

# Managing the Internationalization Process in Knowledge-Intensive Firms

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## Issues to be Considered

- ❖ Is growth becoming non-linear?
- ❖ What does this mean for internationalization?
- ❖ Are knowledge-intensive sectors different for growth?
- ❖ How does one achieve growth in networked knowledge-intensive environments?




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### Shareholder Value Creation 1995-1999

Shareholder Value Creation (SVC) for...	Dell	Exxon	MCI
= Change in market equity capitalization			
Less Required return on initial market equity capitalization			
Less Share issuances			
Plus Dividends, buybacks			
<b>Equals.....</b>	<b>\$129Bn</b>	<b>\$25Bn</b>	<b>\$44Bn</b>




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### SVC by Industry 1995-1999

Computer Hardware	\$720Bn
Telecommunications Services	\$534Bn
Pharmaceuticals	\$158Bn
Energy	-\$240Bn
Banking, Finance	-\$260Bn




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## SVC in Banking and Finance

Morgan Stanley Dean Witter	\$50Bn
CitiCorp	\$37Bn
American Express	\$31Bn
...	...
...	...
...	-\$80Bn

Essentially, the same pattern repeated in all industries




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## Gap Between Ws and Ls is Growing...

❖ The difference between Winners and Losers has grown drastically since 1995...

	1990-1994	1995-1999
Big Winners	15	111
Big Losers	61	133



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## How do TBNFs Grow in Finland, Then?

- ❖ Analysis of Finnish gazelle firms
- ❖ The entire population of very rapid growth firms in Finland from 1994 to 1997
  - ① > 50% annual sales growth in each of the three consecutive years
  - ① population of 412 gazelles, all industry sectors
  - ① location, industry, employment, age, zip code...



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## Growth is Highly Concentrated

- ❖ 5 Gazelles (1%) generated 35% of the employment of the entire population, 44% of sales
- ❖ Gazelles also appear to be concentrated in few growth agglomerations, notably in the Helsinki region
- ❖ TBNFs were not over-represented in terms of numbers but were so in terms of sales



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## Few Gazelles Generate the Bulk Impact

EMPCAT	COUNT94	COUNT97	SUM94	SUM97	%94	%97
0-4	379	179	383,6	479,7	46,80 %	9,60 %
5-9	23	143	151,3	883,6	18,40 %	17,70 %
10-19	6	46	88,6	601,8	10,80 %	12,00 %
20-49	2	32	64,0	938,0	7,80 %	18,80 %
50-100	2	5	133,0	353,0	16,20 %	7,10 %
100-249	0	2	0,0	312,0	0,00 %	6,20 %
250-499	0	2	0,0	761,0	0,00 %	15,20 %
500-	0	1	0,0	670,0	0,00 %	13,40 %
TOTAL	412	410	820,5	4999,1	100 %	100 %

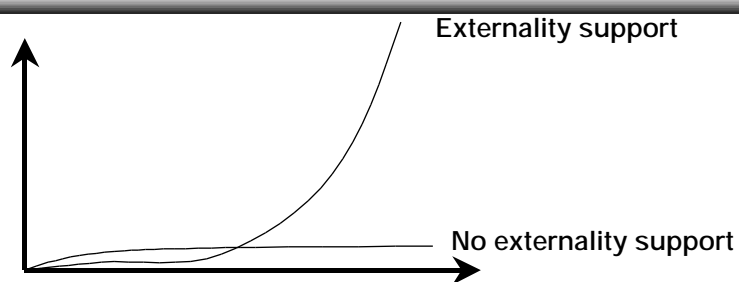
Storey (1994): 5% of survivors responsible for 80% of jobs created  
 Birch et al (2000): 4% gazelles generated 80% of new jobs  
 GEM: only 10% of start-up attempts aim at reasonable size in 5 years



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## Is Growth [Becoming] Non-Linear?



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## Examples of Non-Linear Growth

- ❖ Nokia
- ❖ Microsoft
- ❖ Intel
- ❖ Amazon.com
- ❖ eBay.com
- ❖ Palm
- ❖ Linux



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## What Does This All Mean for Internationalization?

- ❖ Traditional view of SME internationalization processes
  - ① Uppsala group
  - ① Reactive, passive view: Firms react to export orders
  - ① Internationalization is a learning process
    - from close to distant countries
    - from simple to complex mechanisms
  - ① You need to avoid risks
  - ① "Grow first in your home country, then go international"



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## Internationalization of Small Firms

- ❖ Internationalization process theory
  - ① Internationalization is a learning process
    - from close to distant countries
    - from simple to complex mechanisms
  - ① No qualitative difference between domestic and international growth (similar path dependencies)
  - ① Several small risks are more easily controlled than the 'lead-frogging' risk
  - ① "Grow first in your home country, then go international"

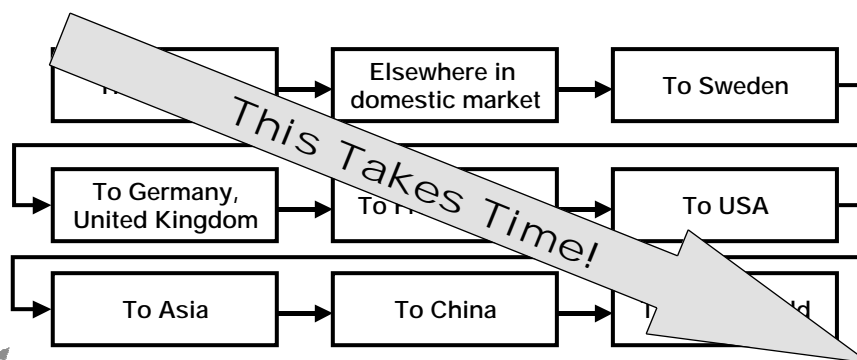


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## Traditional View: Toward Increasingly 'Distant' Markets

The TTT Problem:



You Do Not Have It!



