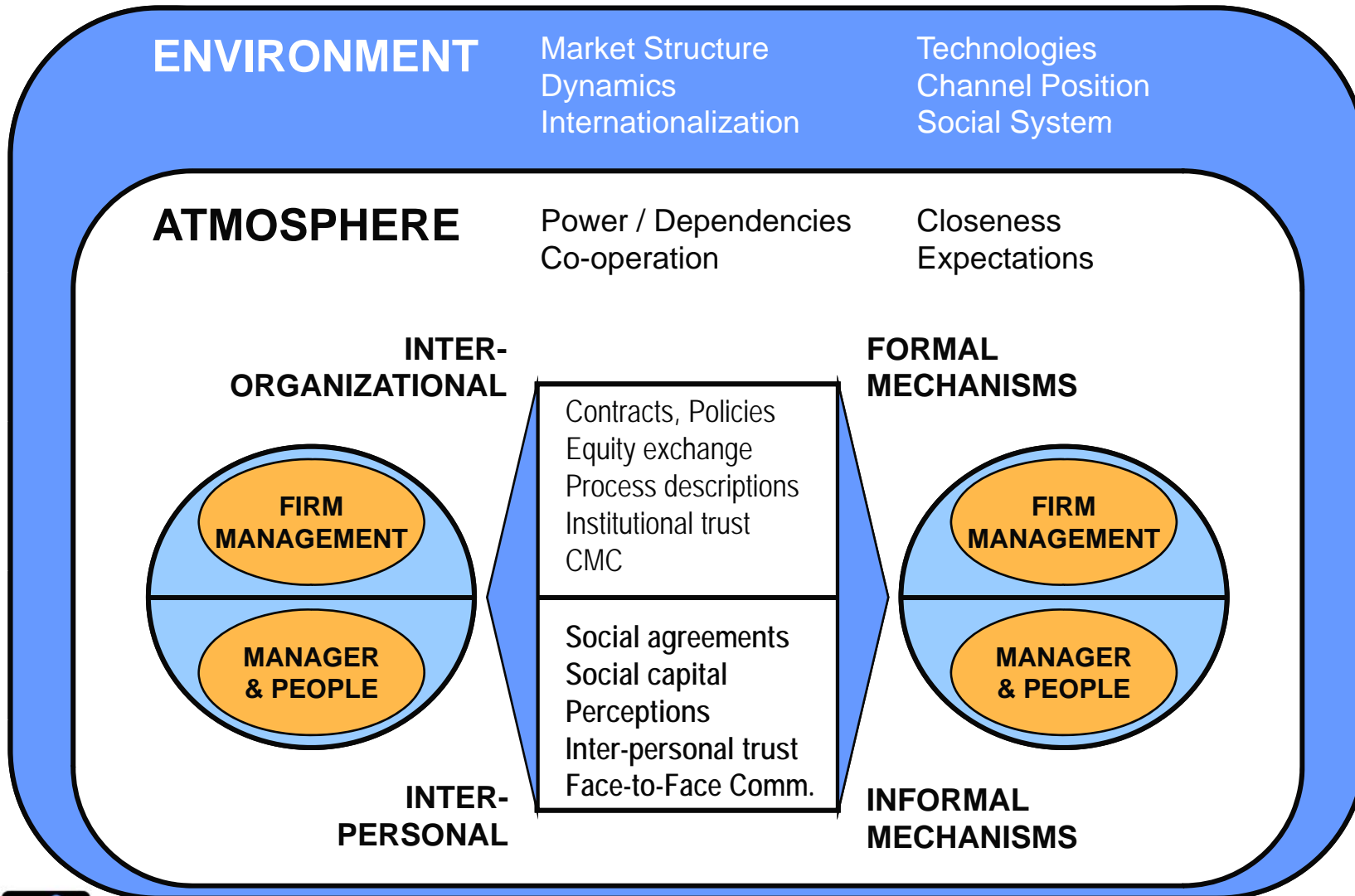


## Context of inter-firm management : Interaction model (Hakansson 1982)

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- 1. Interaction process:** consists of individual exchange periods and the long-term aspects of the relationship
  - **Interactions** represent the „here and now“ of the inter-organizational behaviour and constitute the dynamic aspects of relationships
  - **Relationships** form the context in which interactions take place
- 2. Participants:** characteristics of the organizations involved and the individuals that represent them.
- 3. Atmosphere:** Overall atmosphere of the relationship affecting and affected by the interaction.
- 4. Environment:** Wider context in which the interaction (relationship) between the participants takes place.

