

**SESSÃO 6
EMPRESAS
MULTINACIONAIS,
SISTEMAS NACIONAIS
DE INOVAÇÃO E
ESTRATÉGIAS
TECNOLÓGICAS**

TEORIAS DO INVESTIMENTO INTERNACIONAL

TEORIAS DO INVESTIMENTO INTERNACIONAL

- ❖ **Imperfeições do Mercado:**
Hymer-Kindleberger
- ❖ **Ciclo de Vida do Produto:**
R. Vernon
- ❖ **Reacção Oligopolística:**
F. Knickerbocker
- ❖ **Teoria Japonesa:**
K. Kojima
- ❖ **Internalização:**
P. Buckley & M. Casson
- ❖ **Paradigma Eclético:**
J. Dunning
- ❖ **Perspectiva Evolucionista:**
J. Cantwell; B. Kogut & U. Zander

CICLO DE VIDA (Vermon)

Hipóteses de Base

- 1) Alteração temporal das condições de produção e comercialização dos produtos
- 2) Conhecimento tecnológico limitado fora das fronteiras nacionais
- 3) Existência de economias de escala
- 4) Os gostos variam com o rendimento e os produtos podem ser estandardizados e vários níveis de rendimento

3 fases no ciclo

- 1) Produto Novo
- 2) Produto em Desenvolvimento
- 3) Produto Estandarizado

TEORIA DA INTERNALIZAÇÃO (Buckley & Casson)

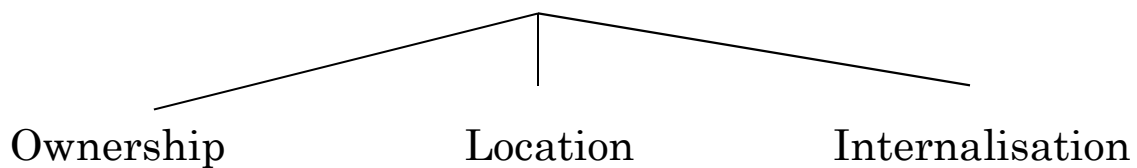
Vantagens

- Controle e planejamento da produção e comercialização
- Exploração do poder de mercado pela prática de preços discriminatórios
- Evitar situações de monopólio bilateral
- Evitar os problemas da transferência de conhecimentos
- Evitar a intervenção governamental

→ A Informação como bem Intermédio

PARADIGMA ECLÉCTICO (J. Dunning)

Paradigma O.L.I.



3 Condições para Investir no Exterior

1. A empresa dispõe de **Vantagens Específicas**
2. É preferível explorar tais vantagens por si própria que transmiti-las a outros (**Internalização**)
3. A exploração é mais vantajosa fora do país de origem. O país de destino deverá ter **Vantagens de Localização**

**EVOLUÇÃO DA
CONCEPTUALIZAÇÃO
DA EMPRESA
MULTINACIONAL**

EVOLUÇÃO DA CONCEPTUALIZAÇÃO DA EMPRESA MULTINACIONAL (EMN)

- **Perspectiva Tradicional:**
A Empresa Hierárquica

- **Perspectiva Actual:**
A EMN como Rede de Unidades
Dispersas Geograficamente

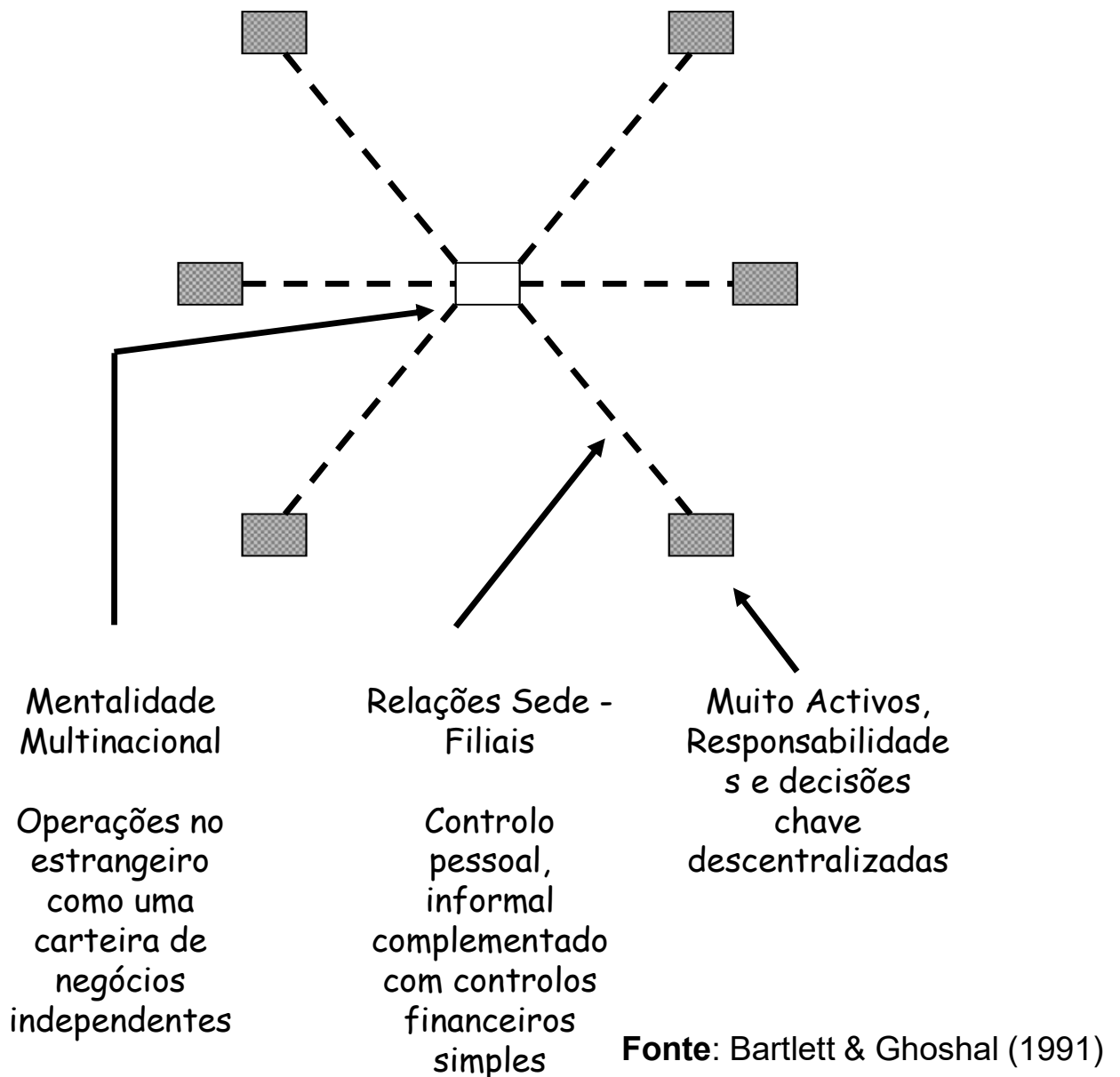
A CONTRIBUIÇÃO DE BARTLETT & GHOSHAL

- ❖ Imperativos de Gestão
 - ❖ Flexibilidade/Adaptação Local
 - ❖ Eficiência
 - ❖ Aprendizagem à Escala Mundial

- ❖ Tipos de Organização
 - ❖ Multinacional
 - ❖ Internacional
 - ❖ Global
 - A Transnacional como Solução

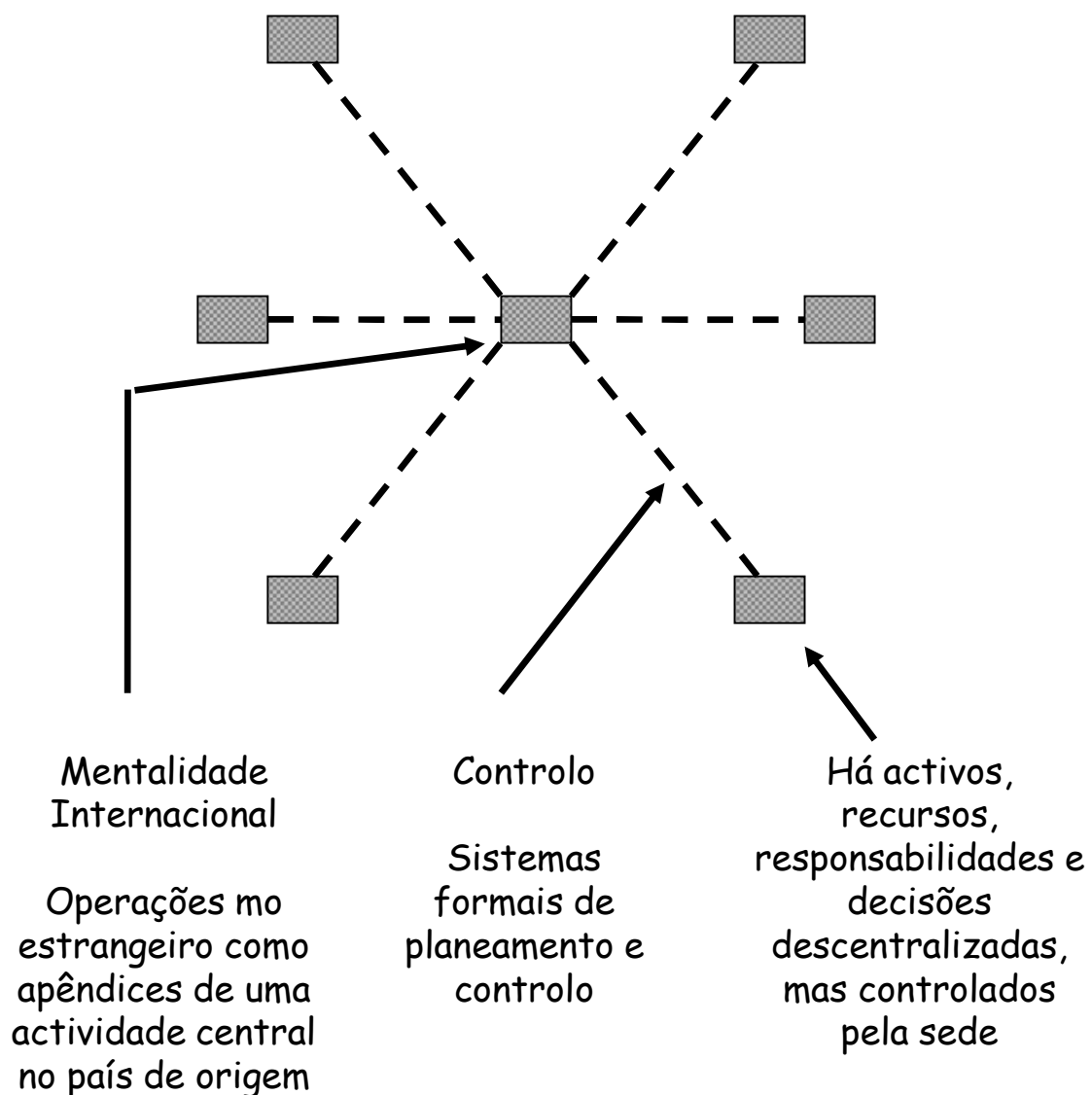
MODELO DE ORGANIZAÇÃO MULTINACIONAL

FEDERAÇÃO DESCENTRALIZADA



MODELO DE ORGANIZAÇÃO INTERNACIONAL

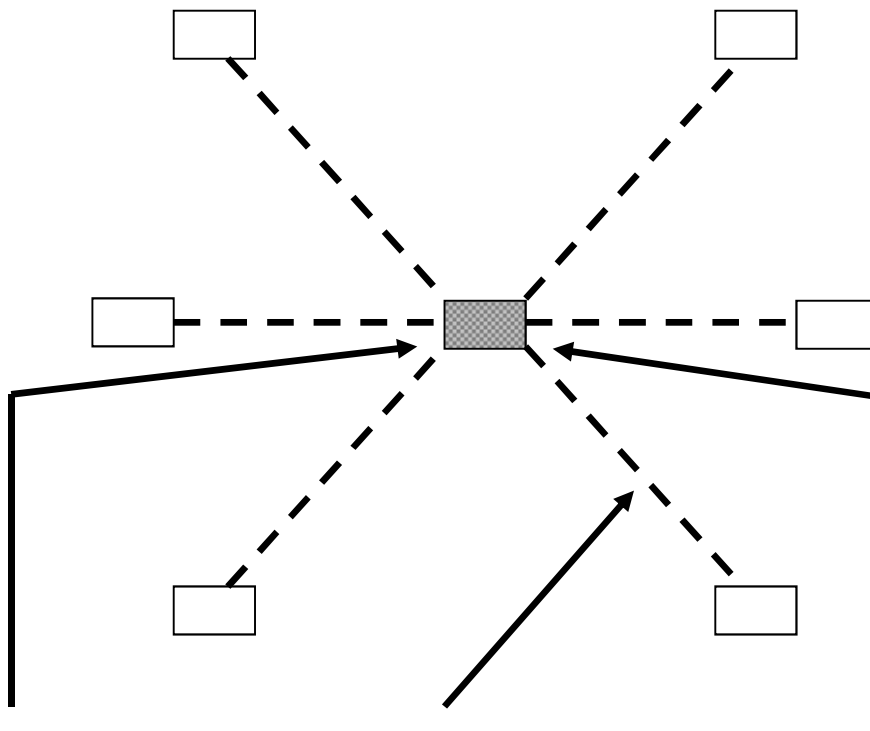
FEDERAÇÃO COORDENADA



Fonte: Bartlett & Ghoshal (1991)

