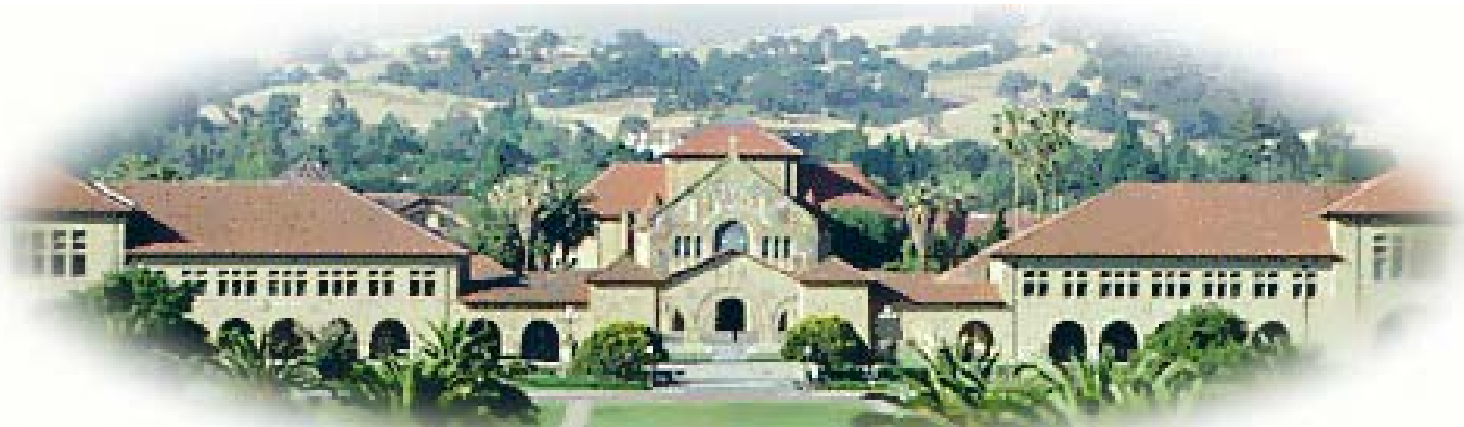


VDT-I

Predicting and Mitigating Institutional Costs in Global Projects