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### Traditional View: Toward Increasingly Complex Modes

The TTT Problem: Which You Do Not Have Either!

And Furthermore... You Do Not Have It!

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### These Models Do NOT Work for TBNFs!

- ❖ Internationalization Modes are Different
- ❖ Opportunity Windows are Short
- ❖ Web Globalizes Competitive Reaction
- ❖ Externalities Matter
  - ① Build User Base
  - ① Focus on Creating Value Potential
  - ① Winner is Decided Early On
- ❖ Conclusion: In a Global Market, You Must View Internationalization as a Means for Generating Global Value Potential -- Not as a Means of Gradually Expanding your Domestic Business!

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## The 'Born Global' Framework

- ❖ The World is Increasingly Global
  - ① Technology-intensive sectors are international
  - ① Barriers between markets are coming down
  - ① Knowledge travels internationally
  - ① Entrepreneurial vision and competencies can be used to capture global opportunities



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## About Born Global Internationalization

- ❖ This is the single most demanding challenge facing Scandinavian hi-tech start-ups
- ❖ This is the single area where mistakes cost the most
- ❖ This is the single area where the competence bottlenecks are biggest
- ❖ This is the single area in which the research tradition is thinnest



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## The Knowledge Paradigm...

- ❖ **Enabling Effect:** The mobility of knowledge makes rapid international expansion possible
- ❖ **Competition Effect:** Tacit knowledge is difficult to copy and imitate and therefore provides for sustained competitive advantage
- ❖ **Growth Effect:** Those, who learn fastest, will be most likely to take advantage of new opportunities



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## Knowledge Explains...

- ❖ **Why Firms Are Different**
- ❖ **Why Some Firms Do Better Than Others**
- ❖ **Why Experience Matters**
  - ① Tacit Knowledge Cannot Be Learned from Books
- ❖ **Why Experience Can Be an Obstacle**
  - ① Unlearning Is Difficult
- ❖ **Why Firms and Managers Can See the World Differently**
  - ① Recognition of Opportunity
  - ① Motivation to Pursue Opportunity
- ❖ **Why Firms Have Different Identities**

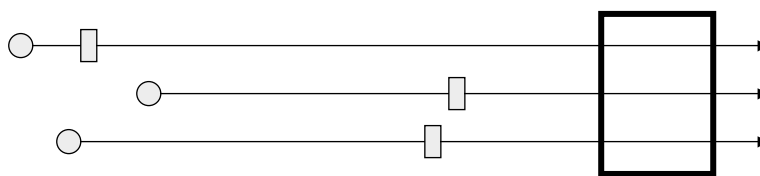


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## Learning Advantage of Newness

- ❖ An early internationalizer develops an international identity, which allows it to both identify and pursue international growth opportunities



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## Timing of International Entry Matters!


- ❖ Early internationalizers develop an international identity
- ❖ Early internationalizers learn internationally
- ❖ Early internationalizers see more international growth opportunities
- ❖ Early internationalizers are more willing and able to pursue growth
- ❖ Early internationalizers develop new technologies faster and better
- ❖ But: Early internationalization may also kill you!




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## Fundamental Trade-Off # 1

<b>EARLY</b> Internationalization	<b>LATE</b> Internationalization
	
<p>International identity Faster technological learning Potential for non-linear growth International cognition</p>	<p>Domestic identity Higher survival rate Secure, steady growth Indirect channels</p>




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## Heuristic for Achieving Non-Linear Growth

- ❖ Determine whether you are in a positive-feedback industry
  - ① analyze determinants of PFI
- ❖ Determine how you can achieve platform and business system dominance
  - ① analyze the platform dynamics of the PFI
  - ① determine your relationship to complementary assets
- ❖ Set up your resources and sell your business concept
- ❖ Pass acid tests



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## What is a Positive Feedback Industry?

- ❖ The value of a given technology is not determined by the technical attributes of the technology only
  - ① need to invest in complementary assets and technologies: e.g., specialized manufacturing equipment, distribution channels
  - ① customers follow other customers: The decision to invest is contingent upon similar decisions by other customers
- ❖ This is why in a positive feedback industry,
  - ① competition is between technology platforms
  - ① growth trajectories are often non-linear: you either grow at an explosive rate or not at all



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## In a Positive Feedback Industry...

- ❖ Value potential is won or lost in the beginning
- ❖ You create value potential by encouraging positive feedback mechanisms
  - ① Pre-emptive establishment of industry dominance (e.g., many internet businesses)
  - ① Lock-out of competition through alliance structures
  - ① Rapid establishment of early market lead is important
    - You MUST demonstrate value-adding cash-flow
- ❖ Success is contingent on succeeding in starting a chain reaction



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## Are you in a PFI?

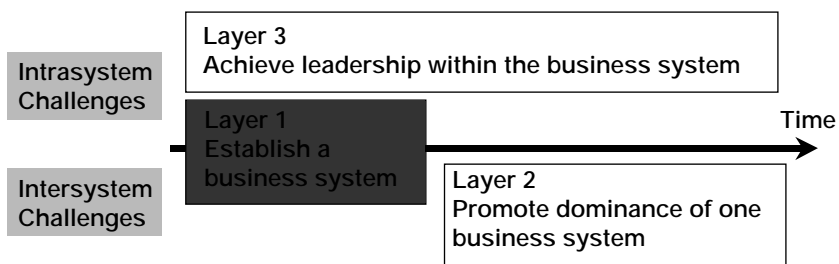
- ❖ Compatibility
- ❖ Critical mass
- ❖ Direct network effect
- ❖ Economies of scale/scope
- ❖ Indirect network effect
- ❖ Installed base
- ❖ Interoperability
- ❖ Lock-in
- ❖ Network externality
- ❖ One-way network
- ❖ Path-dependence
  - ① First degree
  - ① Second degree
  - ① Third degree
- ❖ Returns to scale
- ❖ Switching cost
- ❖ Two-way network