MODELO DE ORGANIZAÇÃO GLOBAL

“CENTRO DA RODA”



Mentalidade
Global

Operações no
estrangeiro
encaradas como
canais de
distribuição
para um
mercado global
unificado

Controlo
Operacional

Forte controlo
central das
decisões,
recursos e
informação

A maioria dos
activos, recursos
responsabilidades
e decisões
estratégicas está
centralizada

Fonte: Bartlett & Ghoshal (1991)

HOW FIRMS ENVISAGE INTERNATIONAL BUSINESS: MANAGEMENT MENTALITIES

❖ **International**

- Domestic market as the core
- Foreign Businesses (and affiliates) as appendages

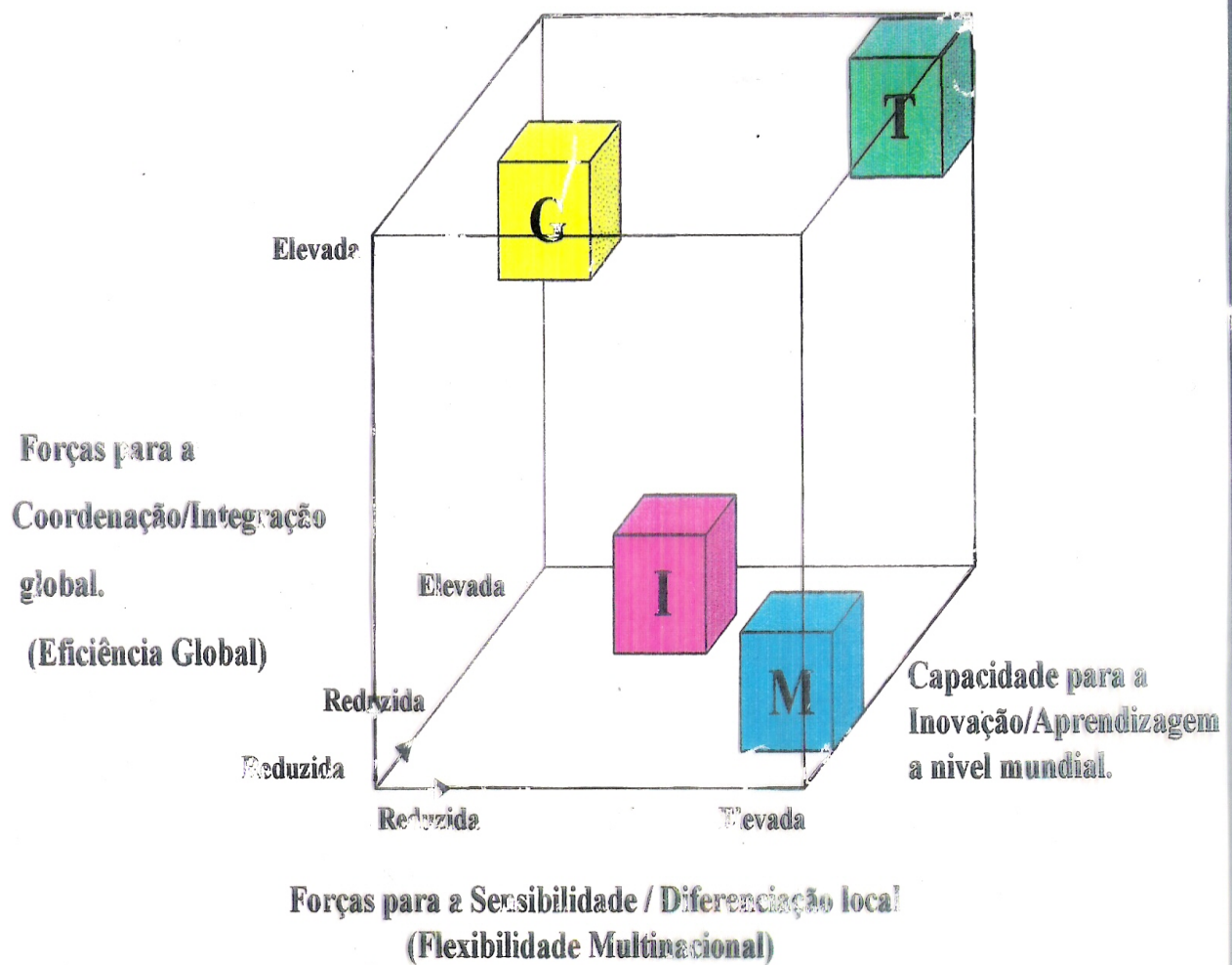
❖ **Multinational**

- Awareness of differences between domestic and international environments
- Adaptation to local requirements: responsive marketing

❖ **Global**

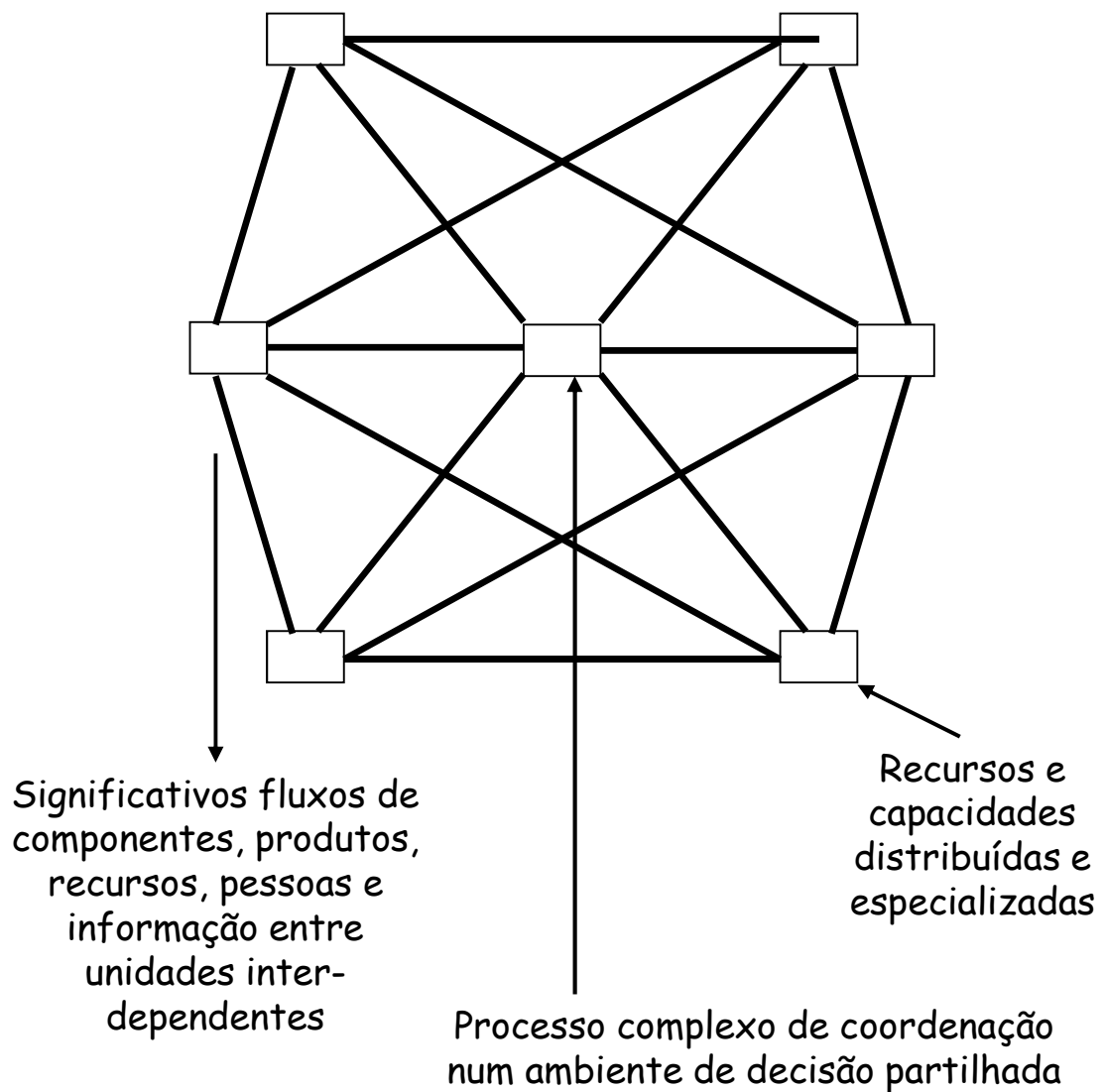
- The World as the unit of analysis
- Product standardization promoting /exploiting similar “ways of life”
- “The same thing, the same way, everywhere”

O Cubo da Tipologia de Estratégias



Fonte: Elaboração conjunta de Jorge Silva Miranda e Vitor Corade Simões, com base em Bartlett e Ghoshal (1989)

A “Rede Integrada”



Fonte: Bartlett & Ghoshal (1991)

TRANSNATIONAL PROCESSES

- 1. From Symmetry to Differentiation:**
Integrating and Exploiting capabilities, knowledge bases and linkages
- 2. From Dependence or Independence to Interdependence:**
 - Dispersed and specialized configuration of resources: the integrated network
 - Inter-unit integration mechanisms to promote synergies

Movement of personnel as a tool for promoting inter-dependence
- 3. From Unidimensional Control to Differentiated Coordination:**
Recourse to different mechanisms to coordinate flows of goods, resources and information
- 4. Linking National Competences to achieve Worldwide Learning and Competitiveness**

**A GESTÃO DA
INOVAÇÃO À ESCALA
MUNDIAL:
NOVAS DINÂMICAS**

THE CORE QUESTIONS

1. Fostering **Intra-Firm Cross-Border** communication of specific knowledge
2. Promoting external communication to absorb other's knowledge while preventing the "leakage" of firm's specific knowledge
3. How to avoid knowledge accumulation paths leading to "Deadlocks"

THE MNE AS A REPOSITORY OF KNOWLEDGE

- 1) Existence of Specific Advantages (knowledge or knowledge-based rights)
- 2) International Exploitation (across borders, within firm's boundaries)

R&D EXPENDITURES OF FOREIGN AFFILIATES AS A % OF TOTAL R&D EXPENDITURES

Canada	34.2
Finland (1999)	14.9
France	16.4
Japan	1.7
Netherlands	21.8
Spain (1999)	32.8
UK (1999)	31.2
US	14.9
Czech Republic (1999)	6.4
Hungary	78.5
India (1994)	1.6
Turkey	10.1

Fonte: R. Narula (2005), *The Globalisation of Innovation*,
http://www.unctad.org/sections/meetings/docs/narula_en.pdf

Main forms of internationalisation of industrial R&D

Establishment of R&D activities in the host country by foreign-controlled affiliates (inward investment)

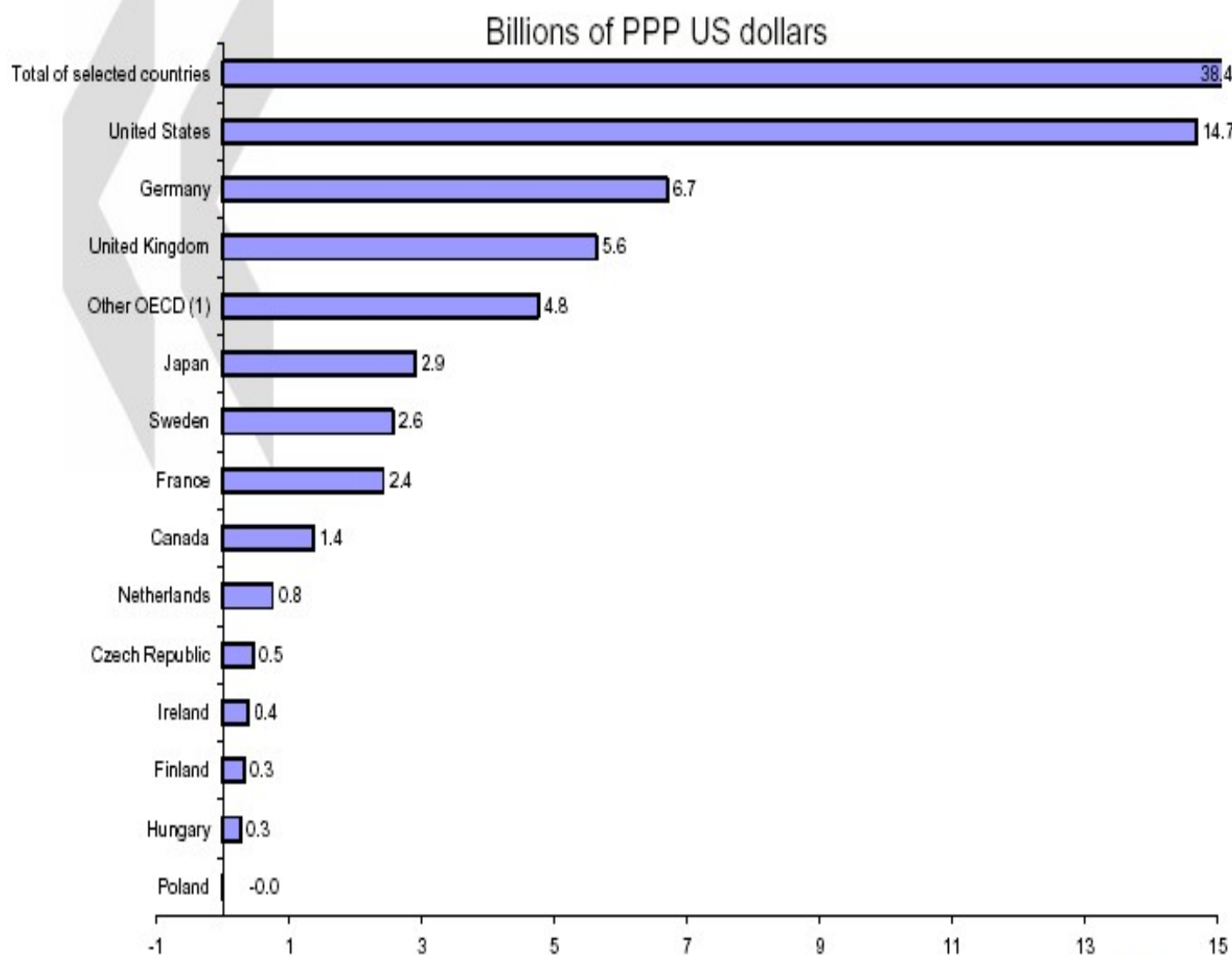
Setting up R&D laboratories abroad by investing countries (outward investment)

