



Aligning Innovations to Project Networks: The Global Challenge

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Introduction

Quote for Context

"Well in our country," said Alice, still panting a little, "you'd generally get to somewhere else - if you ran very fast for a long time as we've been doing."

"A slow sort of country!" said the Red Queen, "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that."

- Lewis Carroll, *Through the Looking Glass*

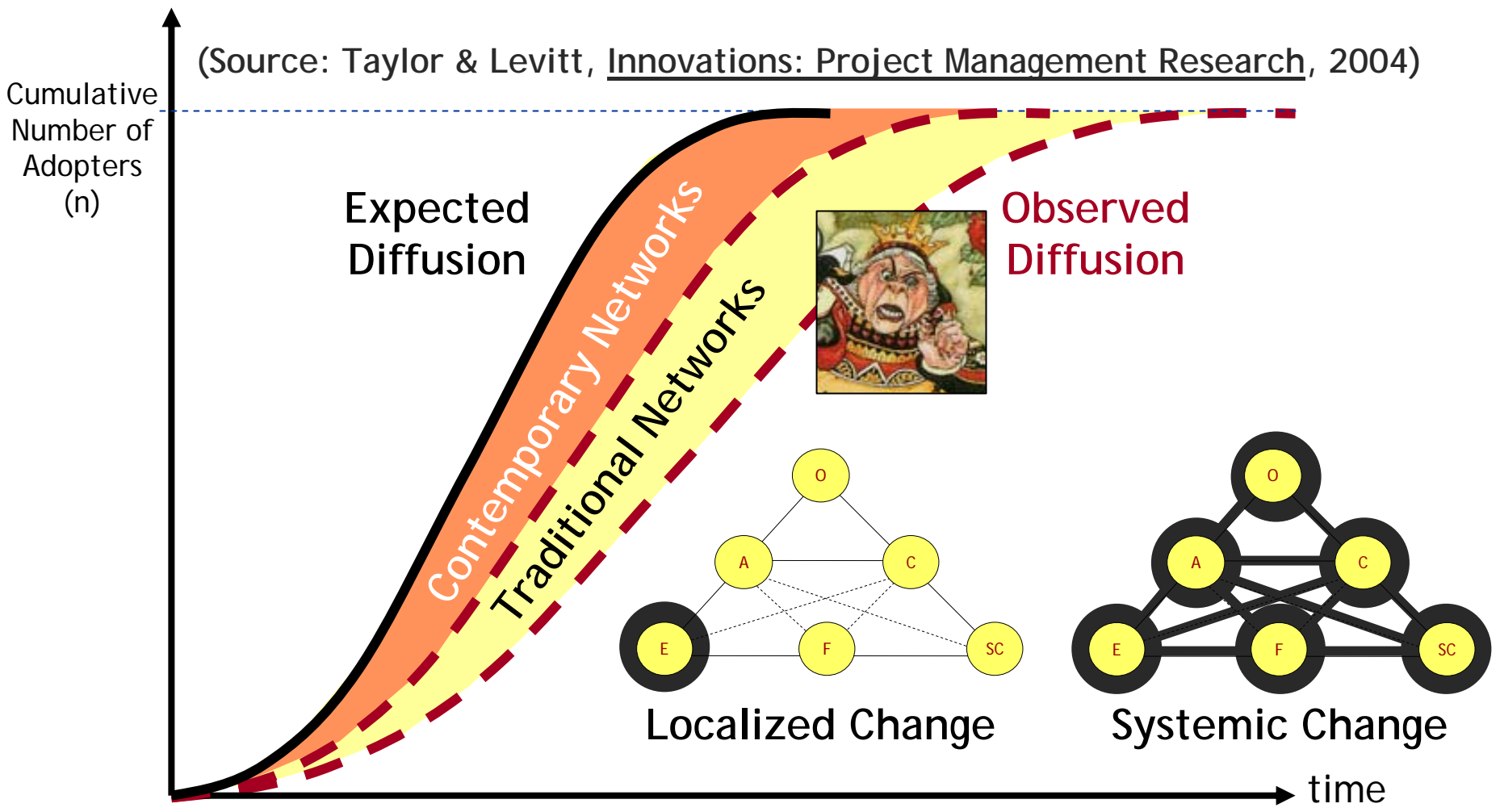




Introduction

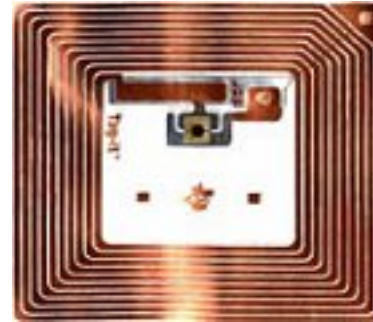
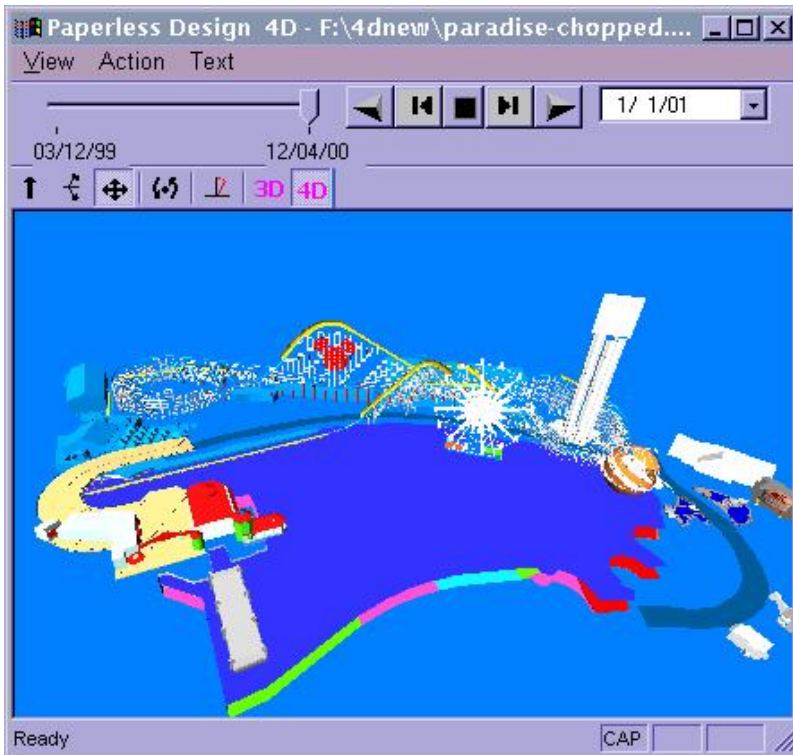
The Red Queen & Systemic Change in Project Networks

(Source: Taylor & Levitt, Innovations: Project Management Research, 2004)