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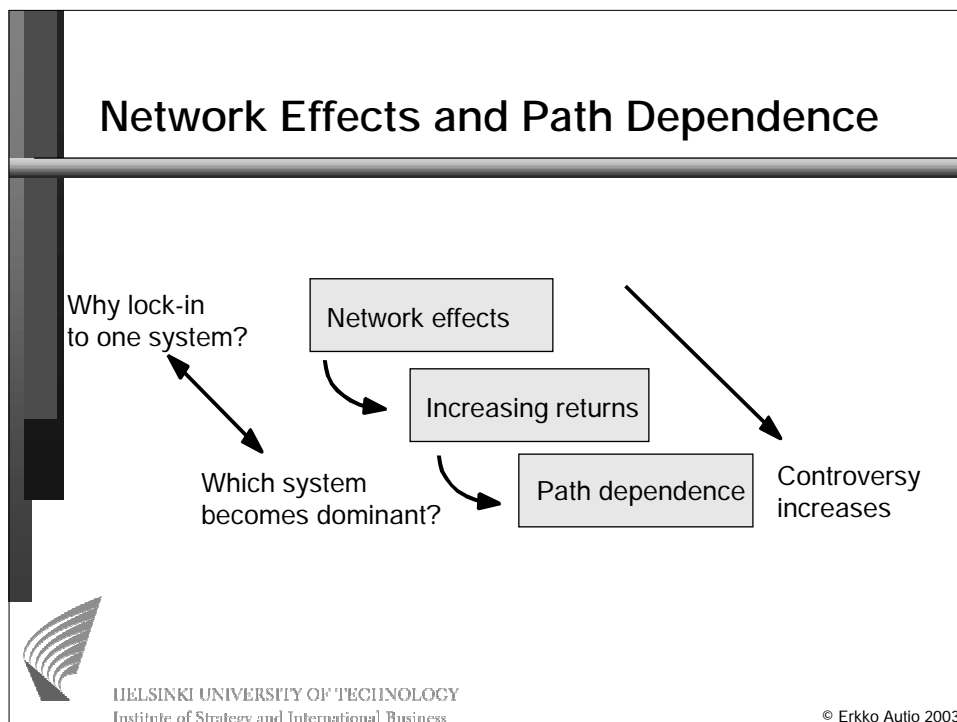
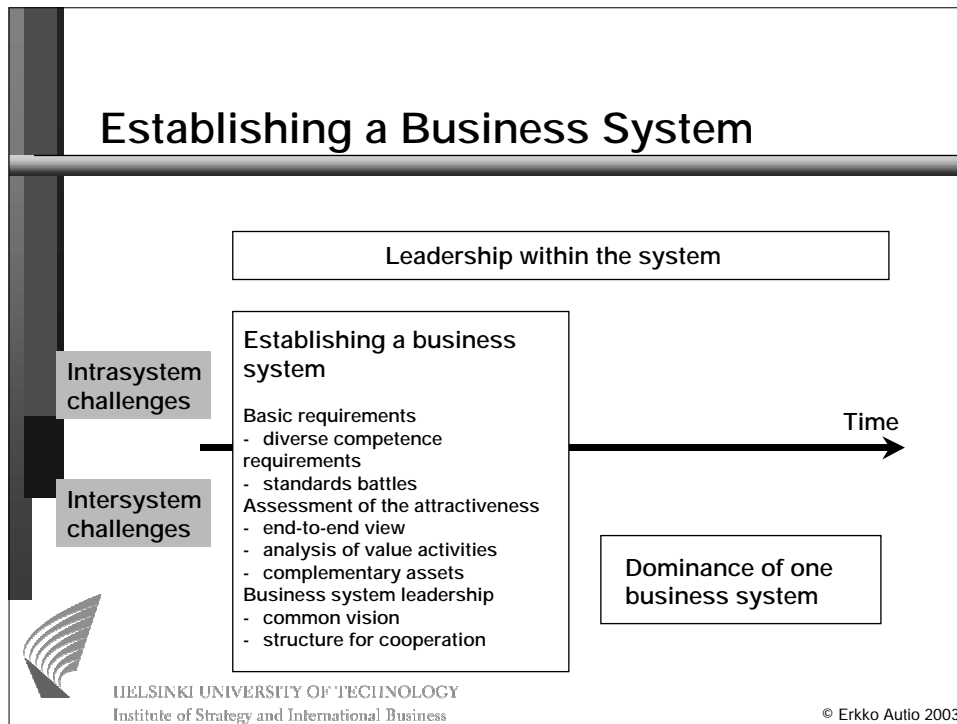