Creation of joint ventures

Co-operation agreements or technological alliances

International R&D subcontracting

Growth in R&D expenditure by affiliates under foreign control between 1995 and 2003

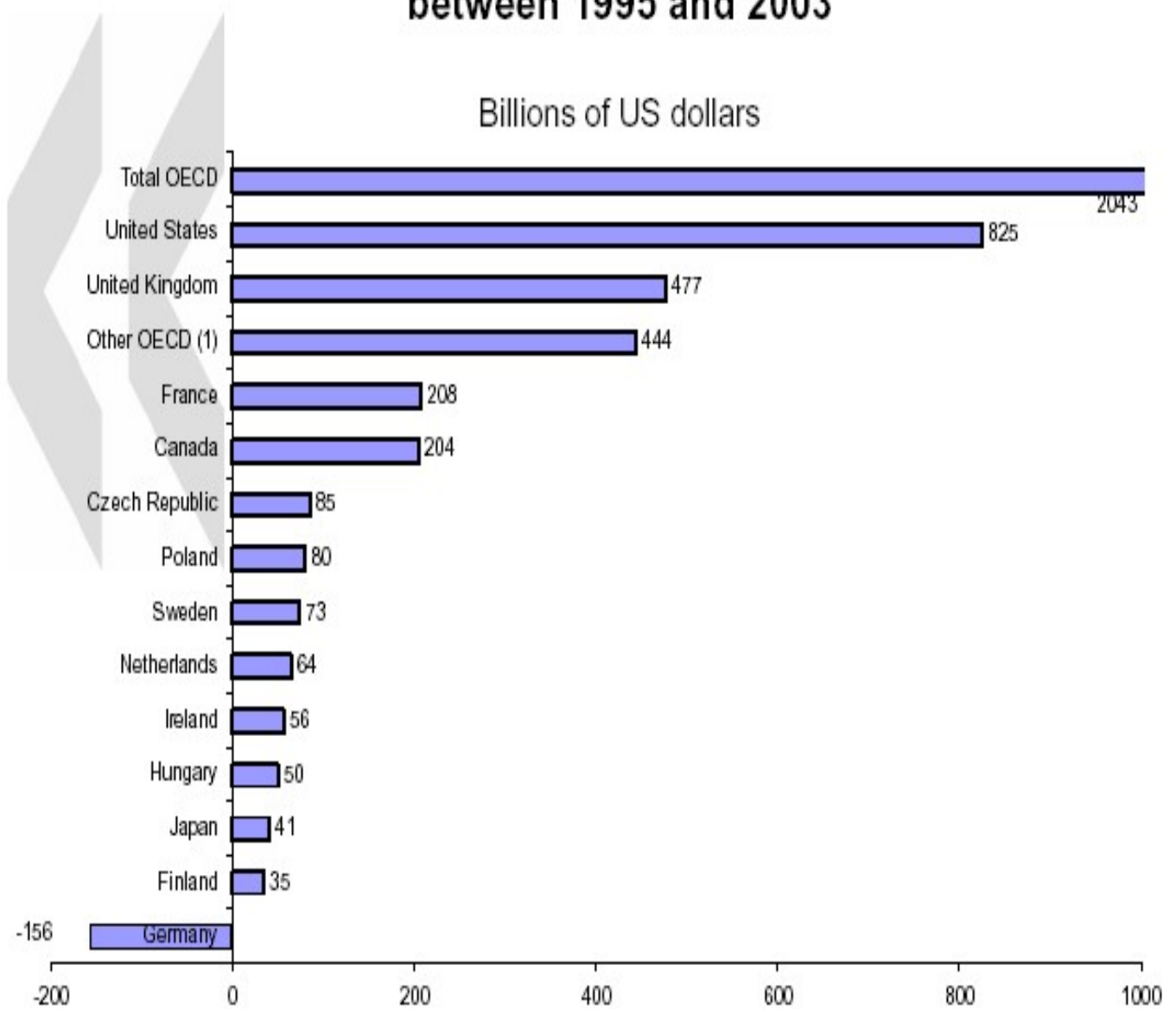


1. Consists of the Czech Republic, Finland, Hungary, Ireland, Poland, the Netherlands and Sweden.

Source: OECD, AFA database, June 2006.

Fonte: Thomas Hatzichronoglou (2006), *Recent Trends in the internationalisation of R&D in the enterprise sector*, OCDE

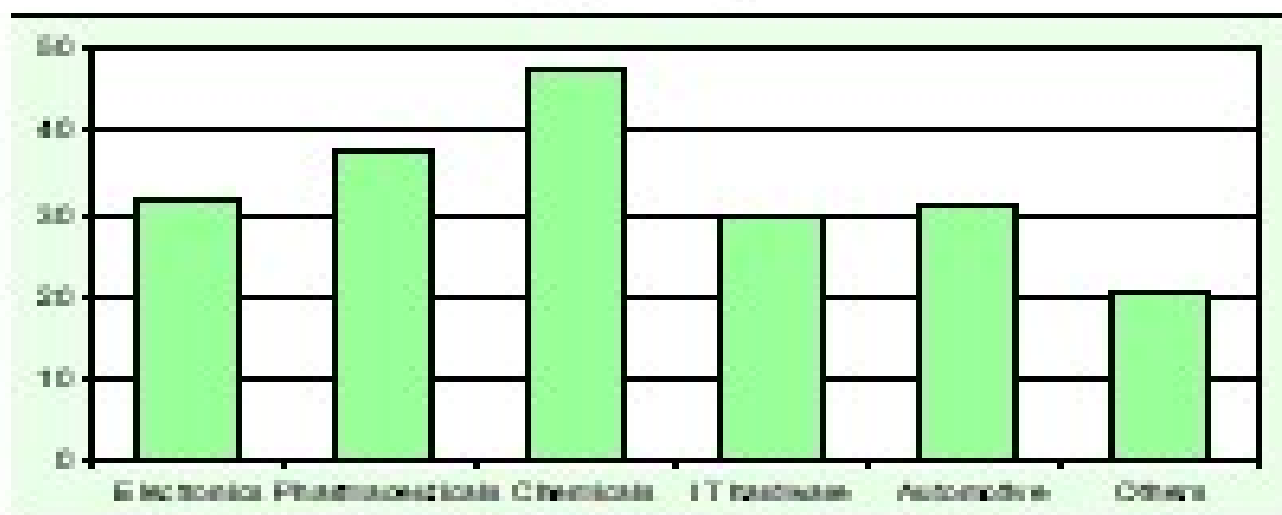
Growth in turnover of affiliates under foreign control between 1995 and 2003



1. Consists of the Czech Republic, Finland, Hungary, Ireland, Poland, the Netherlands and Sweden
Source: OECD, AFA database, June 2006.

Fonte: Thomas Hatzichronoglou (2006), *Recent Trends in the internationalisation of R&D in the enterprise sector*, OCDE

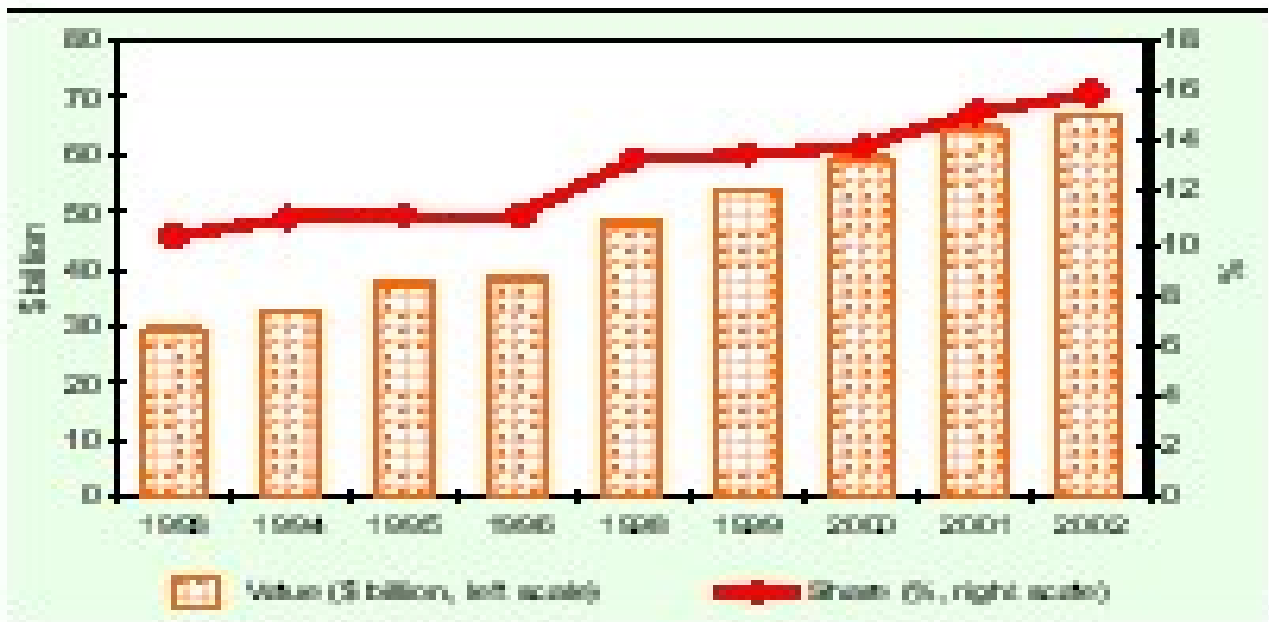
**Figure IV.4. Degree of R&D internationalization
by industry, 2004-2005
(Per cent)**



Source: UNCTAD survey

Fonte: UNCTAD, WIR (2005)

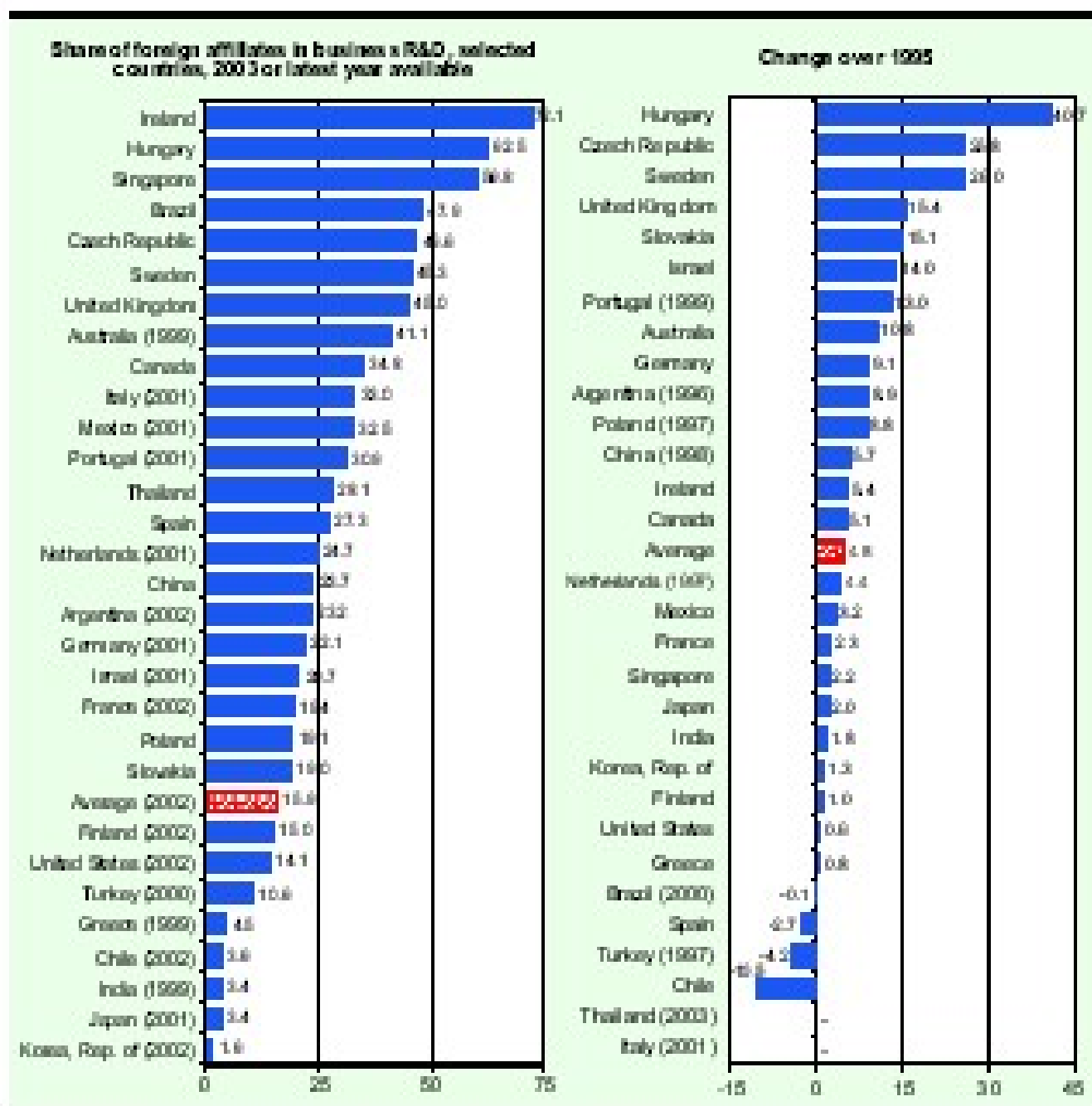
Figure IV.5. R&D expenditure by foreign affiliates, based on a sample of 30 economies, value and share in business R&D, 1993-2002
 (Billions of dollars and per cent)



Source: UNCTAD, based on annex table A.IV.1.