Introduction

Examples of "Systemic" Innovation



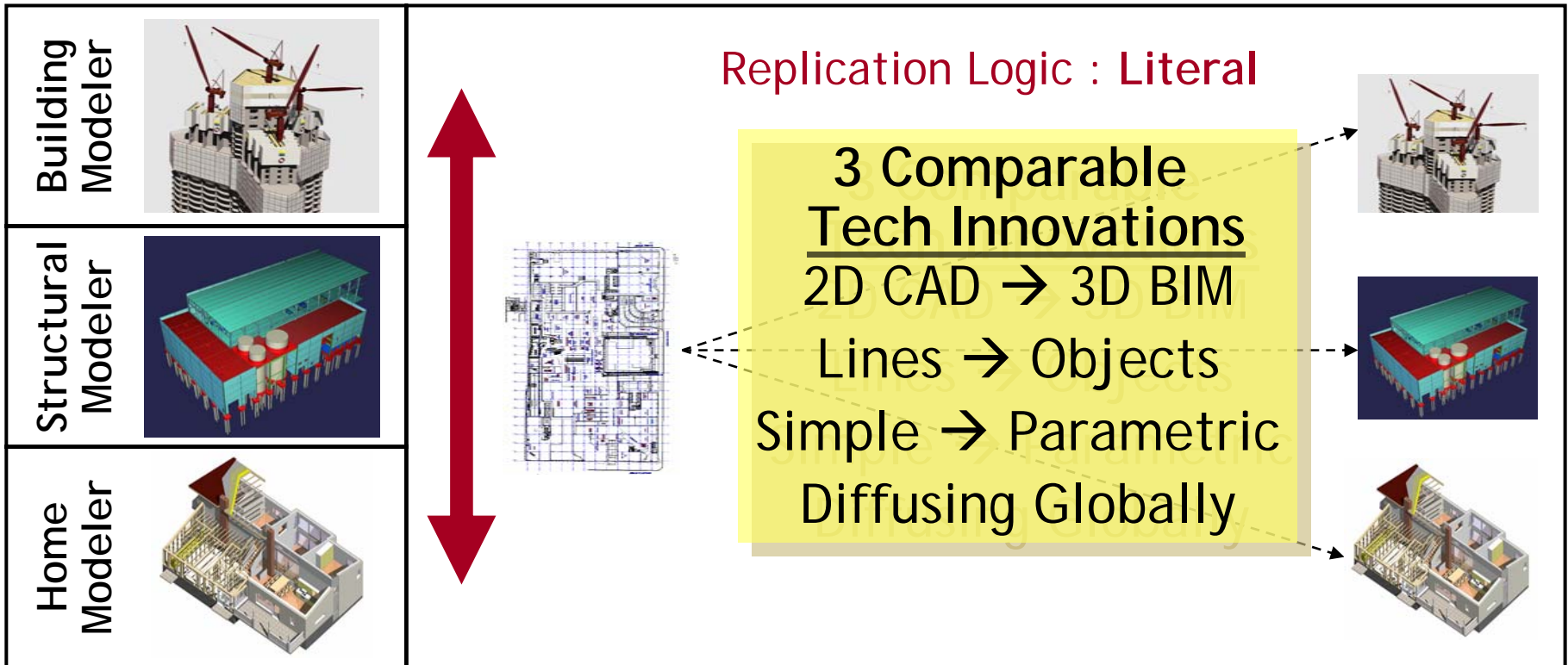
Research

Motivating Questions

- How does organizing in project networks impact systemic innovation diffusion and implementation?
- How do innovation processes and outcomes differ for project networks in different countries?