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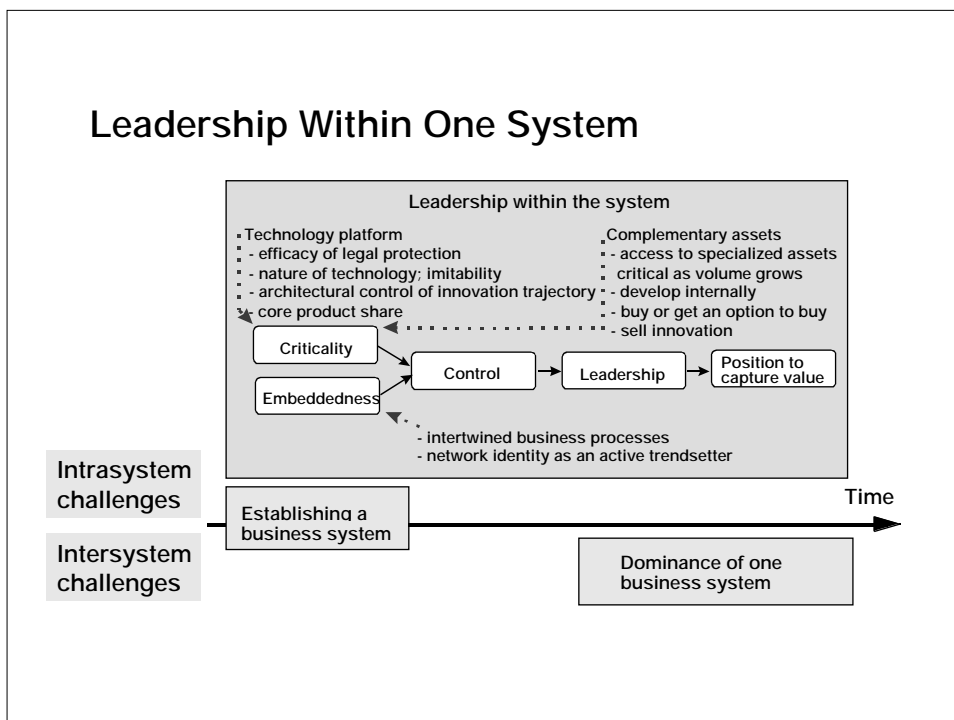
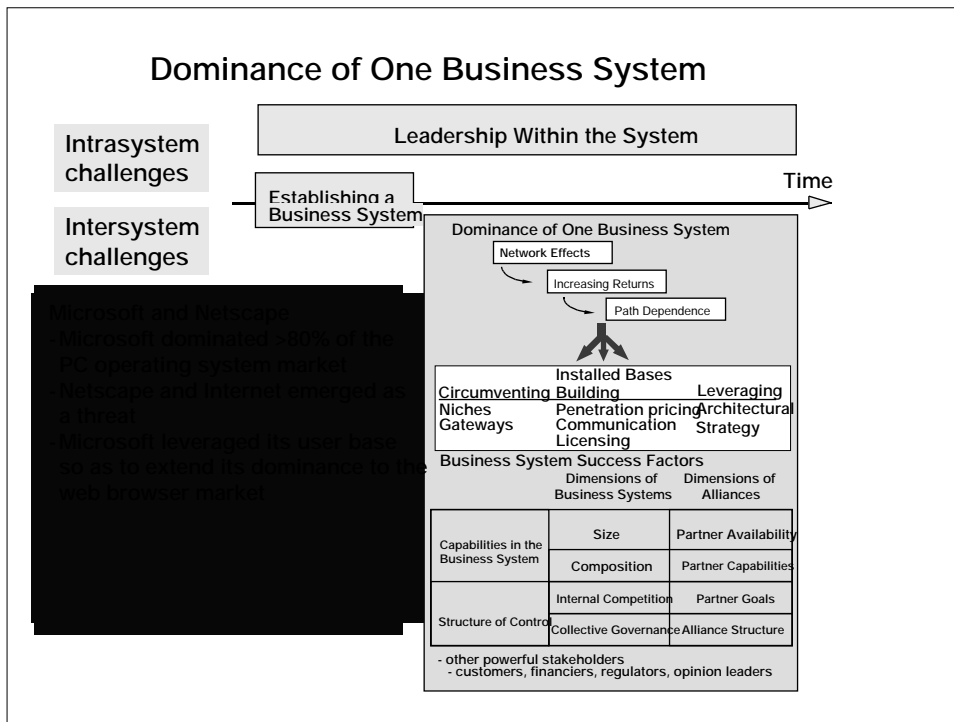
## Roadmap for Growth in PFIs