Fonte: UNCTAD, WIR (2005)

Figure IV.6. Trends in R&D spending by foreign affiliates, selected economies, 1995-2003
(Per cent)



Source: UNCTAD's calculations, based on national sources and data provided from the OECD AFA database.

Note: In Argentina, Chile, Israel, the Republic of Korea and Mexico, the R&D expenditure of United States-owned affiliates has been used as a proxy for the R&D spending of all foreign affiliates. In India, the share of foreign affiliates in total R&D spending has been used as a proxy for their share in business R&D spending.

Fonte: UNCTAD, WIR (2005)

Table IV.6. R&D expenditure abroad by majority-owned foreign affiliates of United States parent companies, by selected region/country, 1994–2002
(Millions of dollars)

Region/country	Year										Share of total (%)	
	1994	1995	1996	1997	1998	1999	2000	2001	2002 ^a	1994	2002	
Total	11 877	12 582	14 039	14 597	14 664	18 144	20 457	19 702	21 151	100.0	100.0	
Developed economies	18 995	11 891	12 152	13 518	13 545	16 713	17 391	16 730	17 844	92.4	84.4	
of which:												
Canada	636	1 868	1 563	1 873	1 350	1 681	2 332	2 131	2 345	7.8	11.1	
EU ^c	8 271	8 852	9 386	9 691	10 058	11 900	12 472	11 538	^b	63.6	58.8	
Switzerland	191	242	190	238	223	231	286	332	405	1.6	1.9	
Israel	96	93	169	288	141	389	638	326	889	0.8	4.2	
Japan	1 138	1 285	1 333	1 889	962	1 523	1 638	1 503	1 433	9.5	6.8	
Australia	238	263	409	369	290	294	349	286	329	1.9	1.6	
New Zealand	3	9	16	18	15	9	8	10	6	0.1	-	
Developing economies	902	691	886	1 082	1 119	2 021	2 627	2 982	2 865	7.6	13.5	
Developing Asia	488	282	318	382	328	1 400	1 949	2 391	2 113	3.4	10.8	
of which:												
China	3	13	25	35	52	319	586	^b	646	0.1	3.1	
Hong Kong, China	51	55	38	82	66	214	^b	289	^b	0.4	^b	
India	5	5	9	22	23	20	^b	^b	80	-	0.4	
Indonesia	5	9	6	5	4	1	2	3	3	-	-	
Korea, Republic of	12	29	34	41	29	101	143	152	167	0.1	0.8	
Malaysia	22	21	23	32	30	167	218	^b	^b	0.2	^b	
Philippines	14	23	14	12	10	37	48	48	50	0.1	0.2	
Singapore	162	63	88	23	62	426	567	355	589	1.4	2.8	
Taiwan Province of China	118	61	75	84	95	122	143	129	70	0.9	0.5	
Thailand	3	5	5	5	4	7	13	18	22	-	0.1	
Latin America and the Caribbean	422	389	546	662	748	613	662	582	^b	4.8	12.8^e	
of which:												
Argentina	21	22	42	43	56	26	38	43	24	0.2	0.1	
Brazil	238	249	346	433	446	288	253	199	306	2.8	1.4	
Chile	2	15	6	2	6	4	11	8	6	-	-	
Colombia	8	9	9	12	11	6	18	11	10	0.1	0.1	
Costa Rica	2	2	2	4	6	2	^b	4	7	-	-	
Mexico	183	58	121	126	191	238	383	248	284	1.5	1.3	
Venezuela	12	25	9	11	14	40	22	24	42	0.1	0.2	
West Asia and North Africa	15	19	21	26	25	18	25	29	^b	0.1	^b	
Sub-Saharan Africa	15	19	21	26	25	18	25	29	^b	0.1	^b	
of which:												
South Africa	14	17	18	22	30	14	21	24	^b	0.1	0.1	
Economies in transition^d	3	18	95	48	79	54	82	38	68	-	0.3	

Source: UNCTAD, adapted from Moris 2005a, based on data from United States Department of Commerce, Bureau of Economic Analysis, *Survey of U.S. Direct Investment Abroad*, www.bea.gov/iba.

^a Estimates for 2002 are preliminary.

^b Withheld to avoid disclosing operations of individual companies. Note that due to unclassified data, shares do not add up to 100%.

^c EU covers 12 countries for 1994 and 15 countries thereafter.

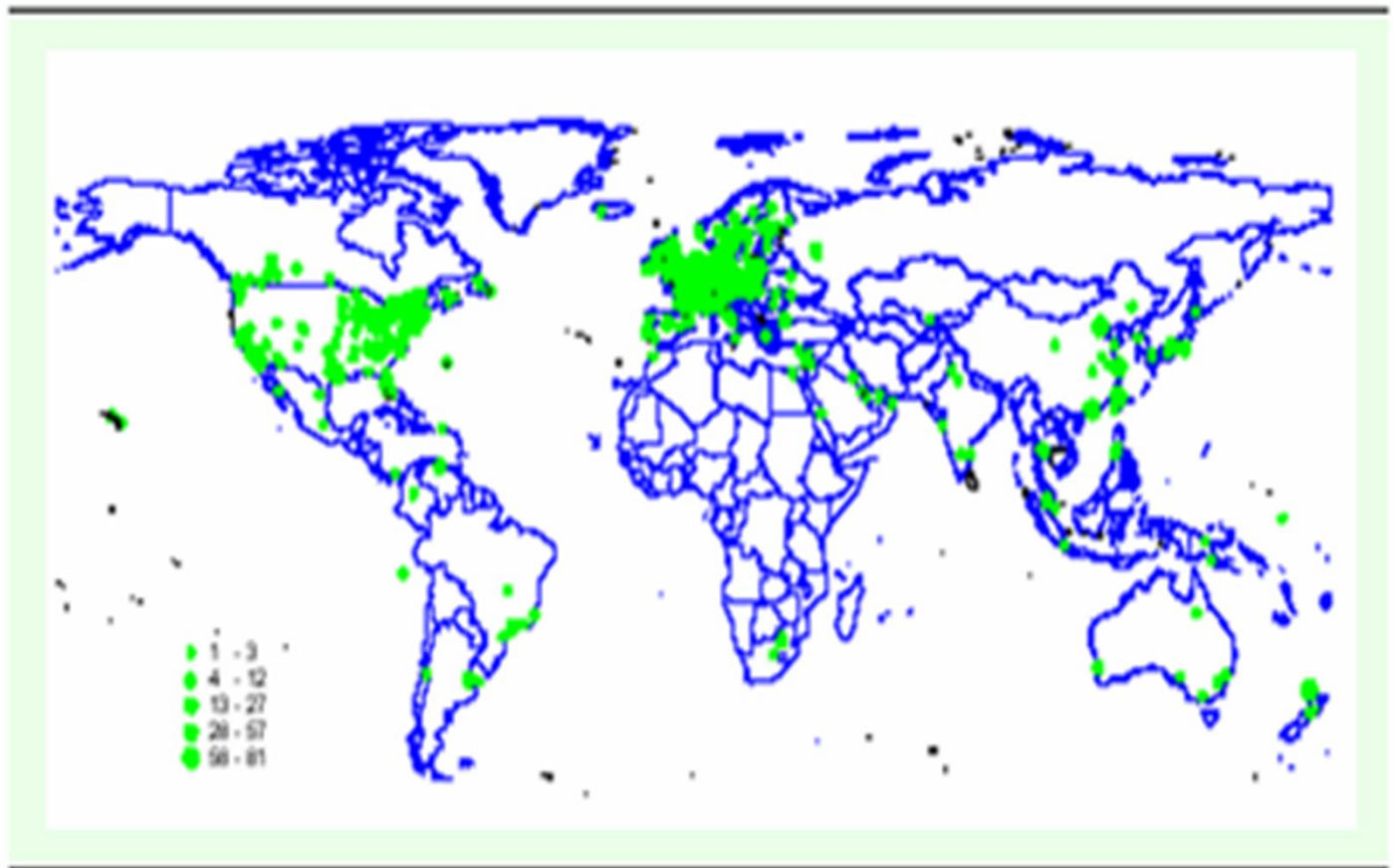
^d Including new EU members.

^e Based on data for countries listed below.

Note: Data are for majority-owned foreign affiliates of United States parent companies. Majority-owned affiliates are those in which the combined ownership of all United States parents is more than 50%.

Fonte: UNCTAD, WIR (2005)

Figure IV.7. Worldwide location of majority-owned foreign affiliates engaged in R&D, 2004



Source: UNCTAD, based on the Who Own Whom database (Dun & Bradstreet).
Note: On the basis of 2,603 majority-owned foreign affiliates engaged in R&D.

Fonte: UNCTAD, WIR (2005)

AS EMN E OS SNI

EMPRESAS MULTINACIONAIS E SISTEMAS NACIONAIS DE INOVAÇÃO

- ❖ Uma inter-relação cada vez mais intensa
- ❖ A concorrência internacional para atracção IDE intensivo em conhecimento...
...mas grande selectividade nas escolhas
- ❖ A actividade de I&D como algo de adquirido e não como dado (mas há excepções)
- ❖ A crescente importância do cruzamento de saberes e de bases de conhecimento (conjugando global e local)

EMPRESAS MULTINACIONAIS E SNI EM PAÍSES MENOS AVANÇADOS

- ❖ Qual o papel desempenhado pelas filiais de EMN?
 - ‘Abafando’ a dinâmica inovadora local?
(por aquisições, p. ex^o.) ou
 - Filiais como tutoras e mobilizadoras de redes?
- ❖ A internacionalização das ligações locais: papel das filiais na internacionalização das empresas nacionais
- ❖ Relacionamento e exigência de novos patamares

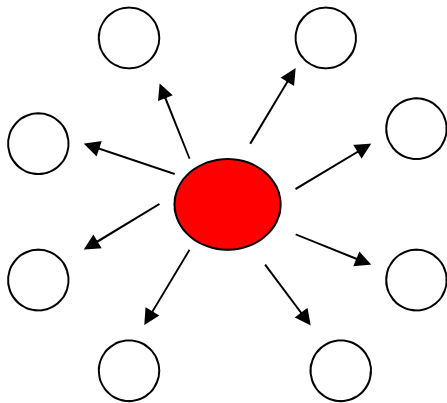
PROCESSOS DE INOVAÇÃO TRANSNACIONAL

FDI, NETWORKS AND LEARNING

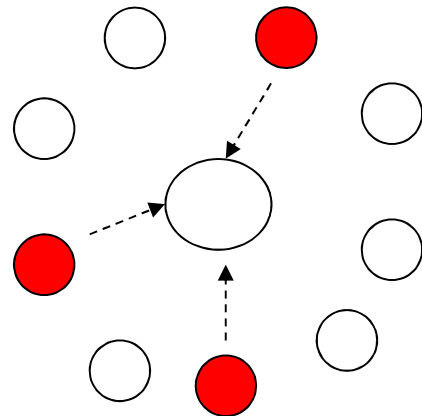
1. The relevance of learning about transnational activities: “We learned the way how VW works”
2. The creation of relational grounds: Internationally Replicable?
3. The importance of mutual expectations: “The motivation for exceeding customer’s expectations”
4. Forbearance attitudes and past performance
5. Escaping from a dyadic logic and from a purely conflictual perspective: playing the “collaborative manufacturing” game
6. Learning and networking positioning as a never-ending process:
 - Blending exploiting and exploring
 - Up-grading internal competencies and relational capital