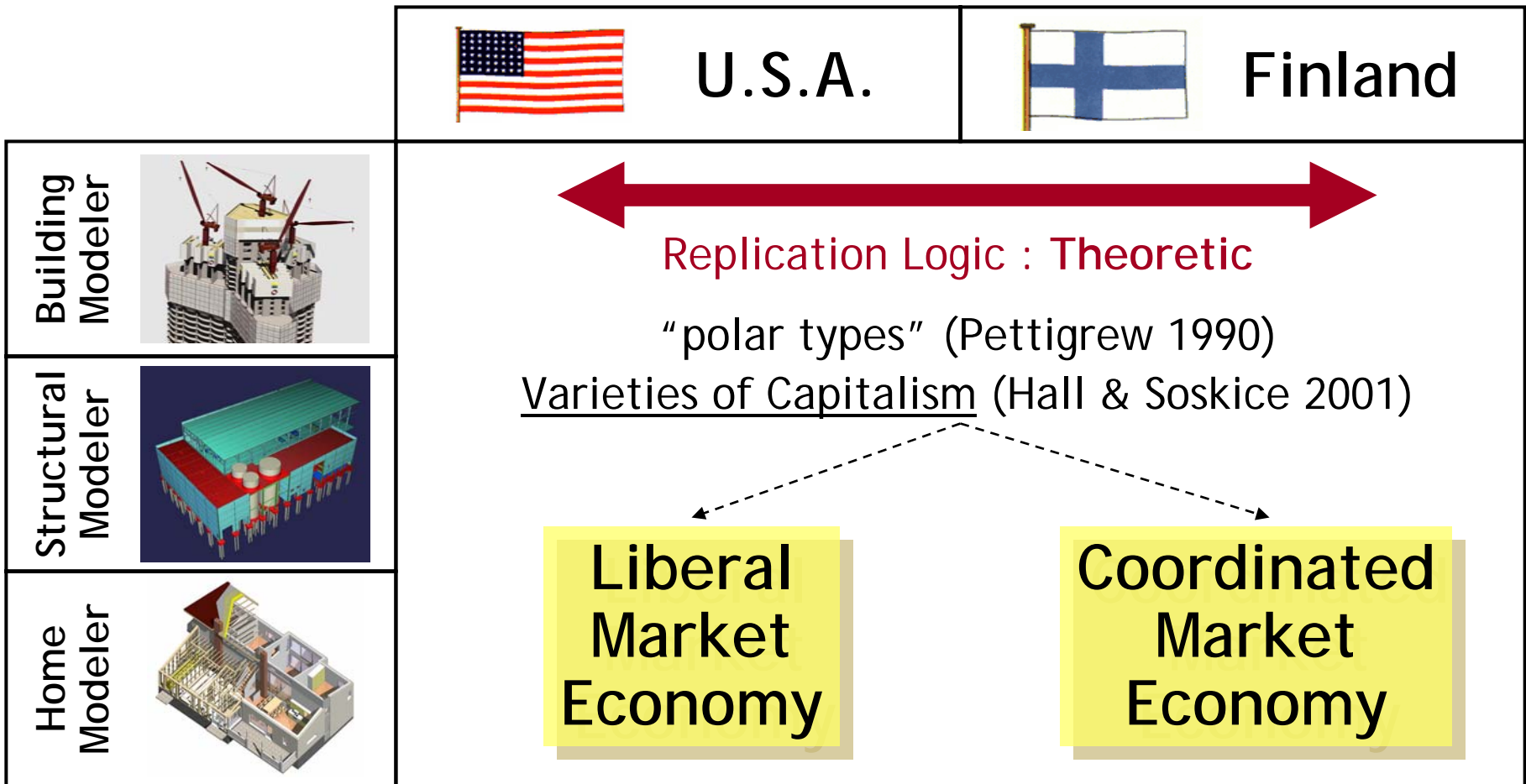
Research

Multi-level Design of Outcomes and Processes





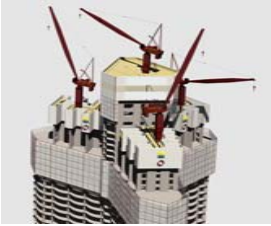
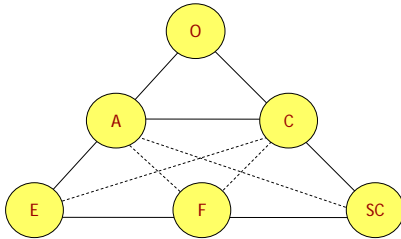
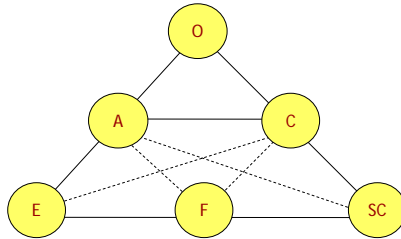
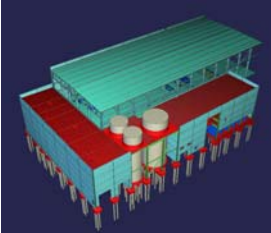

Research

Multi-level Design of Outcomes and Processes



Research

Multi-level Design of Outcomes and Processes

	 U.S.A.	 Finland
Building Modeler 		
Structural Modeler 	<p style="text-align: center;">Cases of Implementation in (overlapping) Firm Networks</p> <p style="text-align: center;">Designed for Analytical Generalization (Yin 1994) Multiple Cases to increase Validity of Constructs identified (Eisenhardt 1991)</p>	
Home Modeler 		



Research Data Collected

8 month effort / 100+ hours of interview data / 65 Interviewed
(24 Finns in 12 Finnish firms / 41 Americans in 21 U.S. firms)

Method	Source of Data	Analysis
Interview	Technology vendors, owners, architects, contractors, engineers, subcontractors	Coding, Pattern-matching, Content Analysis, Construct Development, Explanatory Model-Building
Direct Observation	Projects where innovation is being implemented, project meetings	
Primary Documentation	2D & 3D CAD/BIM files, meeting minutes, process documents, news articles, bills of materials, project decision schedules, authored books, proposals, project schedules, rosters of project participants...	