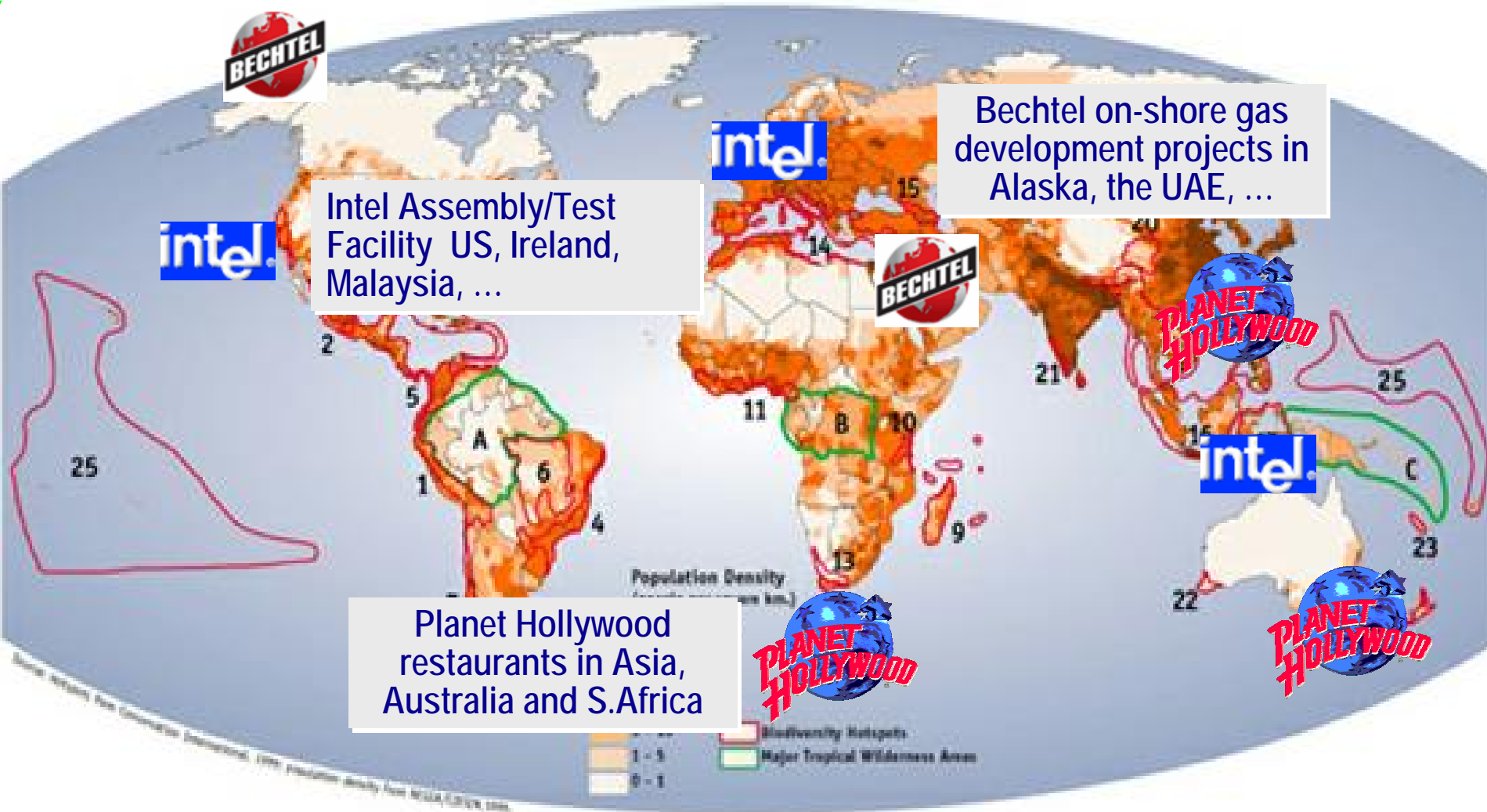
*Raymond E. Levitt
Ashwin Mahalingam
Department of Civil and Environmental Engineering
Stanford University*