INNOVATION PROCESS

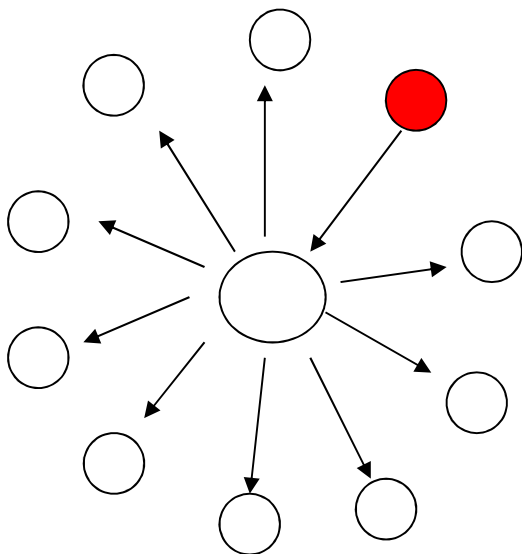
CENTRAL



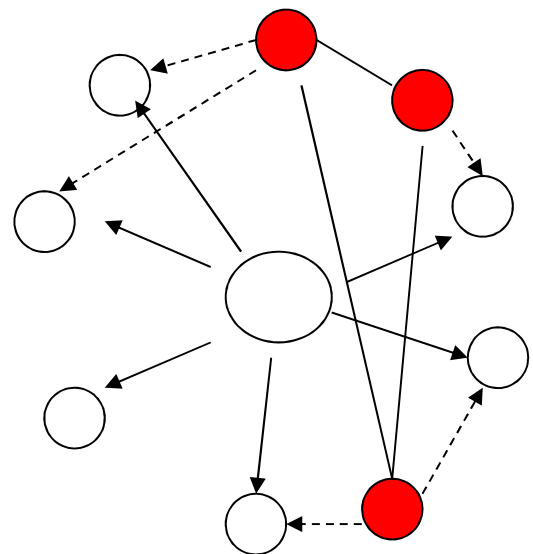
LOCAL



**LOCALLY
LEVERAGED**



**GLOBALLY
LINKED**



Fonte: Adaptado de Bartlett & Ghoshal (1989)

INOVAÇÃO LOCAL

Vantagens

- Adaptação às Condições Locais
- Aproveitamento e Estímulo das Competências das Filiais

Riscos

- Duplicação de Esforços
(Multiplicidade de “Reinvenções da Roda”)

INOVAÇÃO CENTRAL

Vantagens

- Controlo da Tecnologia (Garantias de Apropriabilidade)
- Relacionamento Inter-Departamental (Inter-acção, desenvolvimento, Produção, comercialização)
- Rapidez de Desenvolvimento e Lançamento de Novos Produtos

Riscos

- Conflitos Casa Mãe / Subsidiária
- Insensibilidade às Necessidades Diversificadas dos Mercados

LOCALLY LEVERAGED

Vantagens

- Estímulo da Criatividade das Filiais em Proveito de Toda a Empresa

Riscos

- Dificuldade de Transferência devida às Especificidades Nacionais
- Reacções Negativas devidas ao Síndrome NIH

GLOBALLY LINKED

Vantagens

- Estimular e Aproveitar de forma Integrada as Capacidades das Filiais
- Obter Economias de Gama à escala Mundial
- Resposta Comum a Estímulos (eventualmente) Localizados
- Potenciar Aprendizagem à escala Mundial

Riscos

- Elevados Custos de Coordenação
- Ambiguidade, Falta de Integração e Excessiva Difusão da Autoridade

NOVOS MODOS DE ORGANIZAÇÃO

- Mandatos Globais
- Plataformas de Produção
- Centros de Excelência

PAPEL DOS CENTROS DE EXCELÊNCIA

- **DESENVOLVIMENTO
CONHECIMENTOS**
- **INTEGRAÇÃO DE
CONHECIMENTOS**
- **INSERÇÃO NA REDE**

**EMPRESAS
MULTINACIONAIS E
SISTEMA DE INOVAÇÃO
EM PORTUGAL:
DOIS EXEMPLOS**

**MNE CENTRES OF
EXCELLENCE AND
ACQUISITIONS:
LONG EVOLUTIONARY
PATHS OR CAPTURING
OPPORTUNITIES?**

**Vitor Corado Simões
Pedro Nevado**

2001

SUBSIDIARY DEVELOPMENT PROCESSES AND GAINING CoE MANDATES

- **EVOLUTIONARY, TIME-
CONSUMING PROCESS**

(FORSGREN, JOHANSON AND SHARMA, 2000)

- **DOES IT STILL HOLD FOR
ACQUISITIONS?**

(FRATOCCHI AND LORENZONI, 2000)

DEFINITION OF CoE

A CoE is “an area of expertise for which the subsidiary is recognized by the corporation, and which other parts of the corporation draw on”

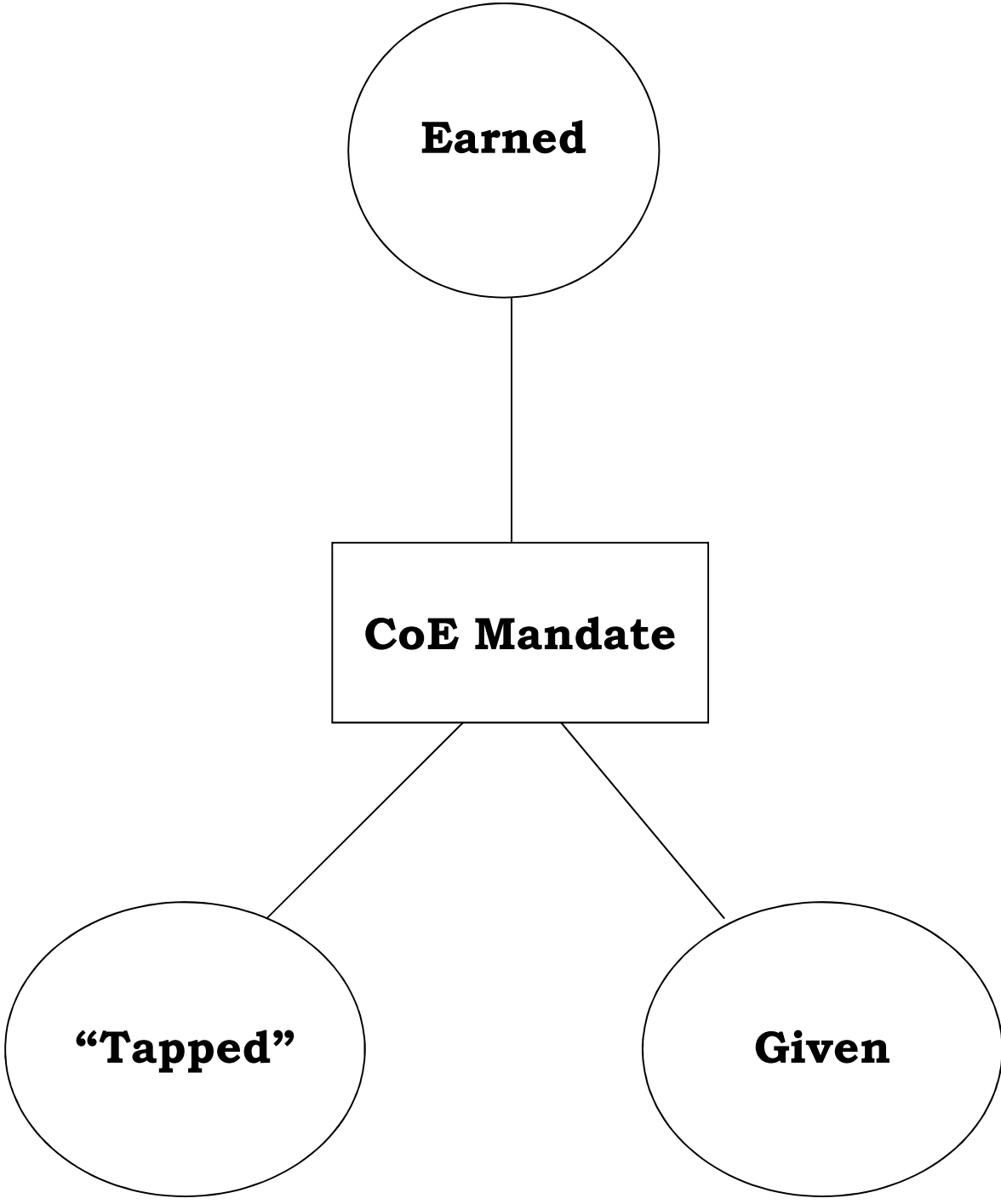
(Birkinshaw, 1998: 291)

3 MAIN FEATURES

❖ Competences

❖ Use of such competences by other units

❖ Recognition



AUTONOMY *VERSUS* INTEGRATION

- Autonomy is Needed for the Subsidiary to Create, Develop and Strengthen its Capabilities
- Integration is Needed to have Influence over other Units of the MNE Network

“Too much autonomy makes the subsidiary mandate potentially vulnerable to divestment (as a spin-off company) or decline (because of a lack of corporate investment)”

(Birkinshaw, 1996: 488)

- How to Balance Knowledge Development with Knowledge Sharing?

THE ROLE OF ACQUISITIONS

- Is an historical process of competence development and interrelationships with other MNE units needed?

(“Acquired Subsidiaries cannot become CoEs Overnight”, Fratocchi & Holm, 1998)

- **Or can CoE rapidly stem from acquisitions (picking up potential “leaders)?**

3 CASE STUDIES

1 ABB PORTUGAL

2 ALCATEL PORTUGAL

**3 VULCANO (R. Bosch
Group)**

1

ABB PORTUGAL

- **1990: SENETE**
JOINT VENTURE BETWEEN ABB (40%), MAGUE AND IPE (SOREFAME))

SOREFAME HISTORY:

- **CREATED IN 1943**
 - **HYDROELECTRICAL POWER INVESTMENTS**
 - **POWER AGREEMENT: SPECIALIZATION**
-
- **1992: HIDRO-SOREFAME**
SOLE PRODUCER OF HYDROMECHANIC EQUIPMENT WITHIN ABB
 - **1994: ABB CONTROLS 70% OF SENETE**
 - **1995: HIDRO-SOREFAME CHANGED INTO ABB HIDRO**
 - **1997: FULL CONTROL OF SENETE BY ABB**
ABB HIDRO BECOMES "LEAD CENTRE"
 - **1999: POWER BUSINESS INCLUDED IN A JV WITH FRENCH PARTNER**
 - **2000: EQUITY STAKE SOLD TO FRENCH PARTNER**
(THE PORTUGUESE COMPANY STILL A CoE)

2

ALCATEL PORTUGAL

- **1987: DEAL ALCATEL/ITT ON TELECOMUNICATIONS EQUIPMENT**

PORTUGUESE SUBSIDIARY “INHERITED”

- **1988: PORTUGUESE SUBSIDIARY ACTIVITY CHANGED FROM SEMICONDUCTORS AND CONSUMER GOODS TO TELECOMMUNICATIONS EQUIPMENT**

- **1989: LOCAL SOFTWARE CENTRE ESTABLISHED**

- **2000: 5 CoEs IN ALCATEL PORTUGAL**
 - COILS AND TRANSFORMERS
 - CALL CENTRES (FOR SOUTHERN EUROPE)
 - NETWORK MANAGEMENT
 - COMMUNICATIONS FOR RAILWAY APPLICATIONS
 - GSM NETWORKS PLANNING AND OPTIMIZATION

“NETWORK MANAGEMENT COMPETENCE CENTRE”

- Original Opportunity (1991):
Services for Portuguese GSM Operator
 - Capability Development
 - Reference

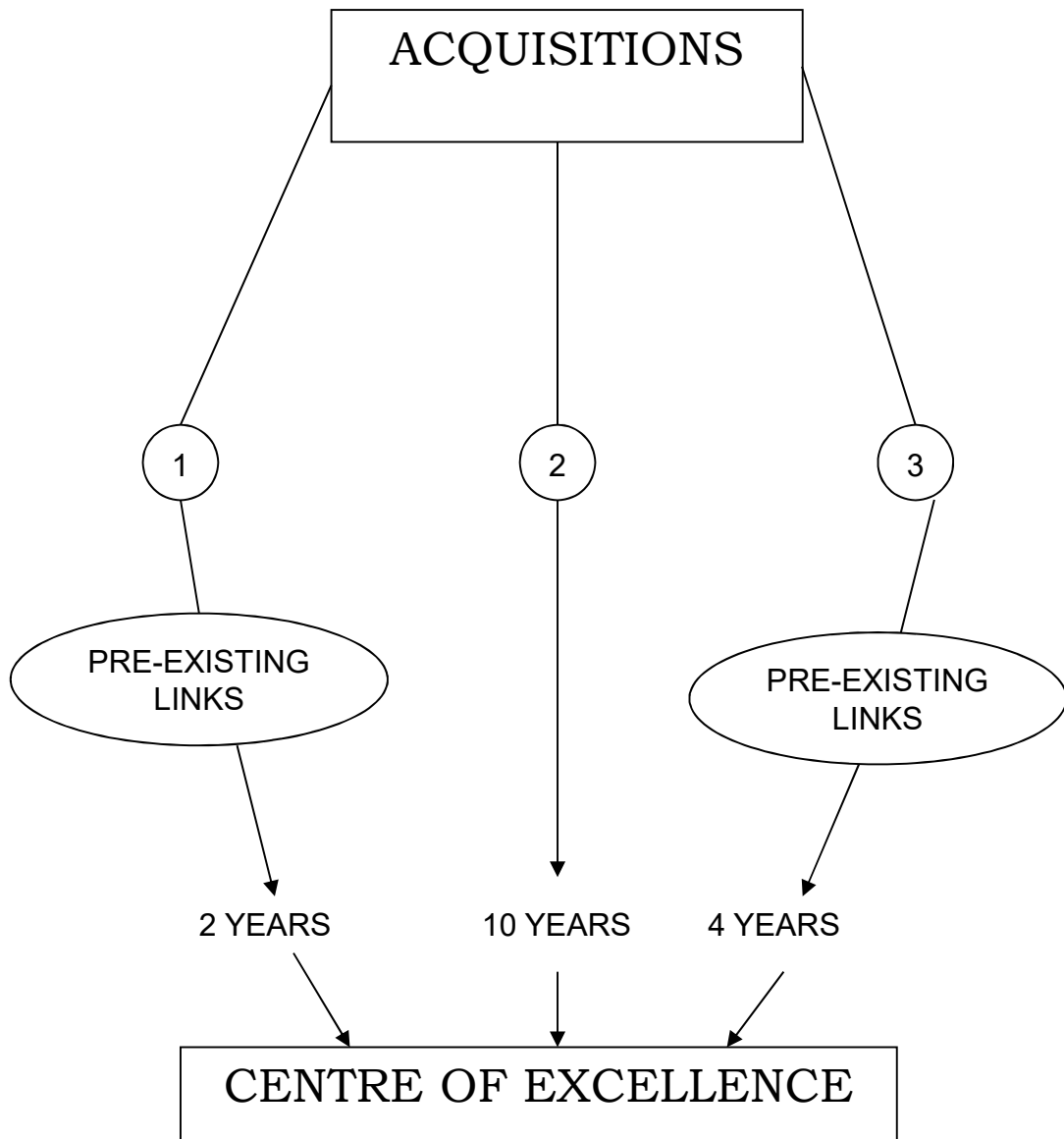
- MNE Network Involvement: Participation
in Development of Products for France
Telecom and Deutsche Telekom