# Perspectives of inter-firm management: Formal vs. informal parts of relationships



# The notion of management in an inter-firm context

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- What does management mean in the inter-firm context?
  - Hypothesis: Instead of hierarchical planning, task execution and control, inter-firm relationship management is based upon consensus, agreements, negotiations and understanding among the people involved
  - The manager is not able to really coordinate all relevant tasks and issues
  - The manager's area of influence is originally be restricted to his own company, whereas his success and internal evaluation may be based on the relationship success. So, although he cannot really manage the relationship (because he lacks the competence to do so), he has to ensure the success.
  - That's why a different notion and understanding of management has to evolve.
- Types and notions of management
- “Planning and implementing” versus “Leveraging, facilitating and empowerment”

## Managing psychological boundaries

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"Indeed, once traditional boundaries of hierarchy, function, and geography disappear, a new set of boundaries becomes important. These new boundaries are more psychological than organizational. ... And instead of being reflected in a company's structure, they must be 'enacted' over and over again in a manager's relationships with bosses, subordinates, and peers." 105

Source: Hirschhorn, Larry; Gilmore, Thomas: The New Boundaries of the 'Boundaryless' Company, in: HBR, May-June 1992, 104-115

## Types of organizational boundaries (1/2)

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- **"The Authority Boundary.**  
In the new organization, subordinates must challenge in order to follow - while superiors must listen in order to lead." 107
- **"The Task Boundary.**  
... When task relationships with coworkers go well, people feel proud of their work, comfortable about their dependence on others, and confident that they have the resources and the skills necessary to get the job done. But when a work group has problems defining the task, dividing up responsibilities, and apportioning resources, individual members begin to feel incompetent, unable to accomplish their work, and sometimes even ashamed of the job they've done." 108

## Types of organizational boundaries (2/2)

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- **"The Political Boundary.**  
At the political boundary, people face the challenge of defending their **interests** without undermining the effectiveness and coherence of the organization as a whole. They must try to distinguish between 'win-win' and 'win-lose' strategies." 109
- **"The Identity Boundary.**  
... Unlike the political boundary, which is about interests, the identity boundary is about **values**. ... Identity relationships are important because they tend to be extremely energizing and motivating. ... creating and supporting a sense of élan or team spirit - 'we are the best group' - without devaluing the potential contribution of other groups is the real challenge of work at the identity boundary.  
... In any work experience, they [the four boundaries] interact dynamically" 109

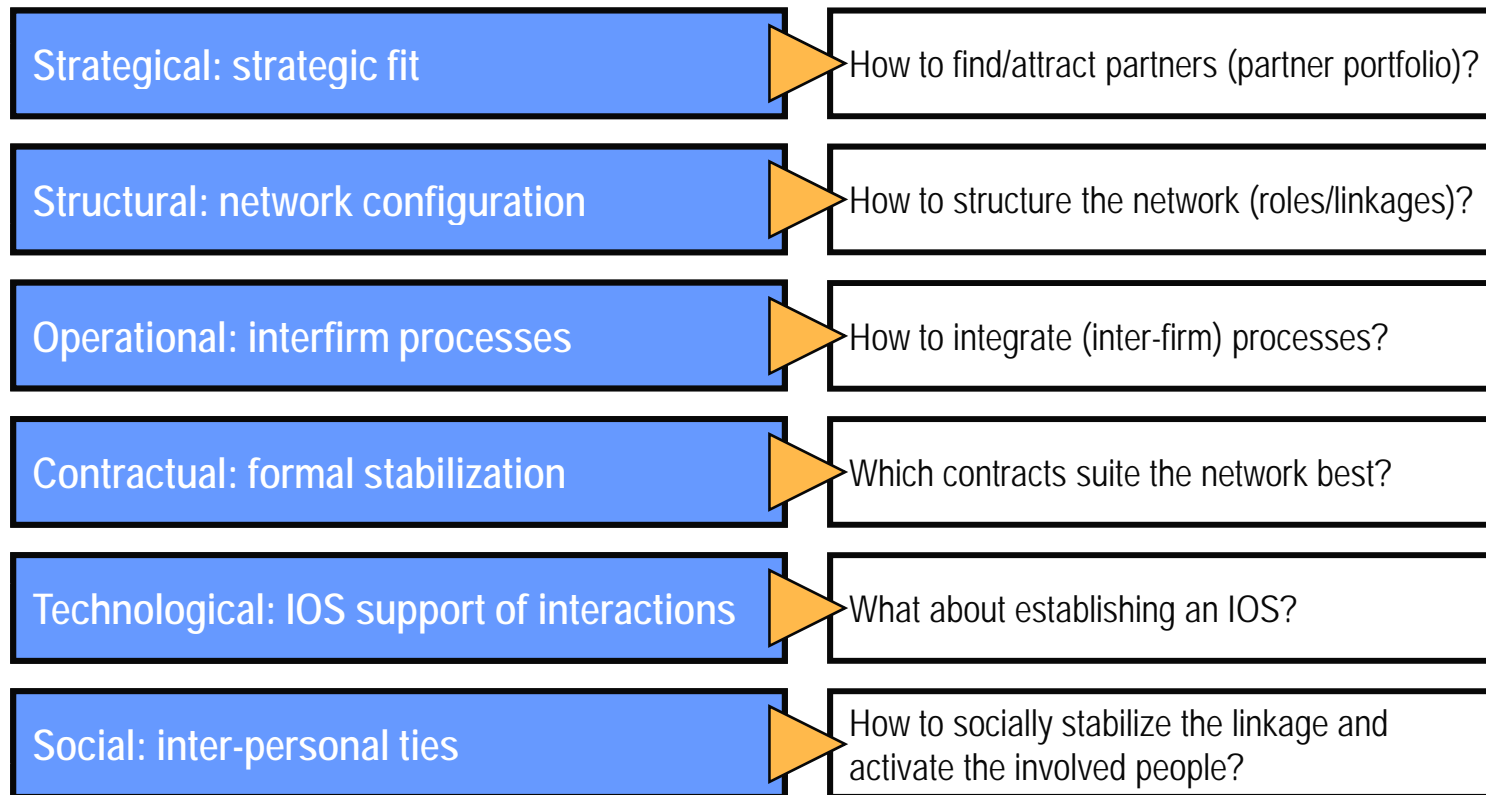
## Networks/partnerships are multilayer arrangements: an institutional perspective