What is a Global Project?

“Global Projects”:

- ...are large scale projects developed by owners, contractors and engineers based in two or more different countries.
- ...are typically high-profile endeavors that involve a multitude of participating organizations contributing toward their success.
- ...involve participating organizations whose goals, values and cultures are not completely aligned with one another, nor with the norms and values of the governmental institutions that control and influence the project's environment

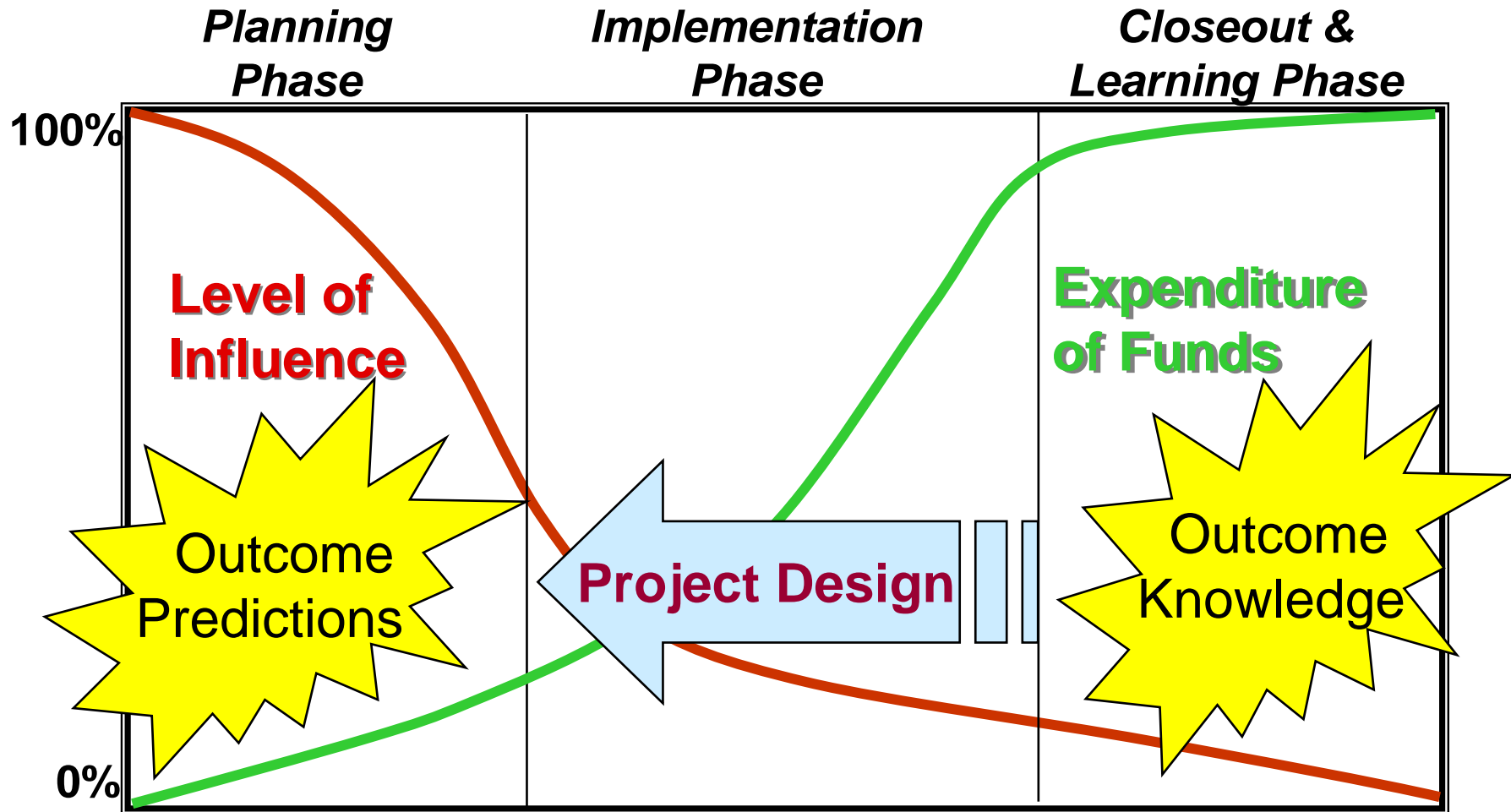
Examples of Global Projects



VDT-I SEED PROJECT GOALS

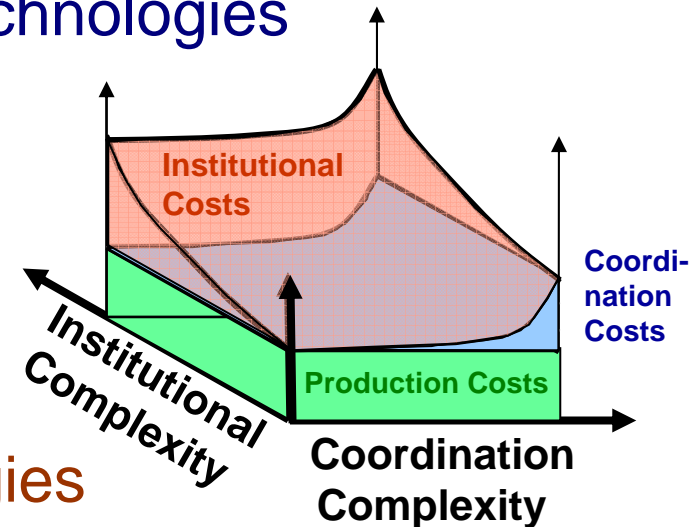
- Carry out case studies to develop insights about the effects of conflicts in goals, values, cultures on behavior of participants in global projects
- Build a proof-of-concept agent-based simulation model that can predict performance of project organizations on global projects
- Use observational data and proof of concept model to support development of a substantial external proposal

How Project Design can Improve the Outcomes of Global Projects



Scientific Challenges for VDT-I

- Existing project organization modeling and simulation tools address engineering projects, whose participants have congruent goals, culture, norms & technologies
- Global Projects to develop civil, petrochemical, telecommunications infrastructure etc, have conflicting goals, cultures, norms and technologies