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## Acid Tests to Monitor Progress

- ❖ Monitor technological trends
  - ① are any developments undermining your system dominance?
- ❖ Monitor your sales
  - ① are your sales driving your system dominance?
  - ① are your customers and suppliers complying with your vision?
  - ① do your customers and suppliers see a win-win situation?
- ❖ Monitor network effects
  - ① are projected network effects starting to emerge?



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## Implications for Start-Ups

- ❖ Think BIG
- ❖ Think GLOBAL
- ❖ Develop & Leverage Critical Resources in a Global Scale
- ❖ Push for Scale and Scope
- ❖ Act BOLD, Act NOW
- ❖ Get your Basics Right
  - ① management team
  - ① external valuation
  - ① incentive structures -> talent
  - ① intellectual property
- ❖ Tell a Story that is Attractive & Plausible



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## 3D PLC Model 3 Basic Dimensions of BG Strategies

- ❖ Depth
  - ① how many value chain functions
- ❖ Distance
  - ① how distant countries
- ❖ Diversity
  - ① how many operational modes
  
- ❖  $\therefore$  time = speed



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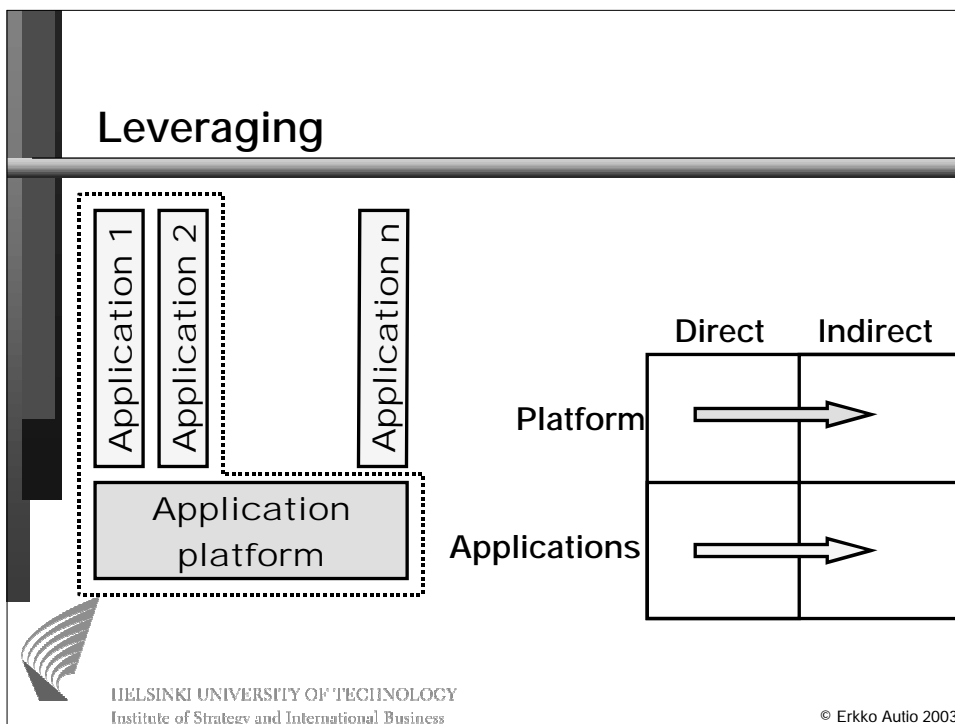
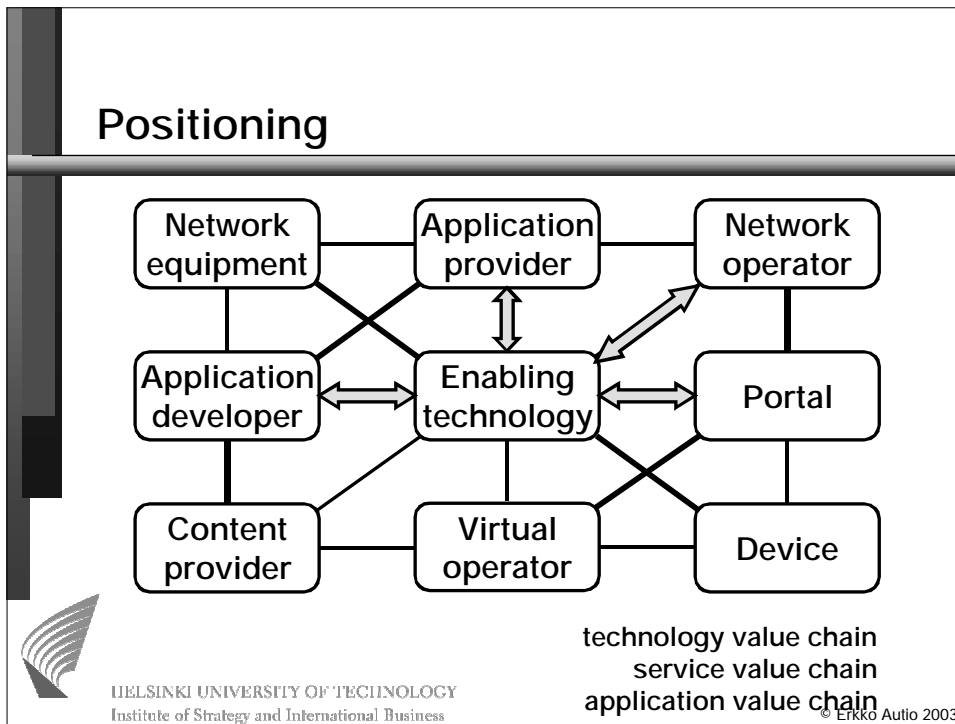
## PLC Related 3 Key Challenges

- ❖ Positioning (Diversity)
  - ① Secure Critical Resources and Interfaces
- ❖ Leveraging (Diversity, Depth)
  - ① Catalyze Externalities
- ❖ Consolidating (Depth)
  - ① Solidify Sustainable Operation



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## Case Comptel

Product: MDS Software (Mediation Device Solutions)  
 KSFs: Platform independence, compatibility  
 Customers: 140 operators in 40 countries

	1995	1996	1997	1998	1999
Sales, MFIM	61	77	98	152	232
Profit, MFIM	4,4	10	15	29	80
Exports, % of sales		22%	31%	51%	62%
Indirect exports, % of sales		6%	6%	24%	38%

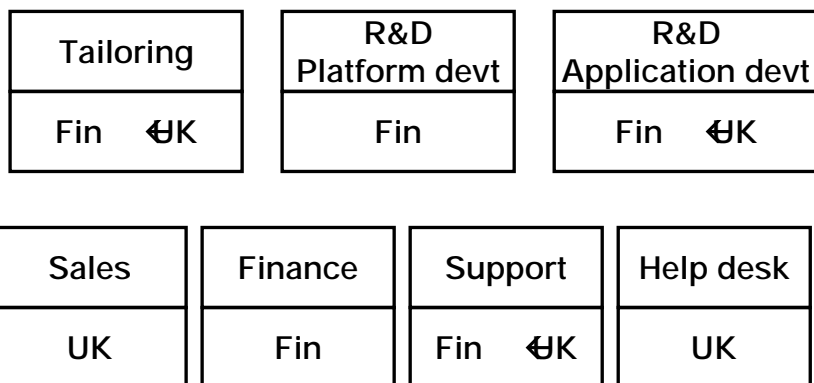


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## Consolidating




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## PLC – Critical Issues

Positioning: How to secure critical resources and externalities?

Achieving internationalization	Network entry	Firm's position in the network
Through international extension, penetration, or international integration	Barriers to enter the nw Transaction costs for entry Leveraging social capital for entry Impact of entry on established participants	Role of the firm in nw Identity and role of customers Identity and role of nw partners (vertical, horizontal) Control of critical assets



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## Fundamental Trade-Off # 2

Investment in


- building trust
- facilitating cooperation
- enhancing complementarity

→

Efficient transactions  
 Relational flexibility  
 Enhanced learning  
 Durable relation advantage

Exchange dependency  
 Learning dependency  
 Increased opportunity costs  
 "Hostage of relationship"

The problem: Balancing relationship-extensive and relationship-intensive growth




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## PLC – Critical Issues

Leveraging: How to catalyze externalities?