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Industries as networks	Firms are embedded in several industrial and social networks, which they leverage for action, on which they depend and by which they are influenced.
Business network	Firms collaboratively set up business networks for several purposes (efficiency, achieve virtual size, enter markets, etc.).
Relationship portfolio	The collection of all relationships a firm holds can be called the relationship portfolio. This portfolio and the immanent interdependencies have to be managed strategically.
Relationship	The institutional (formal and informal) design of the relationship sets the scene for the actual interactions between members of the parties involved.
Interaction	Interactions are the episodes, which occur in an inter-firm relationship. They involve exchanges as well as collaborative efforts like meetings, chats, etc.
Organization	Different organizations have different collaboration needs and set-up different types of relationships (industry, size, culture specific etc.).
Individual	The individuals within the organizations are the actual actors with relationships between firms. They may depend on the success of an external relationship.

# Networks/partnerships are multilayer arrangements: a management perspective

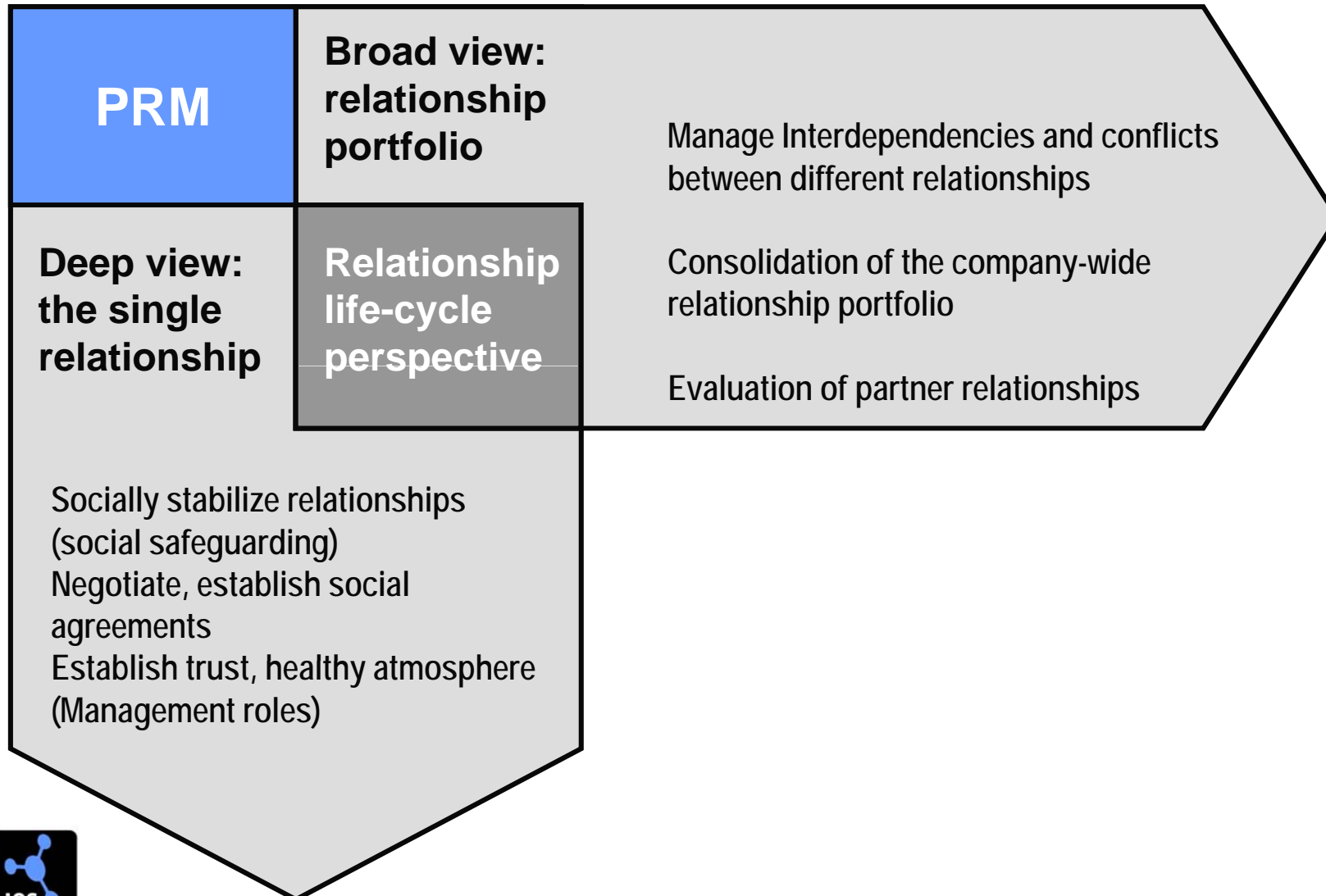
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➔ Implications for the strategic management of the firm and the single manager involved in managing the relationships.

# Partner Relationship Management: managing inter-firm relationships

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## What is PRM?