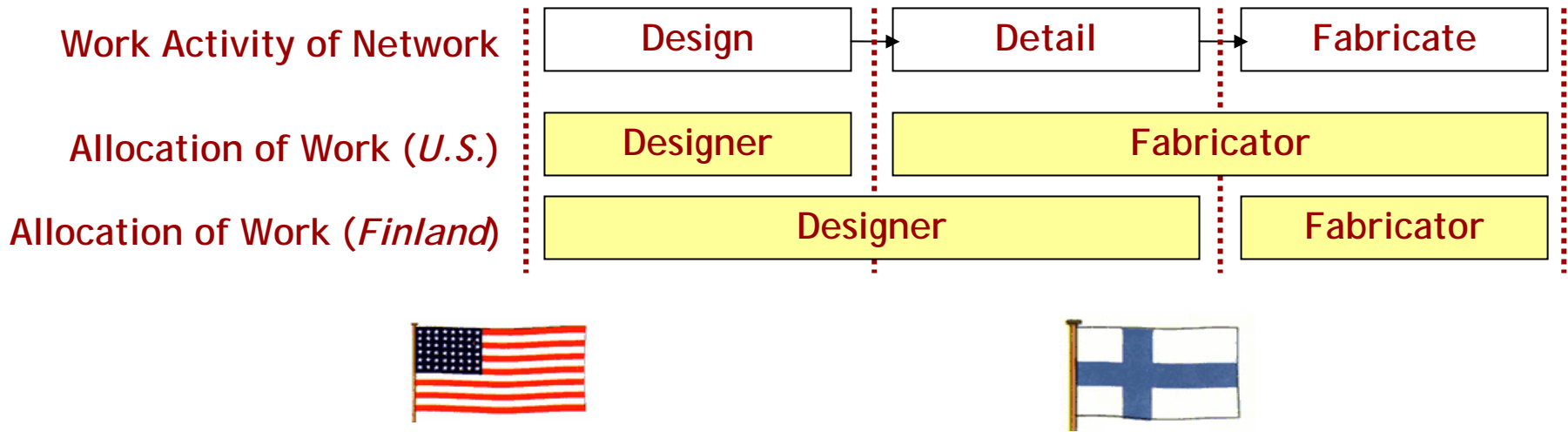
Findings

Moderators of Implementation & Diffusion

	Construction Firm Network Country of Origin	
Moderator		
Relational Stability	Weak Tendency to contract 5-6 firms per specialist type	Strong Tendency to contract 1-3 firms per specialist type
Interests	Firm	Network
Organizational Boundaries	Rigid	Fluid
Agent for System-level Change	Self-organizing	National Technology Funding Agency
Industry Fragmentation	Many small firms	Few large firms

Findings

Allocation of Work to Specialists in Network

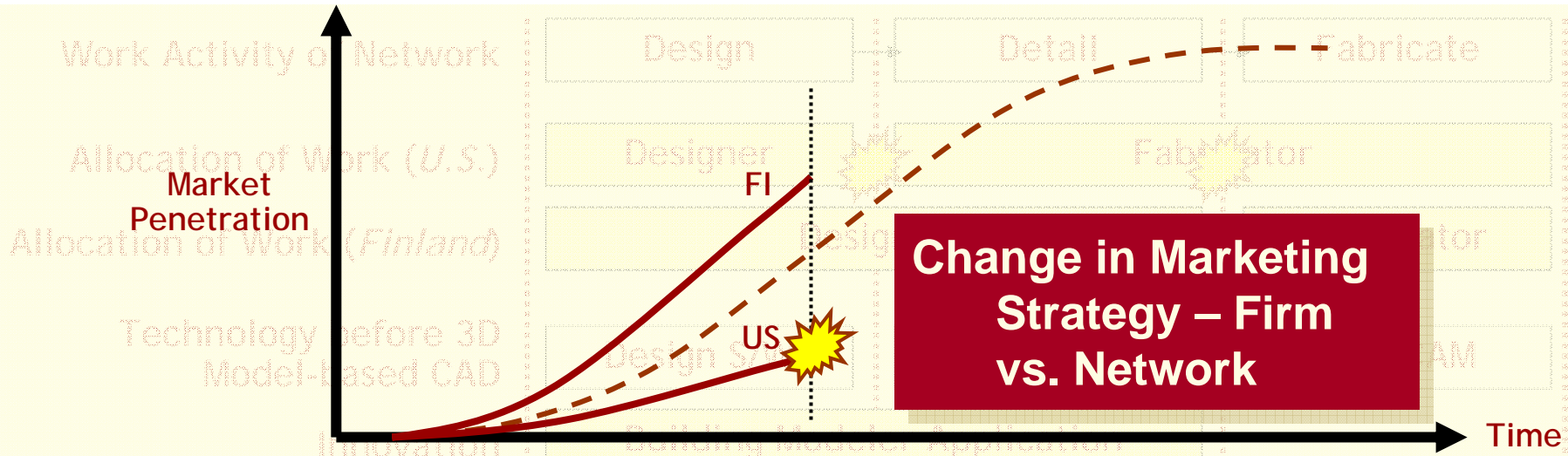


“Design professionals don’t use exact dimensions. Contractors interpret these (*refers to the architect’s drawings*) and create shop drawings with actual dimensions.” - U.S. Architect