- Capability Demonstration (1996):
Development of a New Traffic
Management System for the Whole
Ggroup

- **CoE Recognition (1997): Network
Management Competence Centre**

3 VULCANO

- Born as a Licensee OF Robert Bosch GmbH (1977)
- Own Brand Launching – Vulcano (1983)
- 50% of Portuguese Market; 8TH Largest European Water Boiler Manufacturer (1988)
- Licensing Agreements about to Eexpire:
 - Options {
 - A) Stand alone
 - B) Renew
 - C) Strengthen Relationship
- Majority Equity share Acquired by R. Bosch
- Market Leader in Europe (1992)
- Group Competence Centre in Water Boiler
- Internationalization Drive
 - Licensing: Morocco, Tunisia, Egypt and Brazil
 - Direct Investments: China, Chile and Australia



THINGS TAKE TIME...

...BUT NOT TOO MUCH!

IMPORTANCE OF LOCAL ENVIRONMENT

	1	2	3
Market opportunities	√√√	√√√	√
Market performance	√√	√	√√√
Government Policy	√√√	√	
Technology/ Knowledge Linkages	√√	√√√	√

CONCLUSIONS

- 1) ACQUISITION DRIVEN CoEs ARE DIFFERENT
- 2) HEADQUARTERS RECOGNITION (AND “PICKING UP”) IS OFTEN FASTER THAN PEER RECOGNITION
- 3) LOCAL ENVIRONMENT RELATIONSHIPS MATTER
- 4) TO LEVERAGE THOSE RELATIONSHIPS AT GROUP LEVEL, STRATEGIC INTENT AND MANAGERIAL INITIATIVE ARE RELEVANT INGREDIENTS

**NETWORKS AND
LEARNING PROCESSES:
A CASE STUDY ON THE
AUTOMOTIVE INDUSTRY
IN PORTUGAL**

Vitor Corado Simões

2002

THE AUTOMOTIVE INDUSTRY

❖ Globalisation

❖ Complexity and Changing
Relationship Patterns

❖ Strategic Alliances

FDI IN THE PORTUGUESE AUTOMOTIVE INDUSTRY: AN HISTORICAL RETROSPECT

1963: “Assembling Law”

1972: Revision of the Assembling
Régime

1979: “Framework Law” on the
Automotive Sector

⇒ RENAULT PROJECT (1980)

1986: EC Accession

⇒ AUTO-EUROPA PROJECT (1991)
[FORD + VOLKSWAGEN]

CONCEPTUAL FRAMEWORK

- ❖ The automotive supply chain as a network
- ❖ Business Networks Approach:
The Framework of Haakansson (1987)
[Actors– Resources– Activities]
- ❖ The “Flagship Firm”:
The five partners
Framework of Rugman & D’Cruz (2000)
- ❖ The five dimensions of Inter-Organizational Networks (Ebbers, 1997)
[Resource Flows, Information Flows, Assignment of Property Rights, Coordination Mechanisms and Mutual Expectations]

METHOD

- ❖ Working out the Sytructure of Focal Networks
- ❖ Selection of Companies
- ❖ Undertaking of Case Studies
- ❖ Comparative Inter-Case Analysis

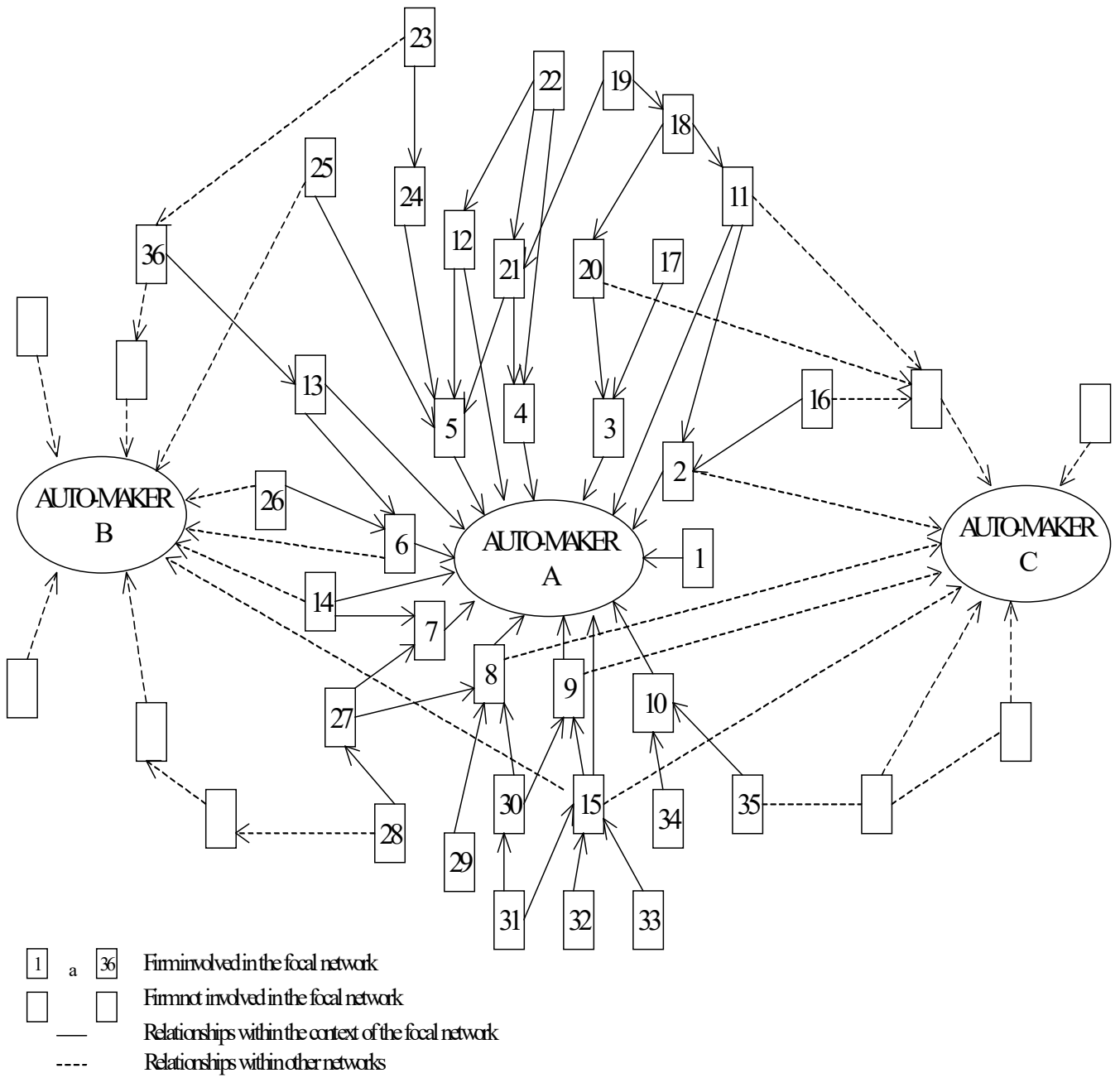
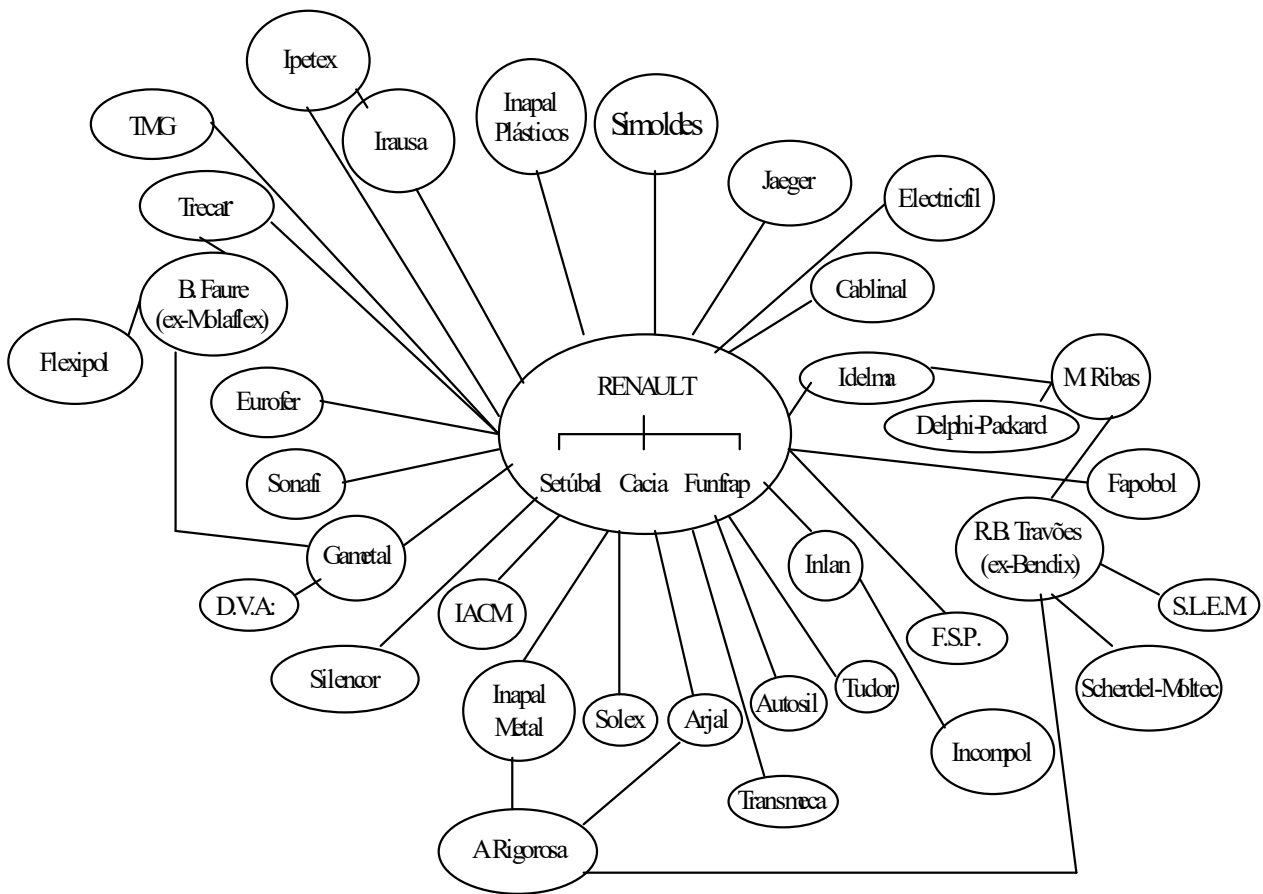