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Partner Relationship Management can be generally defined as...

- the set of all measures concerned with the planning, execution and controlling of the initialization, stabilization, improvement and re-establishment of all business relationships with partner companies (suppliers, business clients, competitors and other related companies) with the aim of increasing (mutual) benefits; and
  - **Portfolio view.**
- the measures for managing a single relationship aiming at achieving the intended collaboration objectives.
  - **Relationship view.**

## Managing relationships

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"Relationships between companies begin, grow, and develop - or fail - much like relationships between people. ... Indeed, successful company relationships nearly always depend on the creation and maintenance of a comfortable personal relationship between the senior executives. ... Strategic and financial analyses contribute a level of confidence, but, like all new business ventures, collaborative relationships draw energy largely from the optimistic ambition of their creators. ... The risk of missing a rare opportunity also motivates company leaders to enter into relationships with open-ended possibilities beyond just clear financial payoffs."

Moss Kanter, 99

## Collaborative Advantage - The Art of Alliance

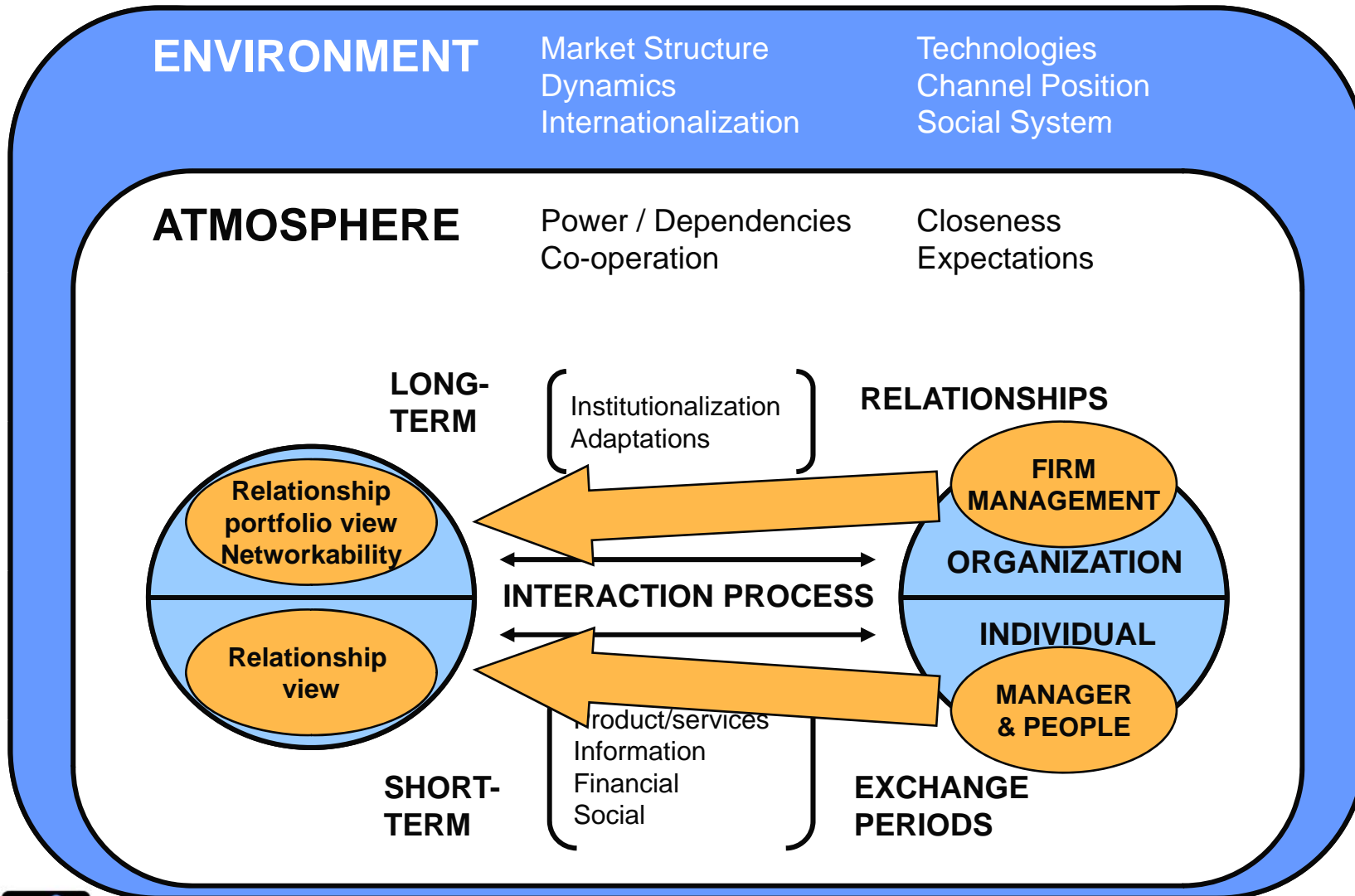
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"Whatever the duration and objectives of business alliances, being a good partner has become a key corporate asset. I call it a company's collaborative advantage. In the global economy, a well-developed ability to create and sustain fruitful collaborations gives companies a significant leg up.