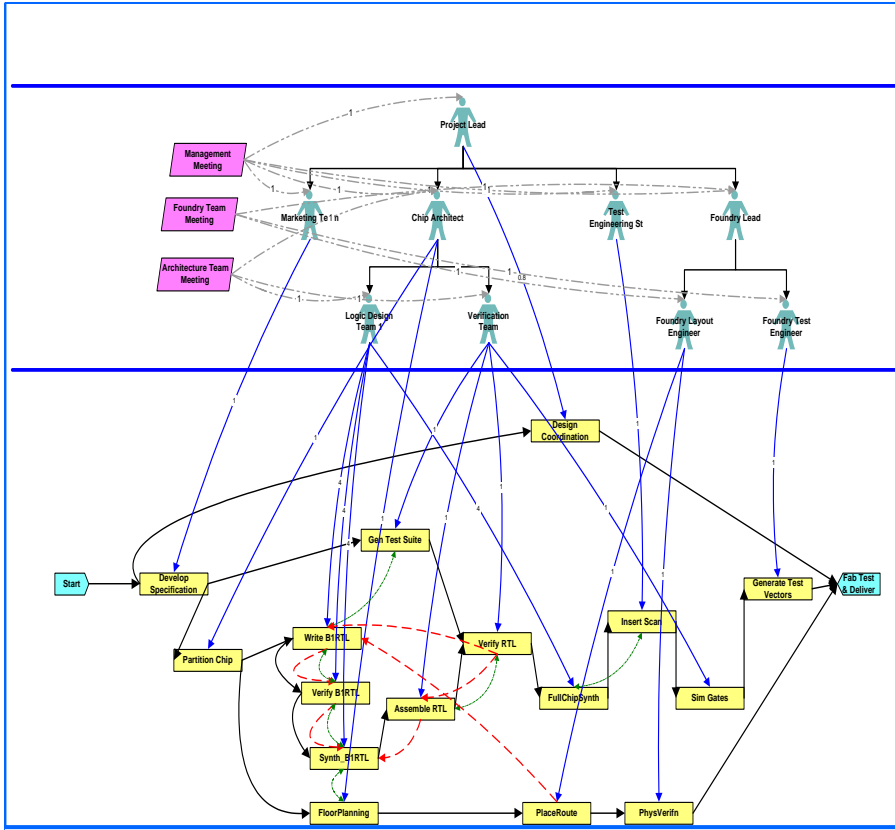
Points of Departure (1)

- *Virtual Design Team (VDT) Research Program at Stanford: 1987-present*
 - Developed theory, methodology & tools to optimize design of project organizations for fast-paced, product development projects
 - VDT Theory, methodology and tools widely disseminated
 - SimVision[®] software, based on VDT, commercialized starting in 1997

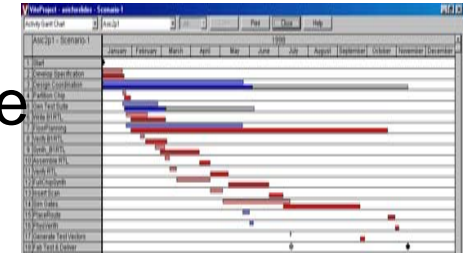
VDT Helps Managers Design their Project Organizations