Figure 1 – Automotive Supply Network

RENAULT NETWORK



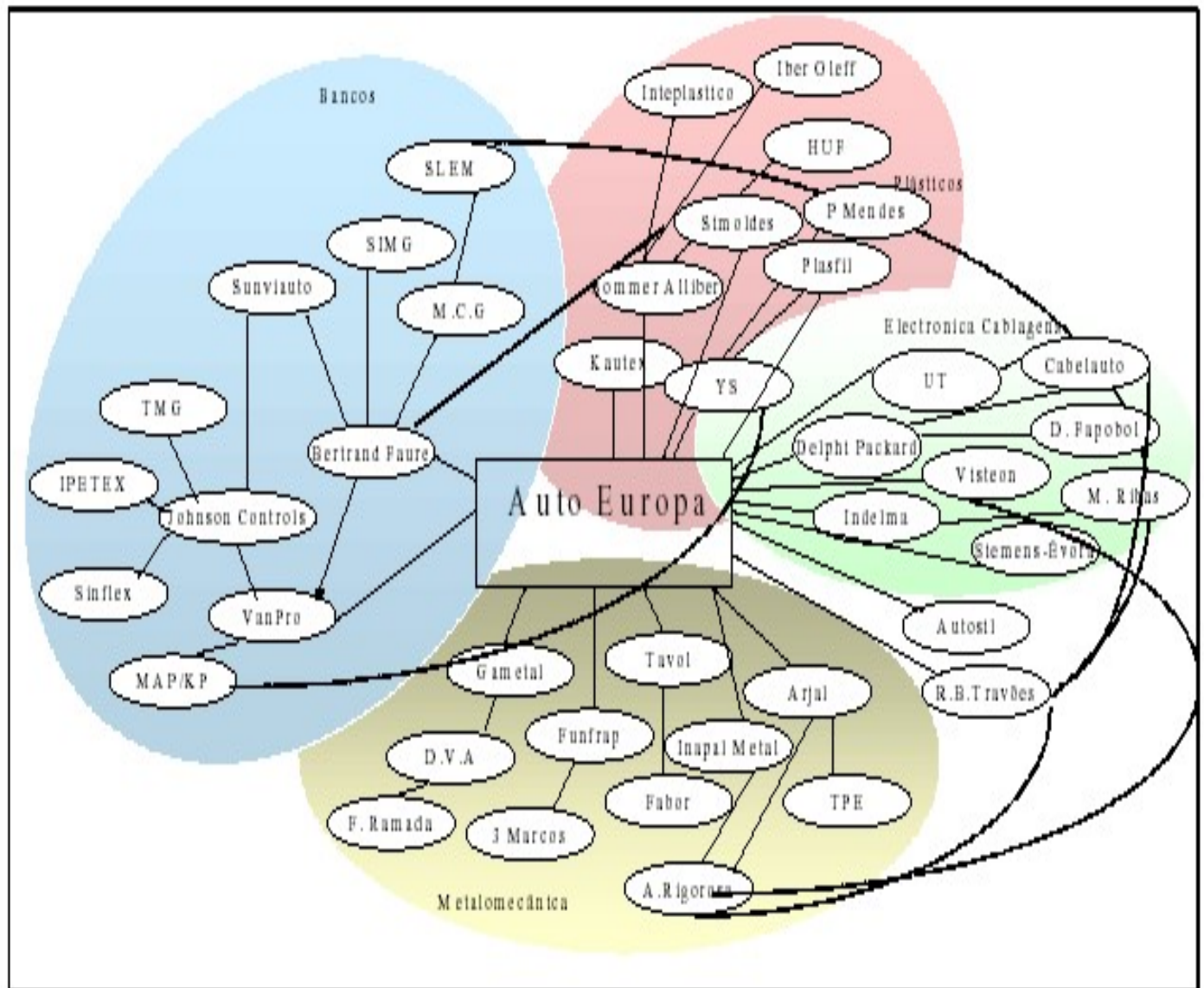


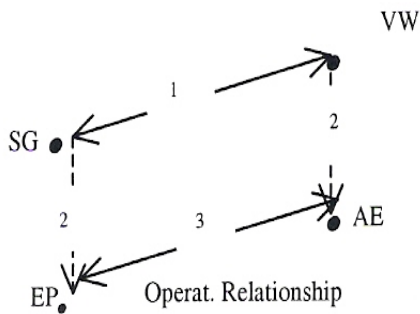
Figura 5.6. – Redes de Fomecedores da AutoEuropa

THE RENAULT NETWORK

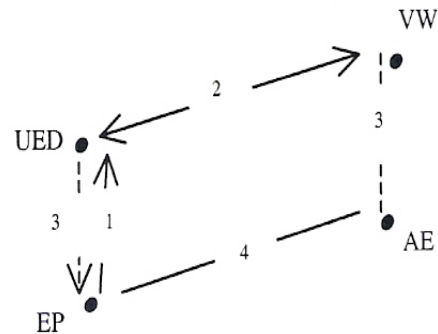
- ❖ Local value added commitments ⇒
Support to domestic suppliers'
development
- ❖ Support = Provision of Technical
Assistance + Training + Tolerance
(Prices, Quality)
- ❖ EC Integration ⇒ Strategic Change
- ❖ Dismantling the Renault Complex
- ❖ Lasting effects:
Stimulating of learning processes,
Credibility
Understanding how the industry works,
and
Strong relationships with a few suppliers

THE AUTO-EUROPA NETWORK

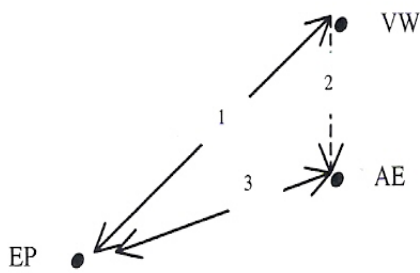
- ❖ Cooperative Spirit
- ❖ Autonomy Constraints:
Different Relationships Modes
- ❖ Learning with Auto-Europa:
 - 1) Transformation Activities
 - Quality Requirements and Support
 - Help in Problem Solving
 - Personal Exchange and Inter-action
 - Engineering Dialogue
 - 2) Transactional Activities
 - Immersion in a Lean Product Environment
 - Understanding Auto-makers' Requirements
 - Setting up of Relationships and Trus-Building Processes with Ford and VW
- ❖ Requirement to Succeed
 - ⇒ Creating Proximity
 - ⇒ Consistent Performance
 - ⇒ “Good Surprises”



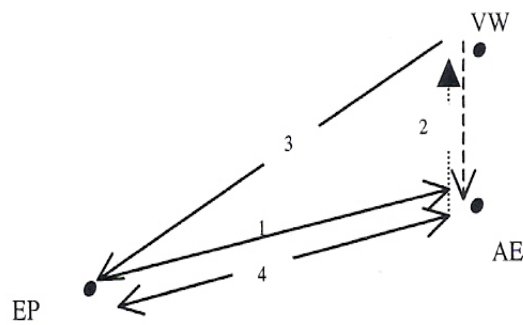
Mode 1: Multinationals' Subsidiaries



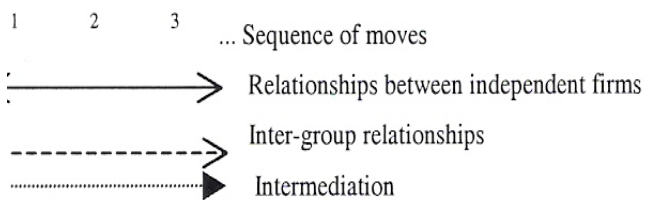
Mode 3: Portuguese firms with a development unit in Germany



Mode 2: Direct dialogue from Portugal



Mode 4: Intermediation by Auto-Europa



VW – Volkswagen (Wolfsburg)
 AE – Auto-Europa
 FP – Portuguese Subsidiary
 EP – Portuguese firm
 UED – Engineering and Development Unit

Source: Empirical research

Figure 2 – Actors and Relationships Modes in Auto-Europa network

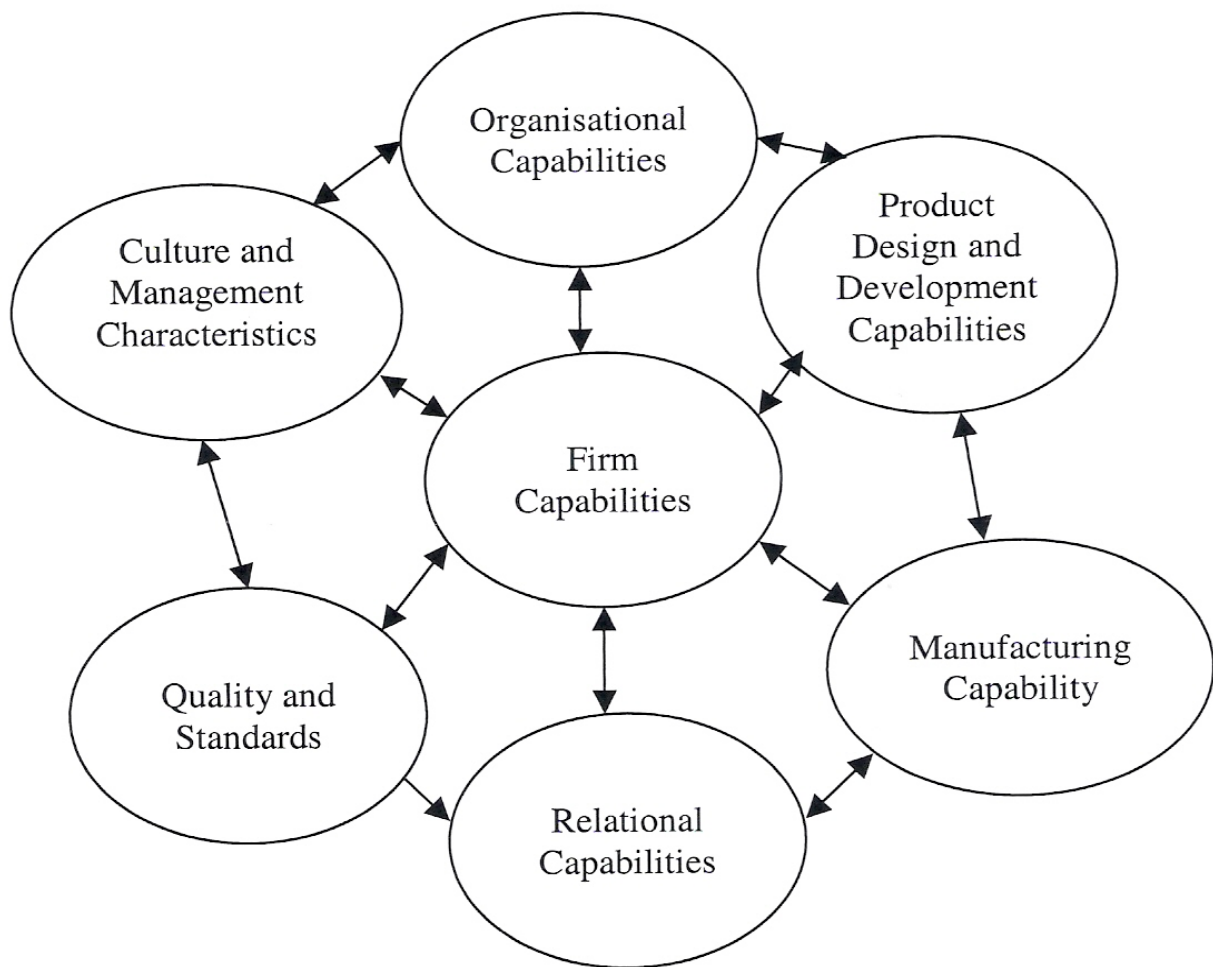
COMPARING THE TWO NETWORKS

Differences { Time + Context
↓
Evolution Relationships Model
Reduced Subsidiary Autonomy
Increased Performance Requir'ts

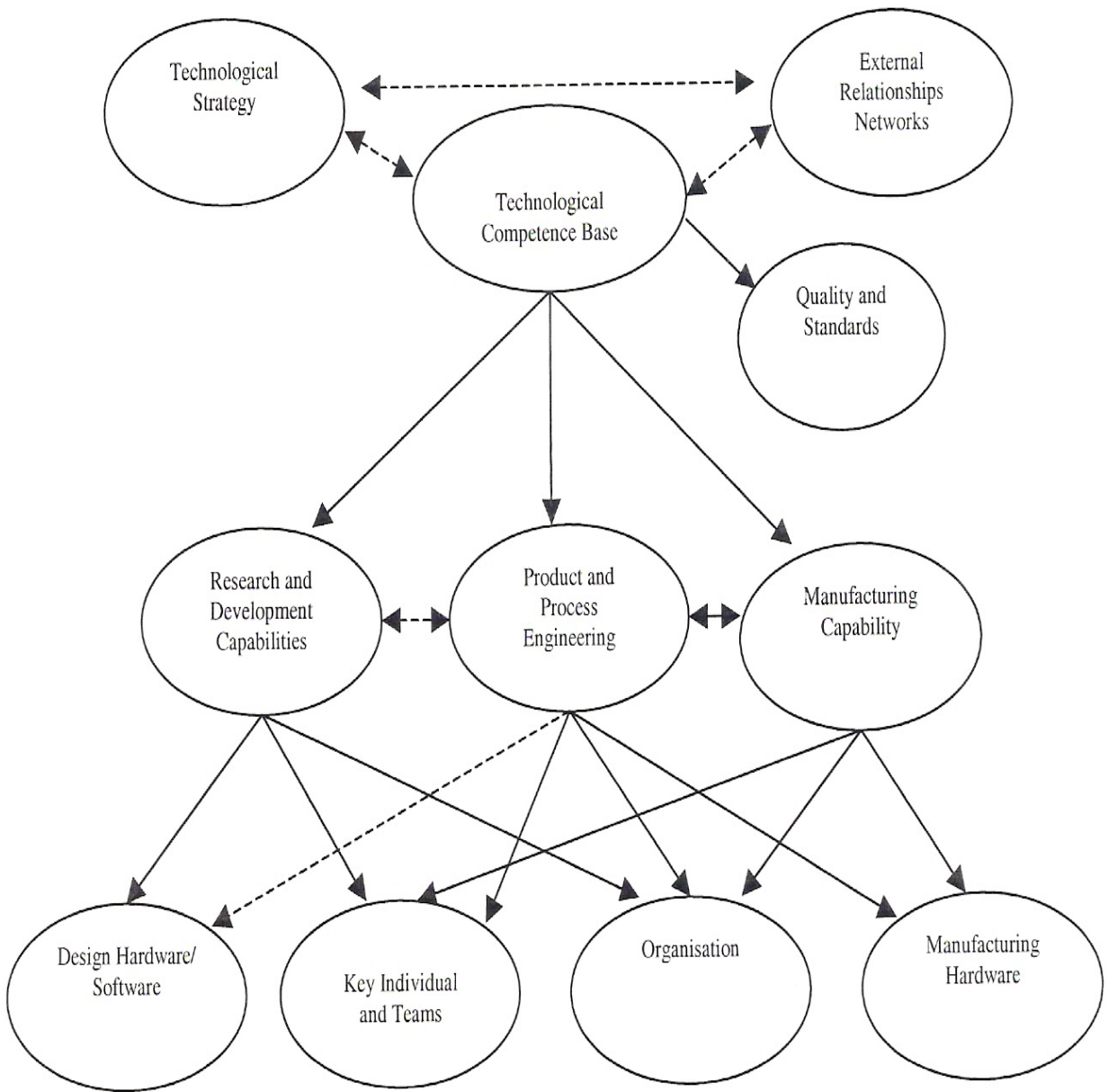
Similarities { Networks led by a Subsidiary
FDI Attraction
Support (with some limitations) to local Suppliers