Yet, too often, top executives devote more time to screening potential partners in financial terms than to managing the partnership in human terms." 96

Quelle: Moss Kanter, Rosabeth (1994): Collaborative Advantage - The Art of Alliance, in: HBR, July-August 1994, 96-108.

# Perspectives of PRM: Relationship Portfolio vs. Single Relationships

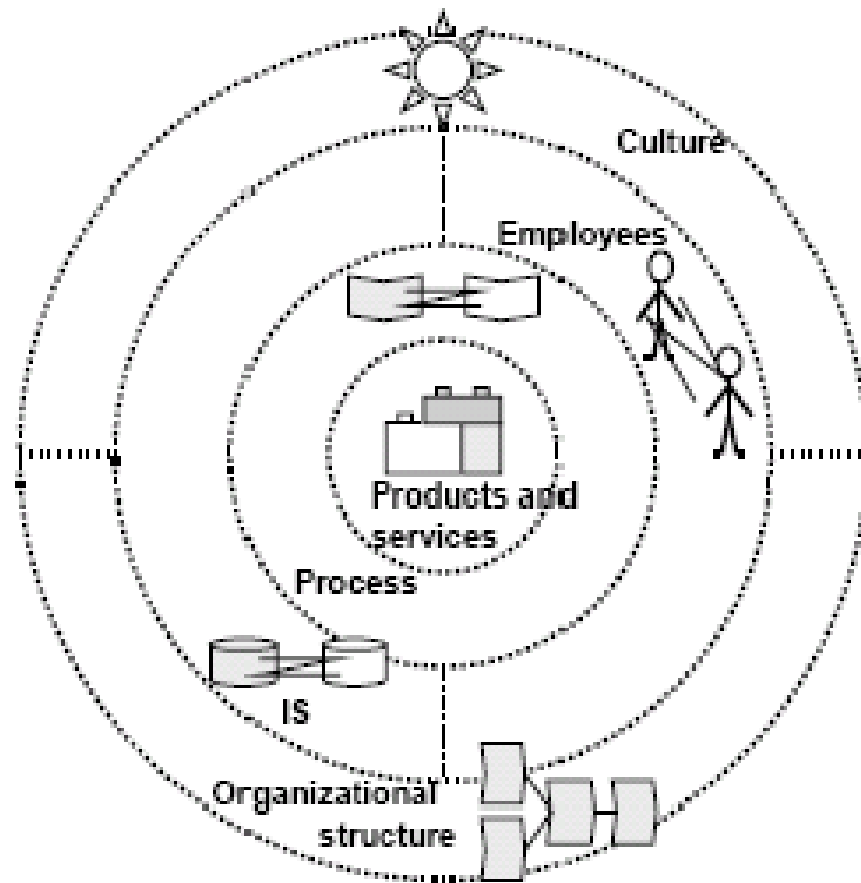


## 4 Networkability

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- Identifying collaborative capabilities
- Building collaborative reputation
- Dimensions and areas of networkability

# Design objects of networkability



Source: Alt/ Fleisch/ Werle: **The Concept of Networkability - How to Make Companies Competitive in Business Networks**, ECIS 2000

## Networkability

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- *Products and services.* Networkable products and services can be altered quickly and inexpensively for specific partners or be integrated in other products. This includes the personalization of services, such as mySAP.com, and configurability regarding the information needed (e.g. status information, use of partners' article numbers).
- *Process.* Networkable processes can quickly and inexpensively establish and conduct a relationship of coordination with corresponding processes. Automatic requests for various catalogs or automatic orders when stock levels fall below an agreed safety level are examples of this.
- *Information systems.* Networkable information systems (IS) can be linked up to other IS quickly and inexpensively and support communication on the system level. This especially applies to setting up an EDI link with a business partner.

## Networkability (cntd.)

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- *Employees.* Networkable employees are the essence of personal networks. They are oriented to the customer, understand the relevance of win-win situations and are also assessed according to the way in which they maintain and look after relationships between partners.
- *Organizational structure.* Networkable organizations can be adapted quickly and inexpensively to new market requirements. Examples of this are the rapid creation of temporary inter-company teams, the relocation of business processes or the joint execution of processes (formation of so-called shared services).
- *Culture.* Networkable company cultures promote cooperation by being open to change and by basing cooperation between business partners on a relationship of trust instead of mutual checks (on costs).

Source: Alt/ Fleisch/ Werle: **The Concept of Networkability - How to Make Companies Competitive in Business Networks**, ECIS 2000

# 5 Social Capital and the Virtual Enterprise

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## Outline

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- Network promises reconsidered
- Possible remedies
- The contribution of social capital theory
- Empirical evidence
- Conclusions

## Network promises – “utopias“

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- The prototypical organisational form for eBusiness are networks (the networked economy)
- Networks (partnerships, alliances, virtual organisations) as **“all star teams“**:
  - highly flexible
  - fluid
  - communication rich
  - focusedorganisational arrangements.

## Part of the political agenda/ rhetoric

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### Les PME sont en danger si...

SMEs are in danger if

- Pas d'appropriation des usages du numérique
- No appropriation of IT uses
- Pas de développement en réseau
- No networking
- Pas d'intégration de la dimension internationale
- No international vision

## ... and the harsh reality

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- Surprising failures
- Limited understanding

### **But also: obvious omissions**

- We know that networks are
  - precarious arrangements,
  - underorganised (formally and informally),
  - difficult to manage.