Model

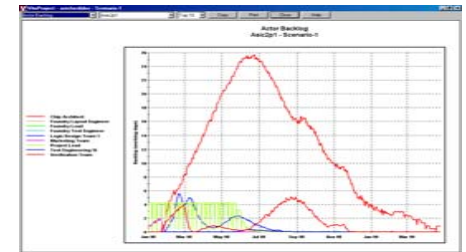
Simulation Results



Schedule



Backlog



Quality



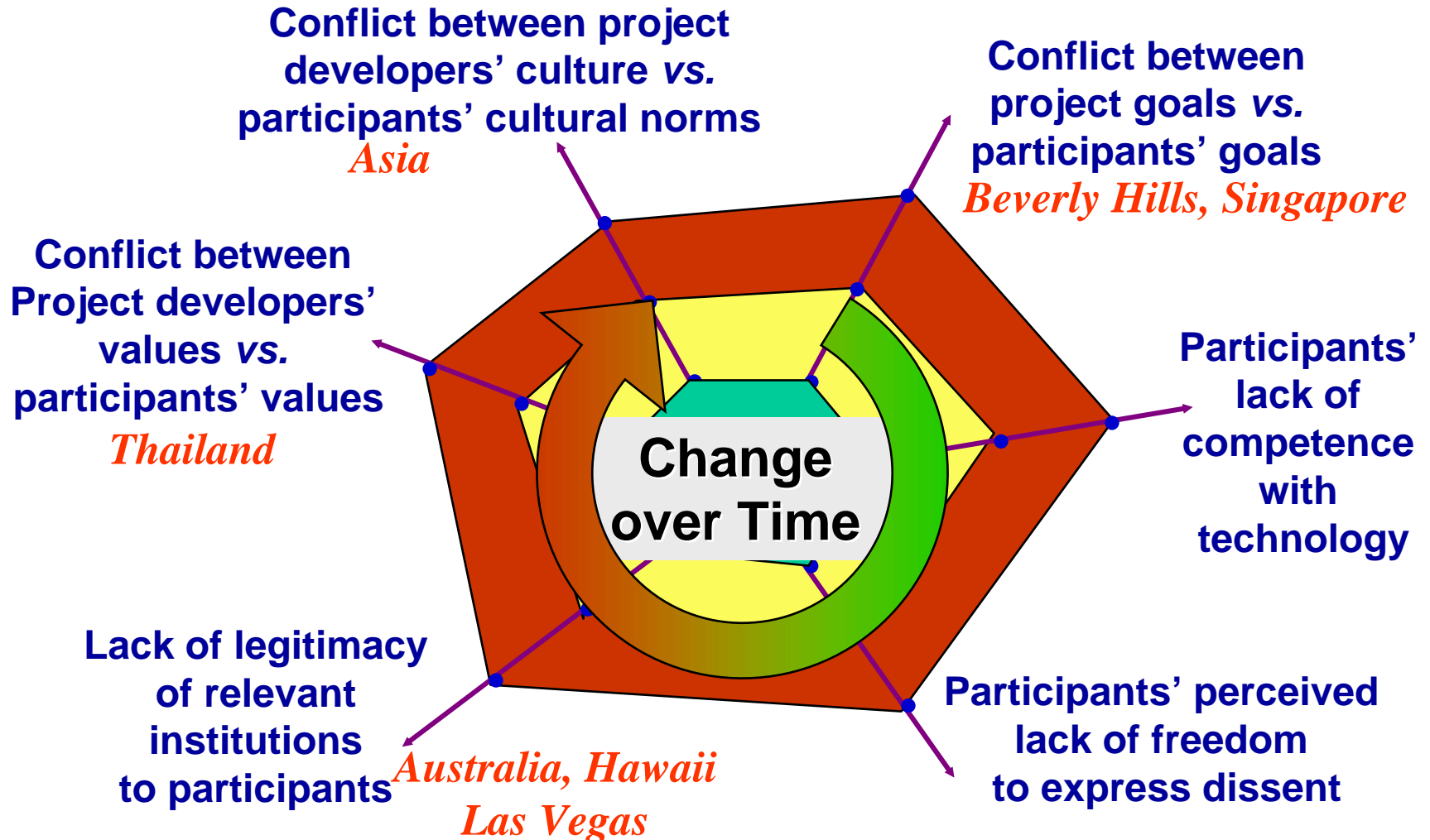
Cost



Points of Departure (2)

- *Knexus Research Program: Since 1998*
 - Used symposia, visiting scholars programs, etc. to seek out the most promising scholars worldwide to study organizations and institutions in GC projects
 - Assembled a superb team of scholars from social and cognitive sciences to work on Knexus Project
 - Identified and engaged the core team in the development of Knexus Collaboratory

Sources of Institutional Cost in Global Projects



We would like you to help us with ...

➤ *Access to experts*

- Who have anecdotal experiences on the nature of institutional effects on Global Projects

➤ *Access to data from comparable projects*

- Indirect access in the form of access to company archives on Global Projects
- Direct access in the form of visits to project locations during the summer and fall quarters