Consequence: Learning Instruments

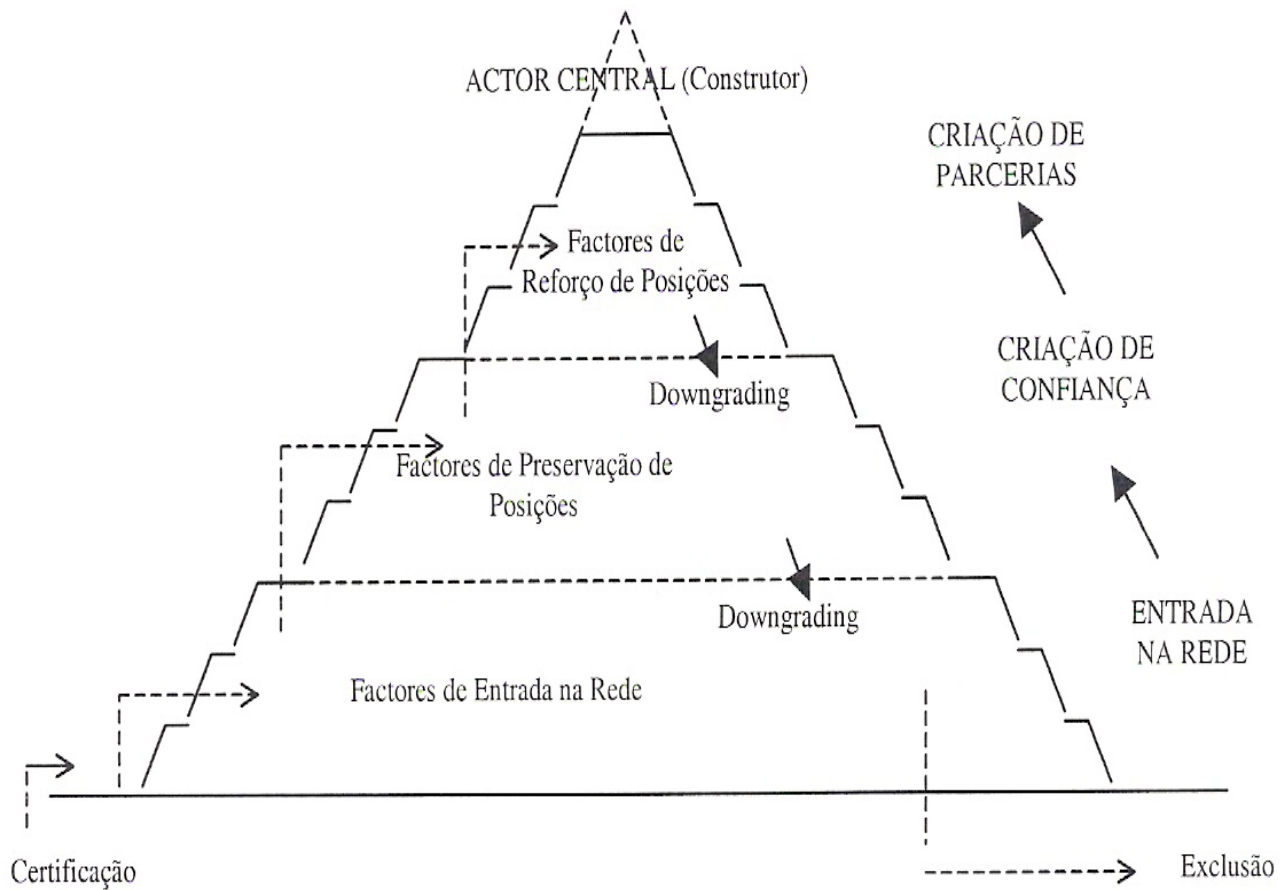
HOW DEEP WAS LEARNING?



A Simplified View of Firm Capabilities



Firm Technological Competence Base



Fonte: Construído com base na investigação efectuada sobre as redes de fornecedores na indústria automóvel

Figura 8.1. – A Pirâmide de Posicionamento na Rede de Fornecedores

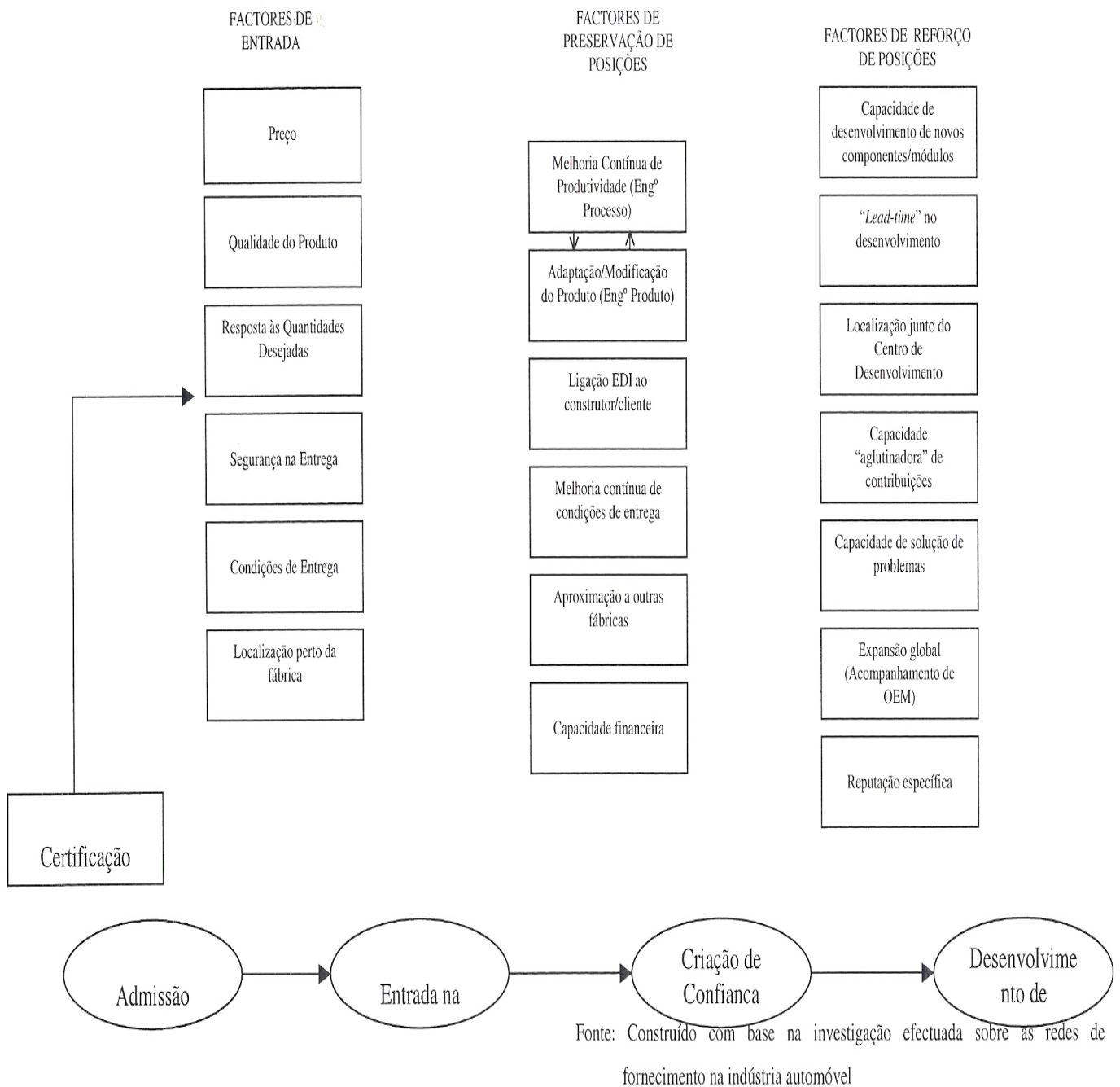
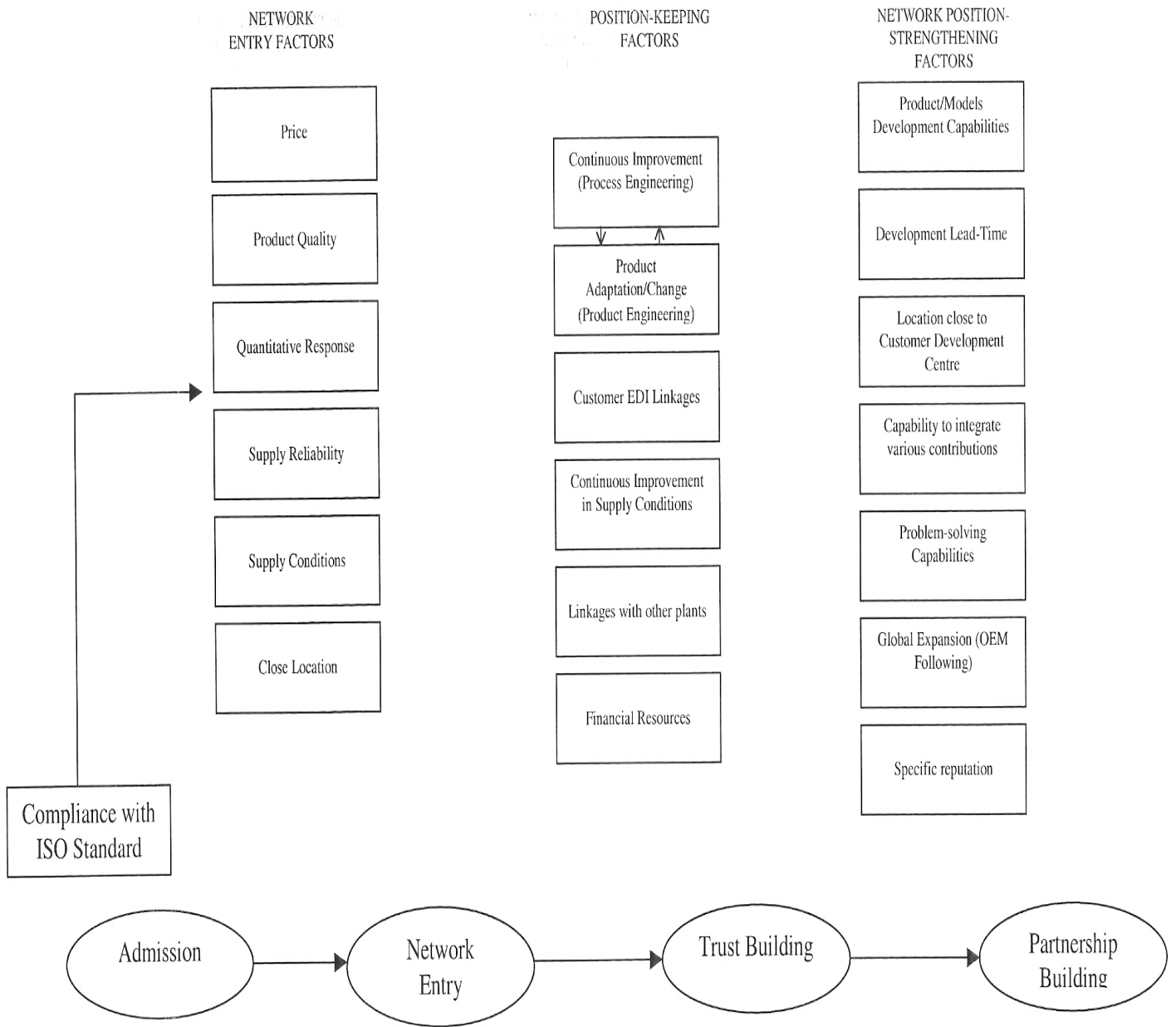


Figura 8.2. – Factores de Evolução do Posicionamento nas Redes de Fornecedores



Source: Built on the basis of own field research

Supply Network Position Evolution Factors