## Inconsistencies between requirements ... and abilities to deliver

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Task structure:  
ill-structured, knowledge intensive

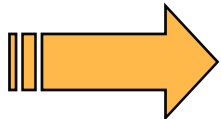
Organisational setting: flexible, fluid

Mode of communication: virtual

Competence profile: all star

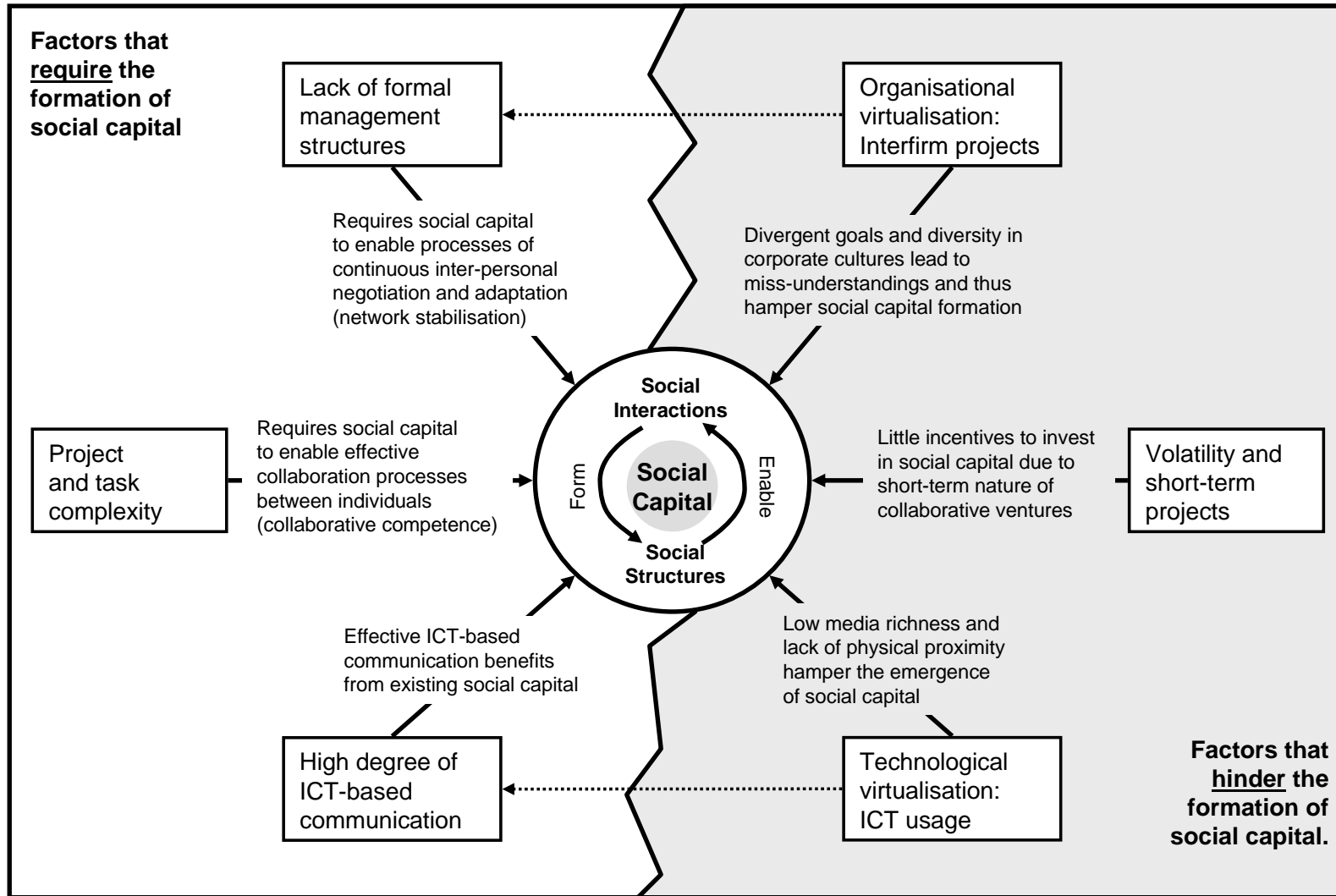
Voids, gaps

- Stabilizing mechanisms
- Joint experience
- Shared routines
- Ability to share knowledge
- Incentives and non-contractible issues



this is not a solid model.

# Inherent contradictions in the V-form concept



## Possible remedies

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- Expanding the conceptual framework
- Defining more clearly the contingencies and preconditions

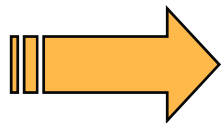
## Remedy 1: Expanding the conceptual framework

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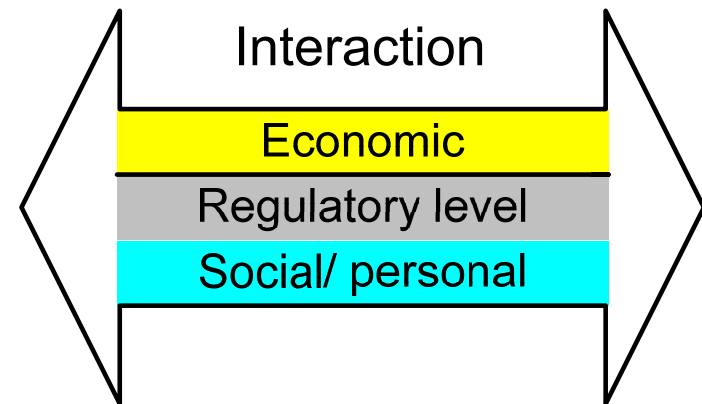
Combining