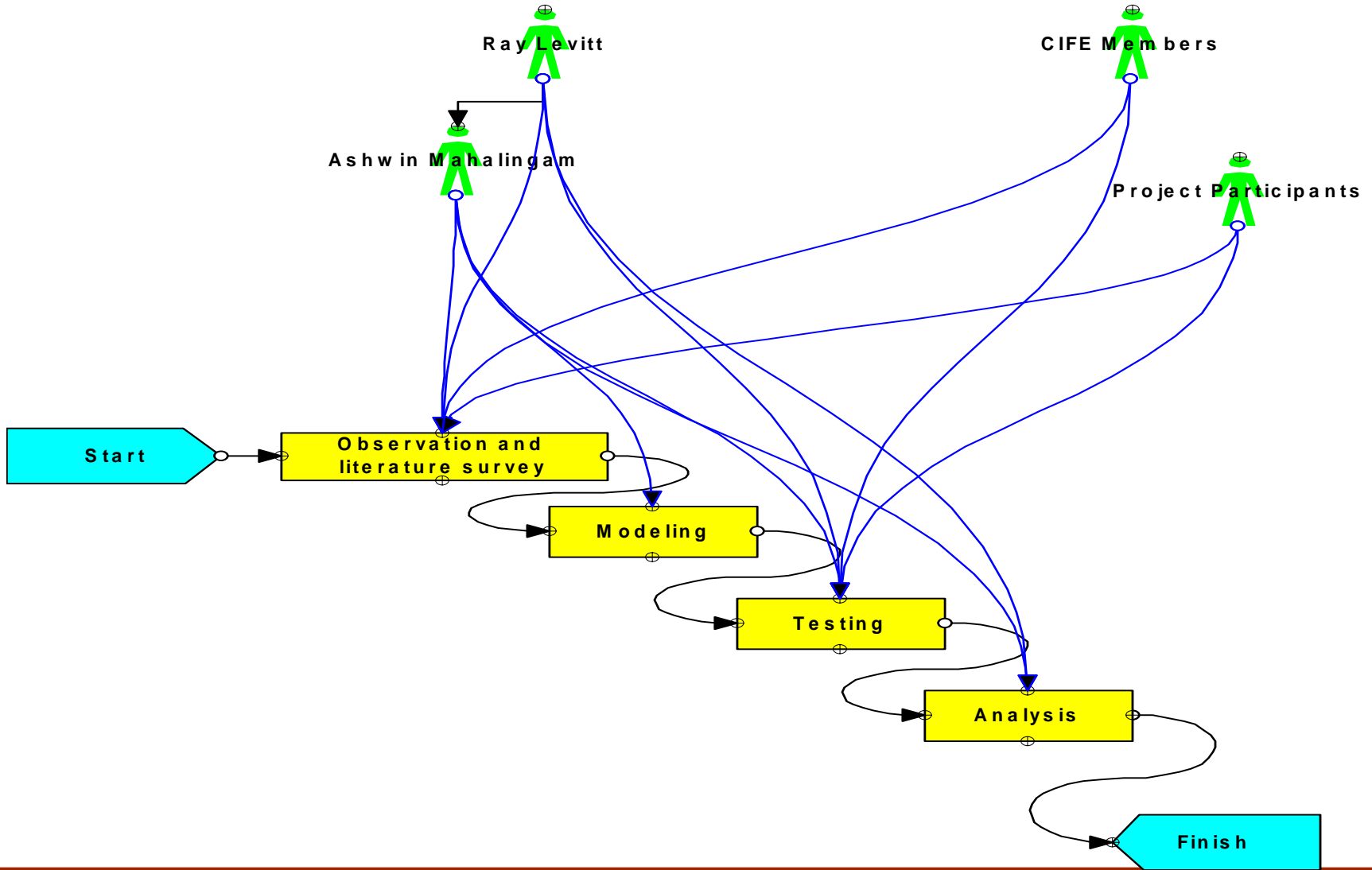
Initial Case Study – Planet Hollywood

- *Goal conflicts with the local residents led to high costs and delays at Beverly Hills*
- *Local community opposition in Hawaii translated into a large source of institutional cost and delay*
- *Lack of enforcement agencies and ingrained values made it difficult to enforce safety standards in Thailand*
- *Japanese cultural attention to precision and detail forced work to take much longer*