Investment in relation-specific assets	Encouraging knowledge exchange and joint learning	Combining complementary resources
Establish efficient government mechanisms	Promote a shared vision and goals	Build additional relationships




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## PLC – Critical Issues

Consolidating: How to build a sustainable concern?

Firm's importance in nw value creation	Strength of relationship with partners	Promotion of continuity
Promoting and leveraging foreign market learning	Promoting and leveraging technological learning	Extending the network beyond national borders



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## You Must Execute a Rapid Overlapping Roll-Out Sequence!

The diagram illustrates a rapid overlapping roll-out sequence for market entry. It consists of five rectangular boxes arranged in a staircase pattern from bottom-left to top-right. Each box is connected to the next one above it by a small upward-pointing arrow. The boxes are labeled: United Kingdom, Main EU Markets, USA, South-East Asia, and Japan.

**United Kingdom**  
**Main EU Markets**  
**USA**  
**South-East Asia**  
**Japan**

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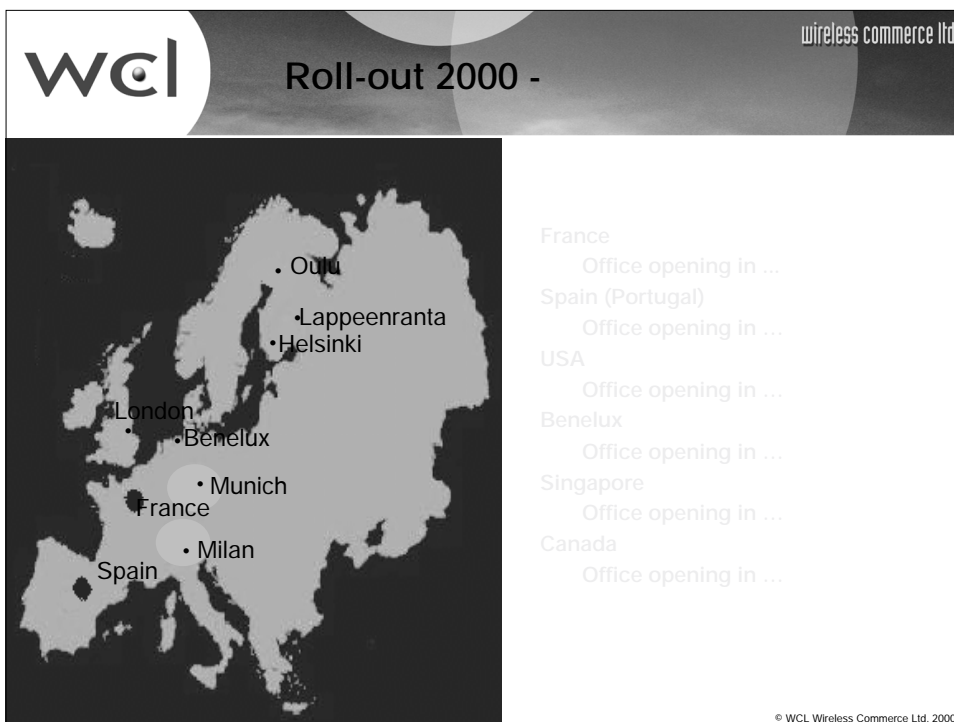
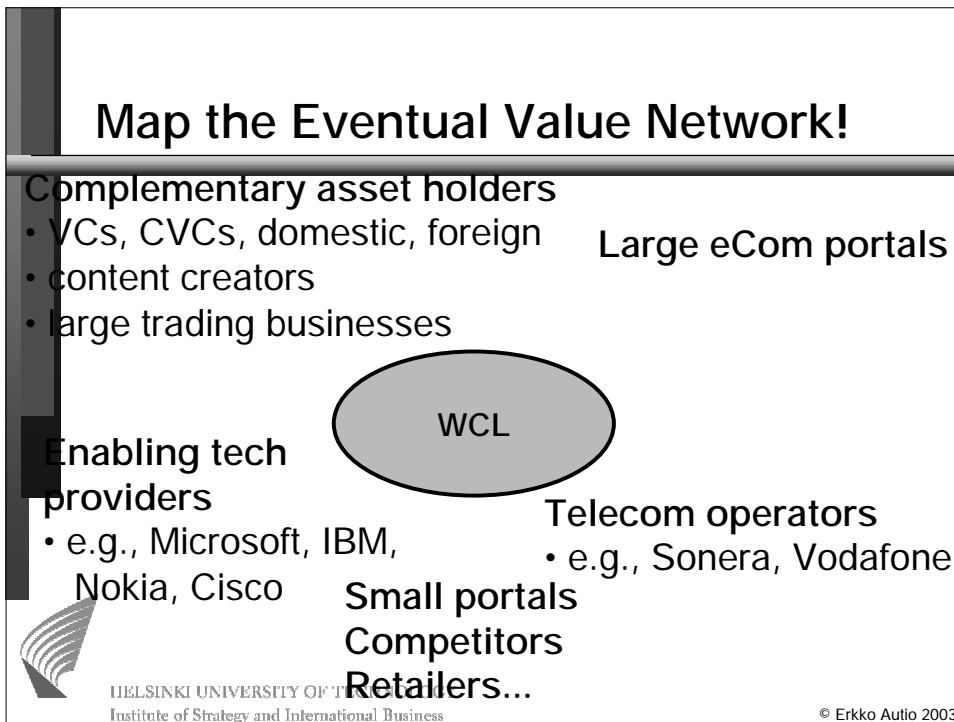
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## Roll-Out Action Sequence