A single verb, *suunnitella*, describes both the Designing and Detailing process in the Finnish language - Architects and Engineers both Design and Detail

Findings

Building Modeler Innovation Alignment



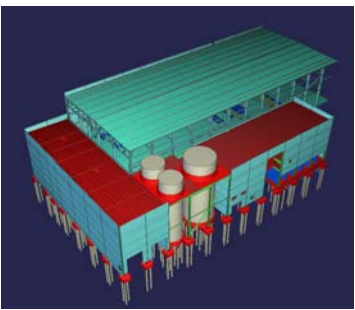
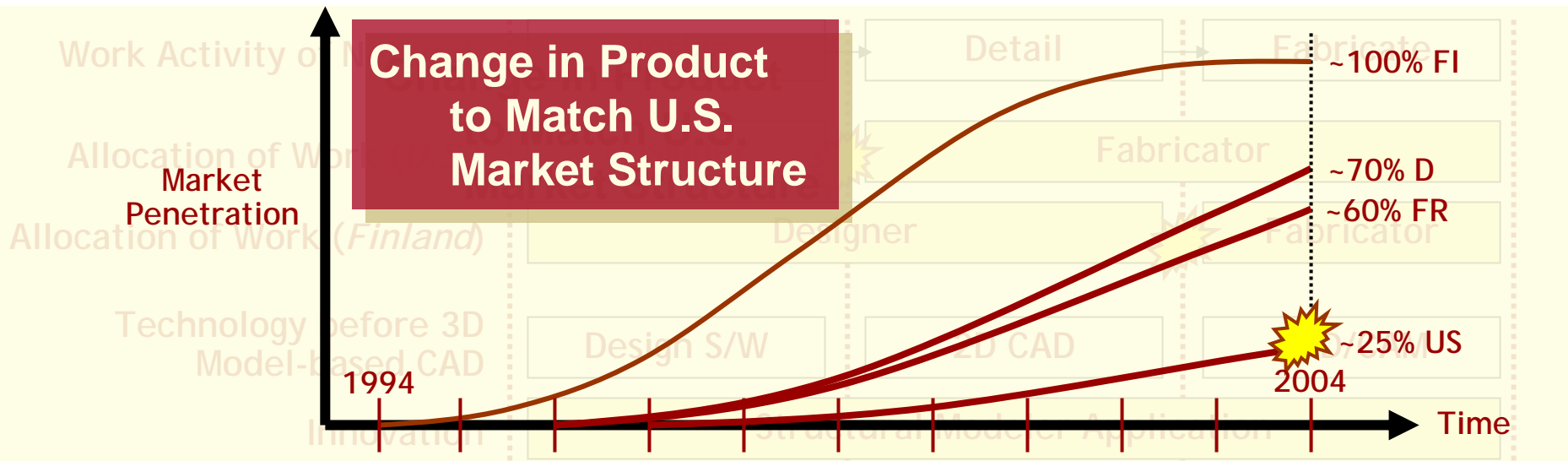
← Not Aligned to U.S. Network
Misalignment exacerbated by weak relational stability ...

← Aligned to Finnish Network



Findings

Structural Modeler Innovation Alignment



Not *Aligned* to U.S. Network
Misalignment exacerbated by weak *relational stability* ...

Not *Aligned* to Finnish Network
Misalignment mitigated through strong *relational stability* ...

Conclusions

Implications for Technology Vendors

- Alignment of innovations to project networks varies from country to country
- Understanding allocation of work in target markets can:
 - Inform global marketing and product distribution strategies to maximize returns on investment
 - Provide a measure for addressable global market
 - Inform product development decisions

Conclusions

Implications for Firm Networks

- When technology changes in the project network:
 - U.S. Project Network Strategies
 - Strengthen relational stability by contracting with fewer firms or integrating network partners
 - Promote open knowledge exchanges to reduce rigidity of organizational boundaries
 - Align incentives in the network to accommodate the shifting risks and rewards of the innovation
 - Finnish Project Network Strategies
 - Explicitly align incentives to accommodate shifting costs and benefits resulting from the innovation
 - Seek funding from government funding agencies charged with promoting system level industry change

Thank You!

Please contact me at
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with questions and/or comments.