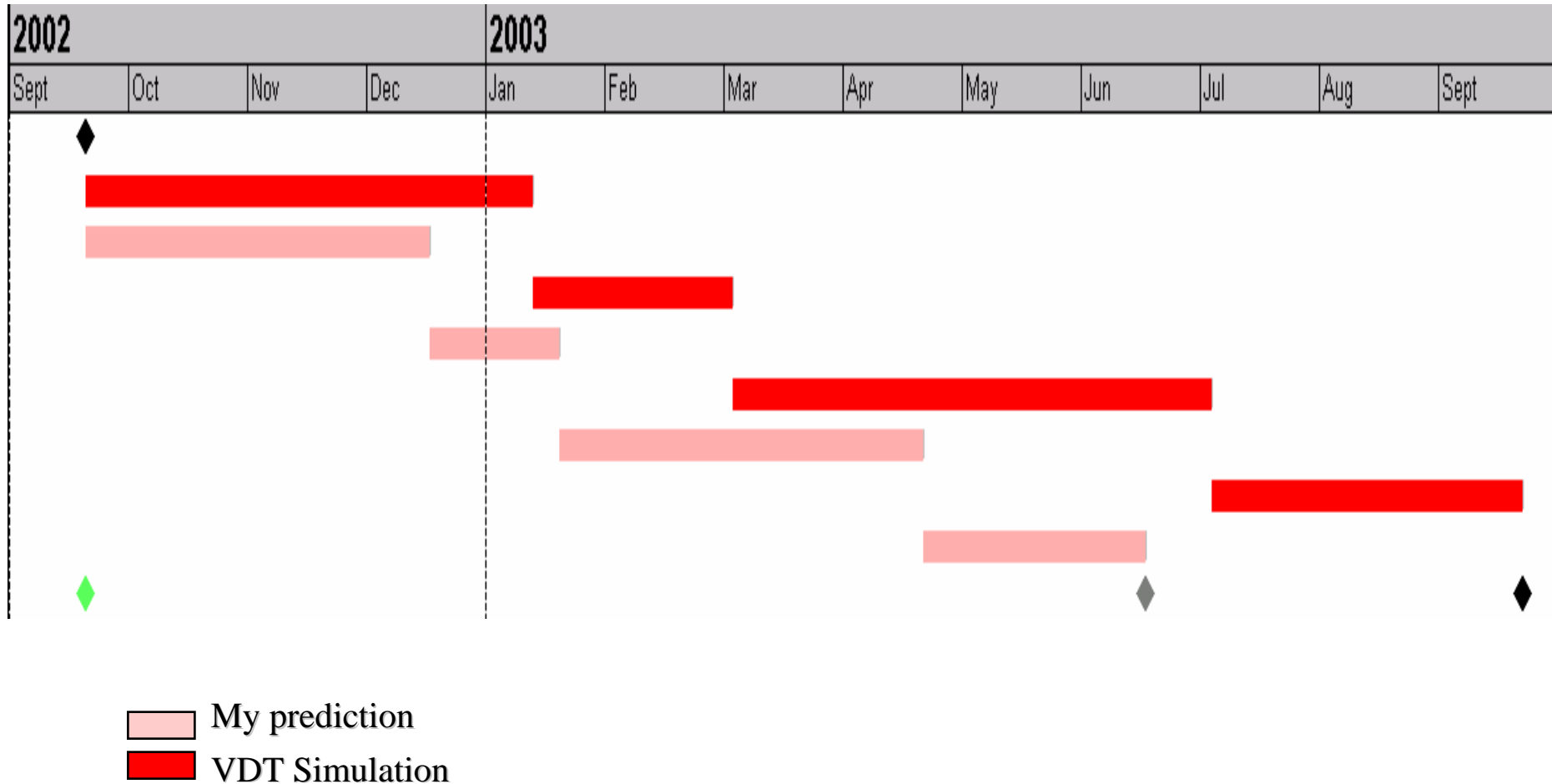
VDT-I: Ideas for Implementation

	Goal Conflict	Lack of Competence with Technology	Lack of freedom to express dissent	Lack of legitimacy of relevant institutions	Values conflict	Culture conflict
'Extra Work' (Add Activity)	<i>Beverly Hills, S'pore</i> ✓			<i>Las Vegas, Asia, Australia</i> ✓		<i>Asia</i> ✓
Motivation factor, loss of efficiency			✓			✓ <i>Asia, Japan, S'pore</i>
Meetings increase VFP			✓			
Institutional Uncertainty				<i>Hawaii, Asia</i> ✓		
High Skill mismatch		✓				
Reduced communications					✓ <i>Thailand</i>	✓ <i>Asia</i>
Increased workflow	✓ <i>Asia</i>					
Higher rework					✓ <i>Thailand</i>	

Timeline



Timeline





Questions