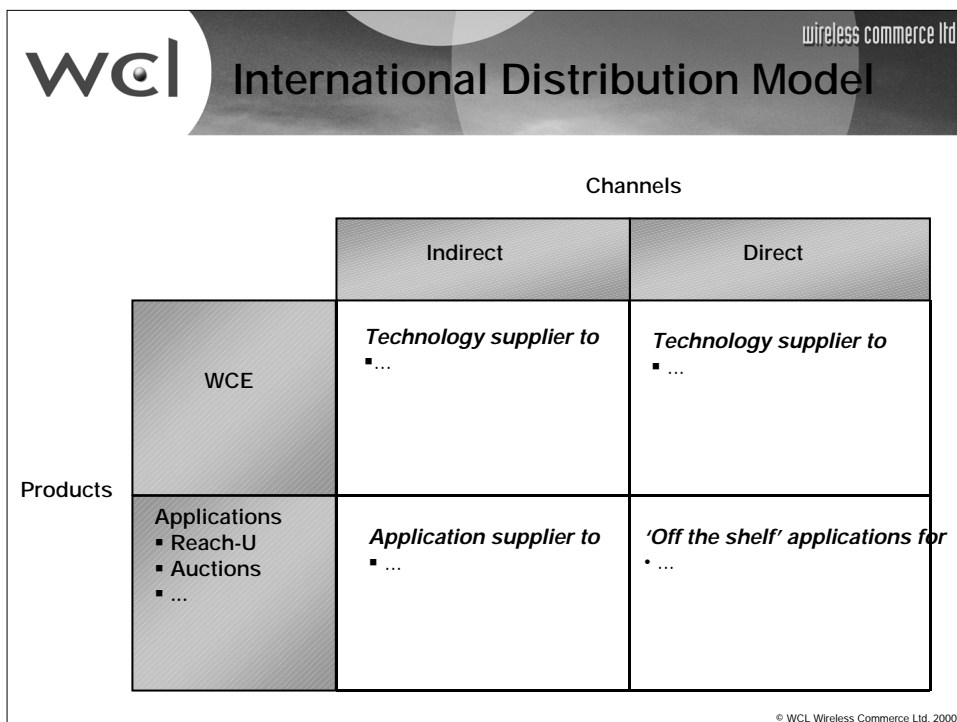
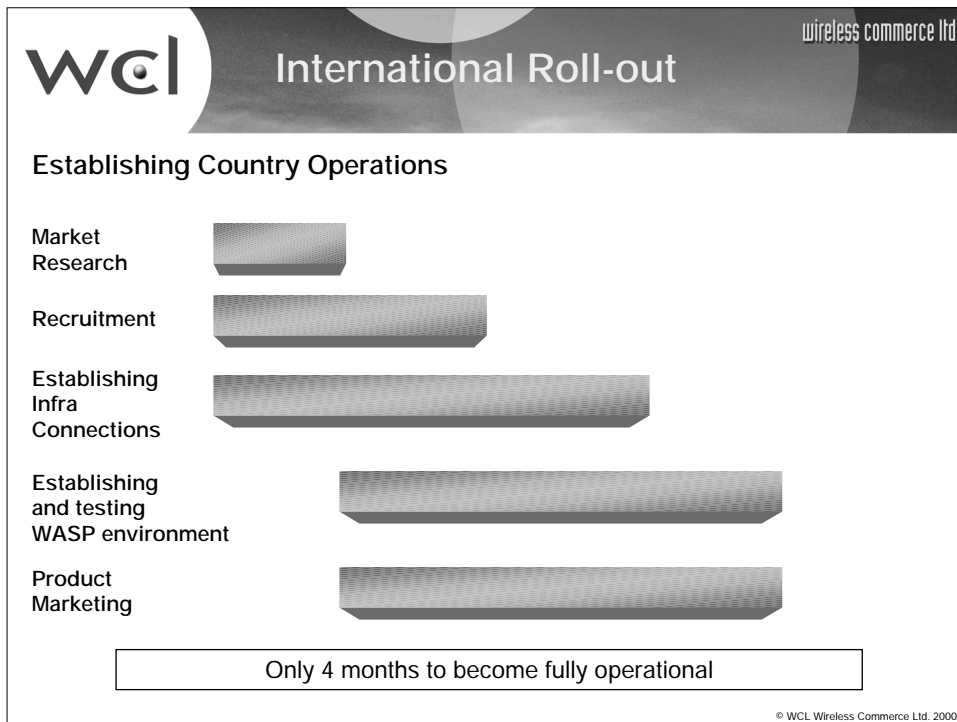
- ❖ Rapid Market Research
- ❖ Recruitment of Country Manager, Key Personnel
- ❖ Creating Business Infrastructure and Alliances to Support Delivery Capability
- ❖ Building Support Functions
- ❖ Establishing Distribution Channel Strategy
- ❖ Building Financial Control Systems
- ❖ Building Feedback Channels to R&D
- ❖ Laying Groundwork for Country Expansion

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## A Country Roll-Out is Like Directing an Orchestra

### Value Creation Process

Alliance Network



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## Will You Succeed?

- ❖ Do you have a global vision?
- ❖ Are you internationally experienced?
- ❖ Do you have strong international contact networks?
- ❖ Do you employ preemptive technology or marketing strategies?
- ❖ Do you rely on unique intangible assets?
- ❖ Are your product or service extensions closely linked?
- ❖ Are you able to coordinate your business worldwide?



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## Critique

- ❖ An almost pitiful performance of Scandinavian technology-based new firms compared to, e.g., Israel
- ❖ Lots of technology, too little internationalization and commercialization competence
- ❖ Too little growth orientation, too much tinkering with technology
- ❖ Equity culture and related competencies still too weak
  - ① US approach: raise USD 18M, invest USD 16M in marketing
  - ① Finnish approach: raise USD 1M, invest USD 0,8M in product development