- economic
- strategic and
- **social perspectives.**

(Lee et al. 2003) referring to outsourcing



**Social capital theory**

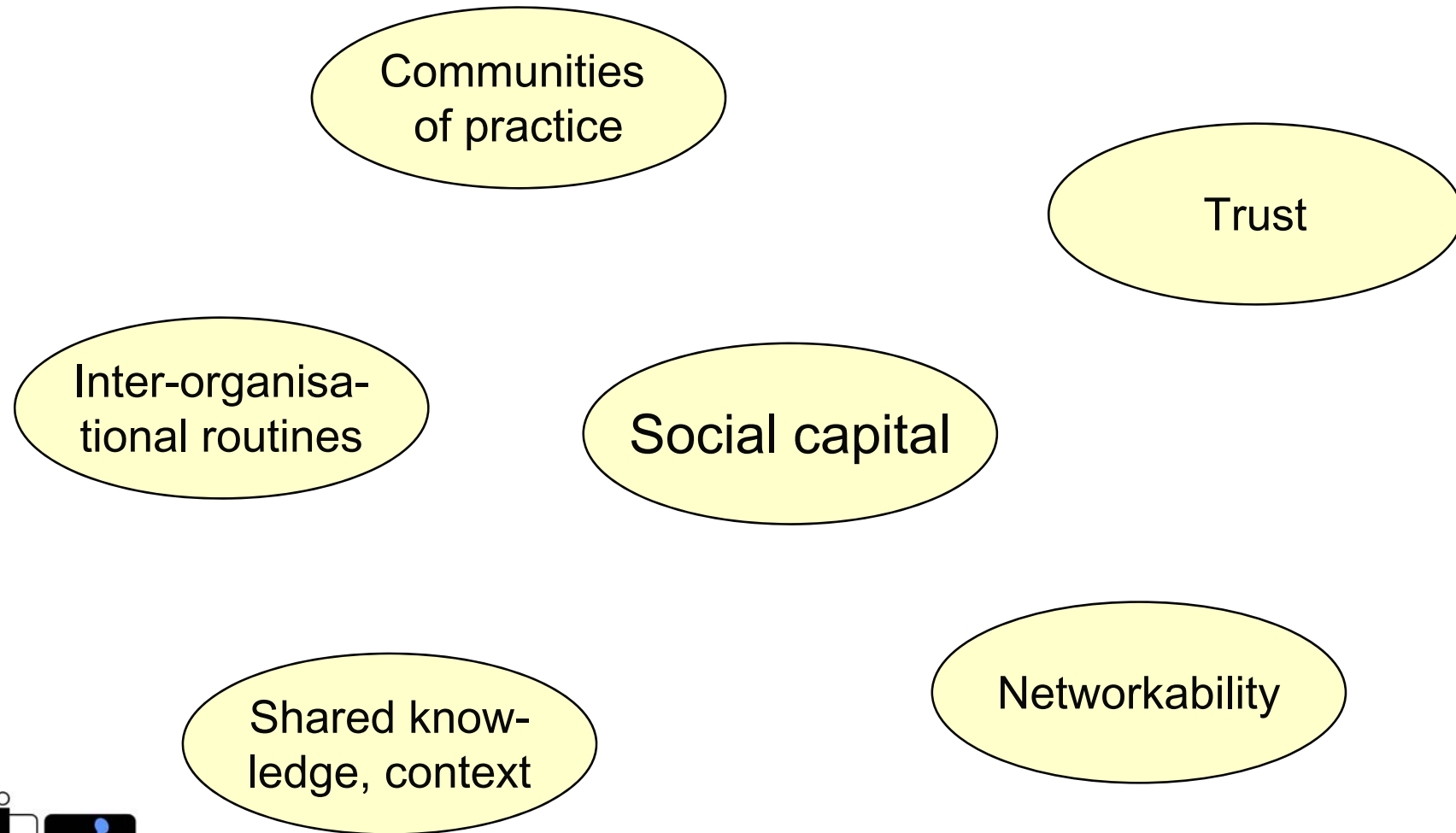


## Social capital definitions

Perspective	Definition	Authors
<b>External (Individual-level)</b>	“the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition”	Bourdieu (1985)
	“the ability of actors to secure benefits by virtue of membership in social networks or other social structures.”	Portes (1998)
	“the process by which social actors create and mobilize their network connections within and between organisations to gain access to other social actors’ resources.”	Knoke (1999)
<b>Internal (Group-level)</b>	“the ability of people to work together for common purpose in groups and organisations.”	Fukuyama (1995)
	“features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.”	Putnam (1995)
<b>Both internal and external</b>	“the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network.”	Nahapiet, Goshal (1998)

## Related concepts

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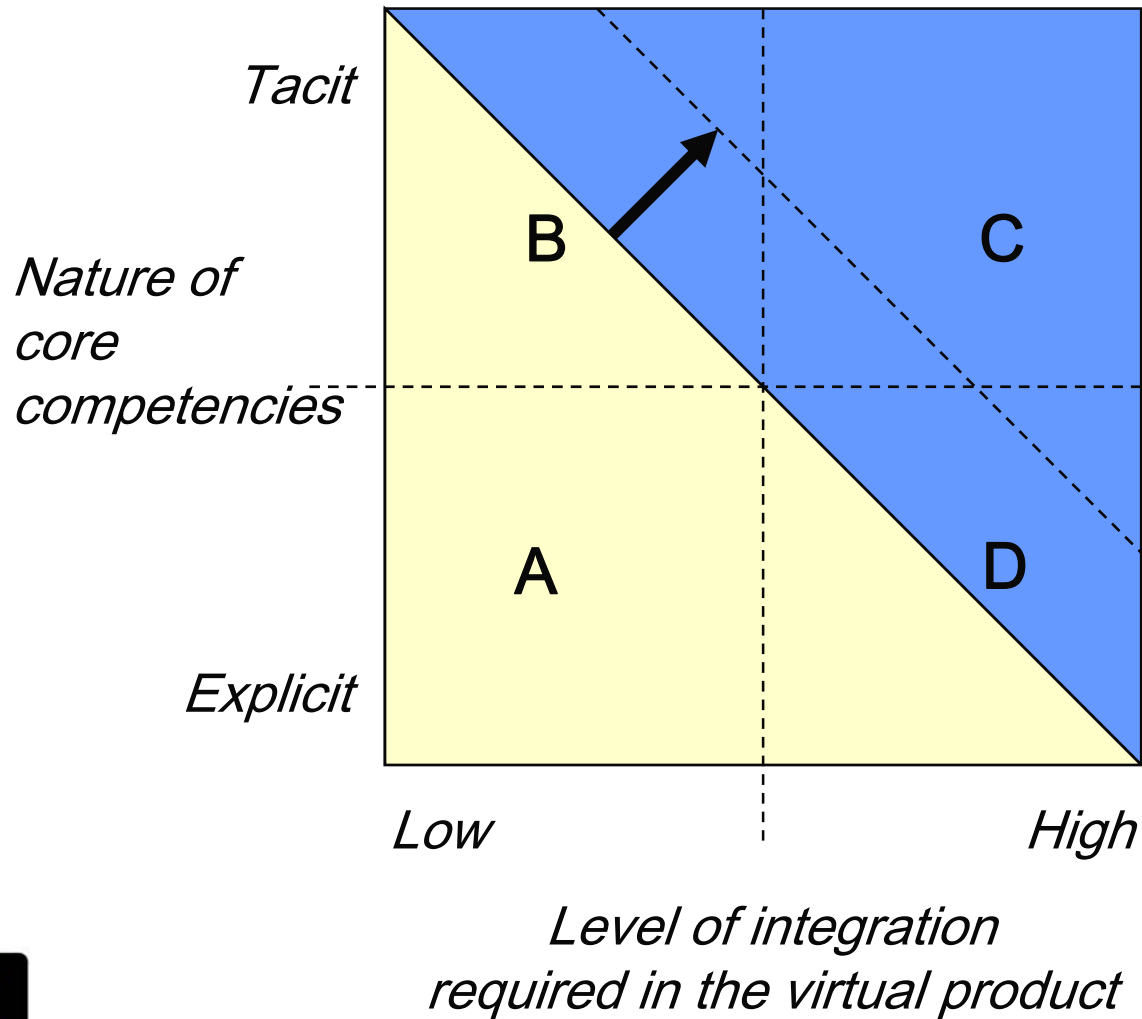


## Social capital: perspectives and outcomes

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	<b>Structural</b>	<b>Relational</b>	<b>Cognitive</b>	<b>Outcome</b>
<b>Individual-level</b>	Number of ties with other individuals Network position	Relational trust Reciprocal obligations	Socially shared cognition Common ground	Access to resources Allocative efficiency
<b>Group-level</b>	Network density (group closure) Network configuration	Norms Group trust Bounded solidarity	Socially shared cognition Common ground	Facilitates social action Adaptive efficiency
<b>Outcome</b>	Opportunity	Motivation	Ability	Social Capital benefits

## Remedy 2: Contingencies



Source: Introna (2001): The (Im)Possibility of the Virtual Organisation

## Evidence: qualitative research

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- IGH
  - Industry solution in a segment of the Swiss construction industry
  - National culture of consensus building
  - Promoters established social capital
  - Limited integration, transaction focus, clear economic value proposition
- Click2Procure:
  - SIEMENS procurement platform
  - Established social capital among the procurement specialists (facilitated by industry associations BME)
  - Limited integration, transaction focus (bundling demand)

## Evidence: qualitative research

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- Opel CH – Car4you
  - Content syndication
  - Low key technical integration
  - Social capital among the key players on either side, facilitated by a consultant (namics)
  - Hands-on problem solving and escalation mechanisms relied on personal relationship

## Conclusions

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- A better grounded, more differentiated, contextualized understanding of networks (and eBiz) beyond utopian and dystopian views.
- There is huge potential in the “swollen middle”: hybrid arrangements, arrangements among “not world class” players.
- Social capital theory as part of a more comprehensive model can provide us with enhanced intellectual tools to understand the dialectics of change and