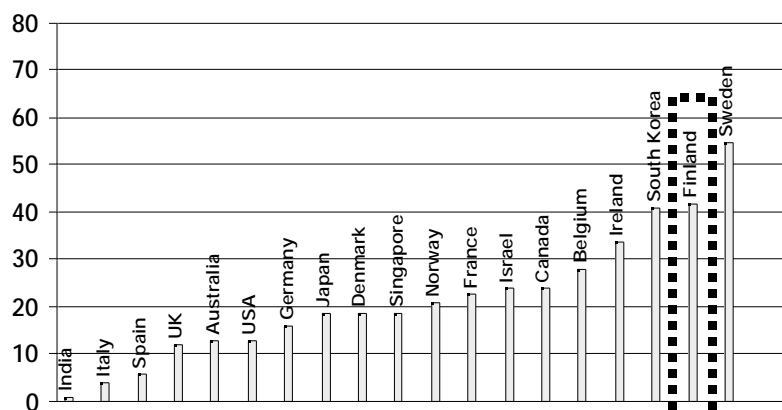


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## Number of Companies Receiving Domestic Venture Capital per Million of Population in 1999

Number of companies/million persons

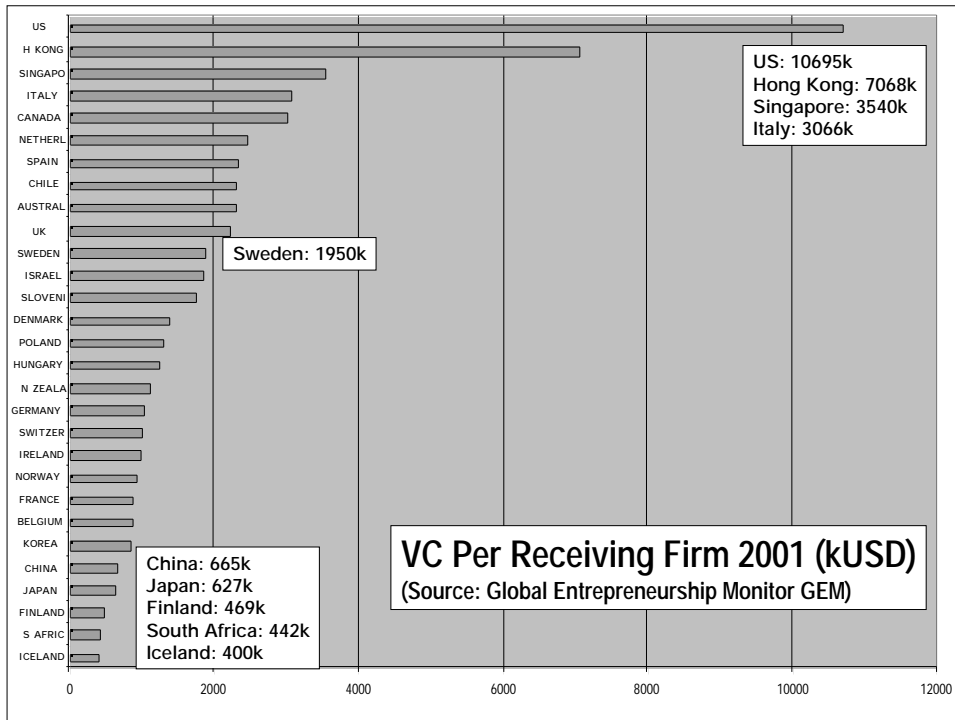


Venture capital comprises investments in seed, early, startup, and expansion stage companies



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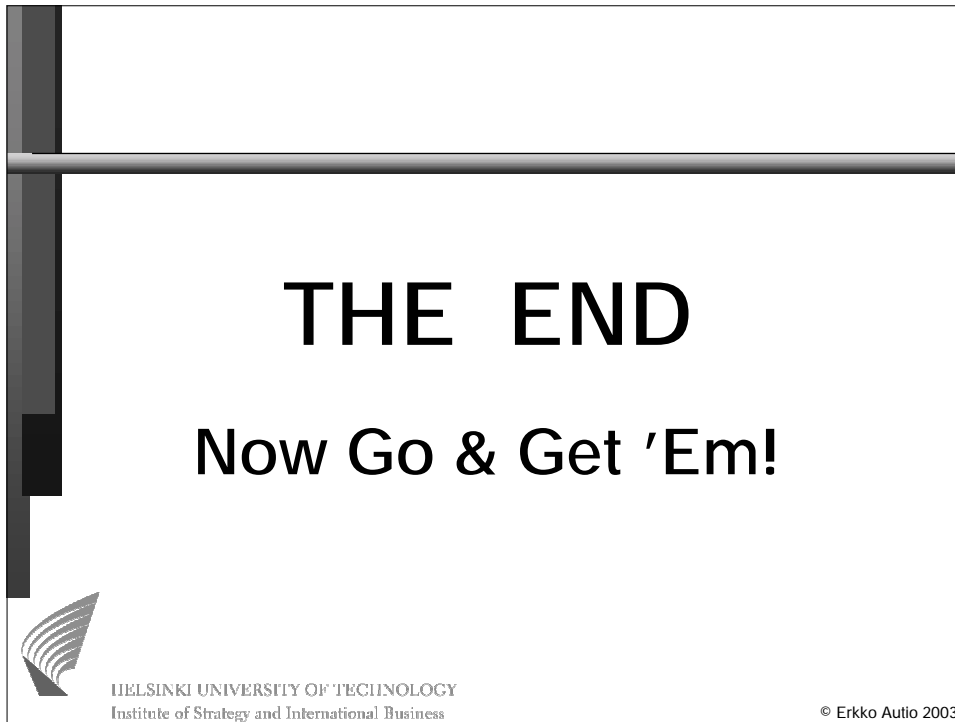
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## Today's Take-Home Lessons


- ✎ The Paradigm of Knowledge is Fundamentally Different
- ✎ Internationalization is, in Essence, About the Management of Firm's Cognition, Organizational Capabilities, and its Social Capital
- ✎ Knowledge is your Most Important Resource
- ✎ You Must Proactively Manage the Value of Your Knowledge by Managing the Context of its Use
- ✎ For Long-Term Advantage, You Must Position Your Firm for Sustained Fast Learning





**THE END**

**Now Go & Get 'Em!**



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