

# Globally Distributed Product Development

## Role of Complexity on the What, Where and How

Pedzi Makumbe (Ph.D. Candidate) & Prof. Warren Seering (advisor)

### Motivation

Observed Challenges



General Motors  
in China



Boeing 787  
Supplier Challenges

Literature Summary

- Literature has NOT investigated the role of complexity in globally distributed product development
- Little rigorous and quantitative analysis on what determines the best location for global product development. Is it the cost, the capability, or market? How do we trade-off on these determinants?
- From the different subsystems, which ones can we best develop globally? Do the same hold for complex mechanical components as well and modular electronic subsystems?

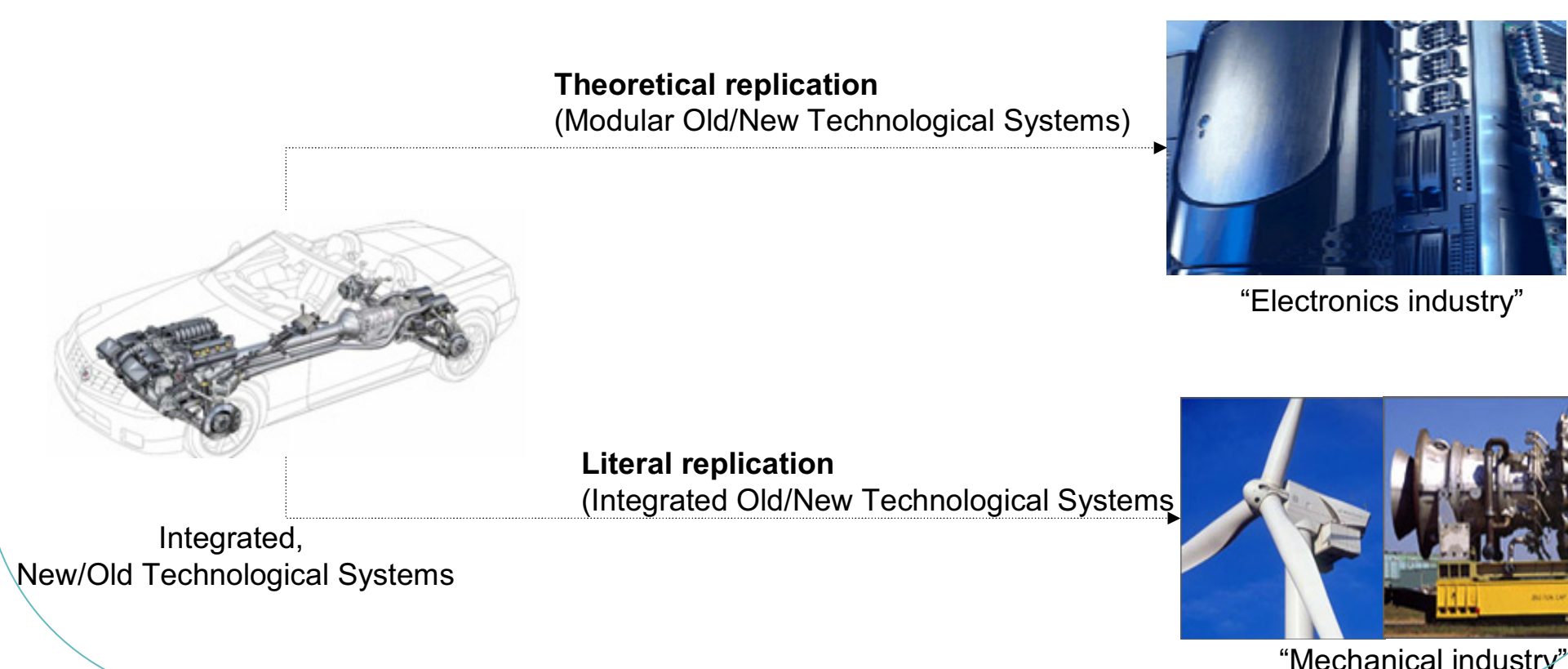


### Key Research Questions

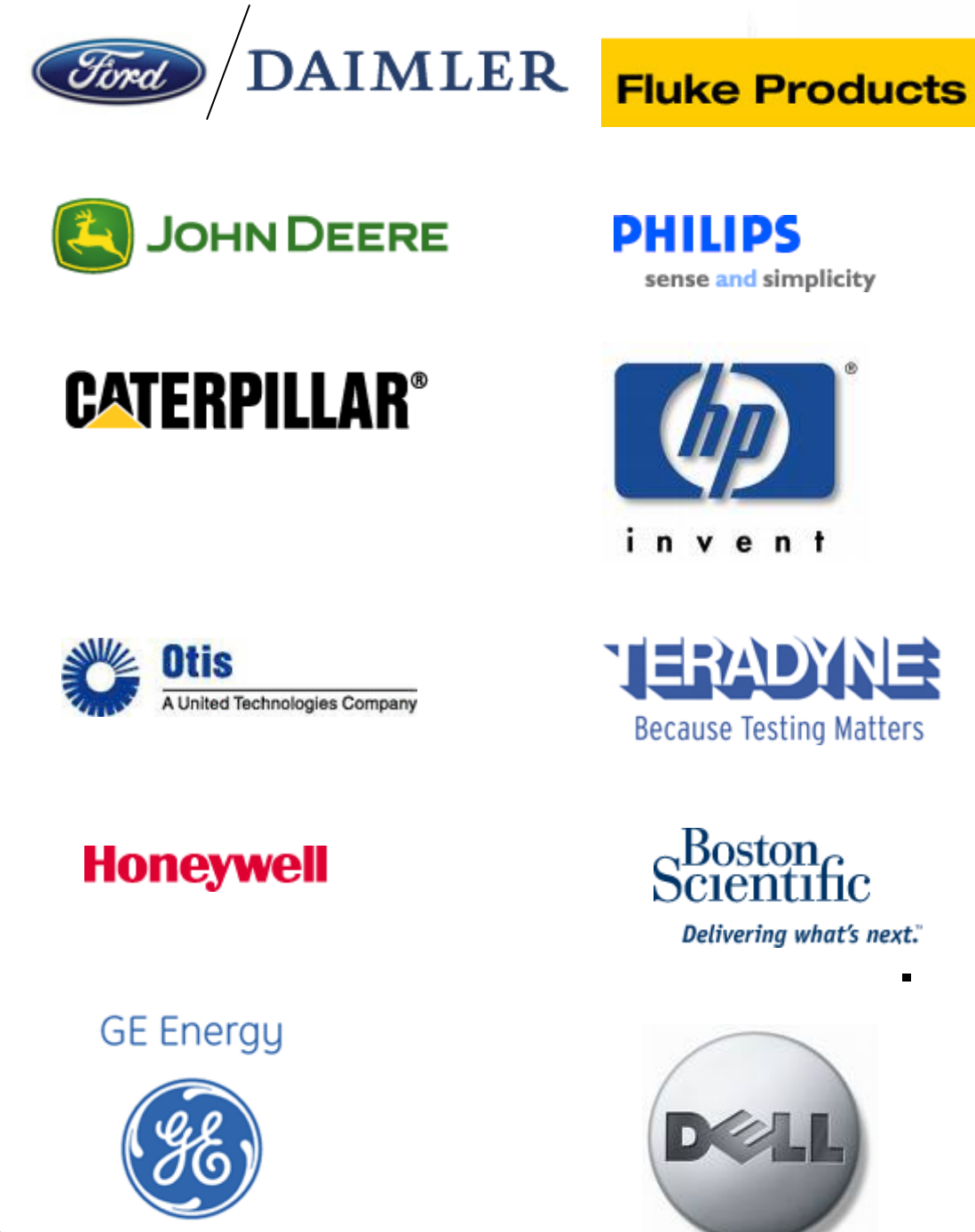
- What are some best practices in handling complexity in globally distributed product development operations?
- What types of subsystems are globally developed under the captive offshore, partner or supplier global product development modes?
- Where are the subsystems developed given technical and business constraints?

### Research Design and Methods

- Design
  - Grounded theory
  - Multiple embedded case studies
- Methods
  - Semi-structured interviews
  - Internal documents
  - Public data



#### Completed Cases



### Applications to Industry

- Compilation of best practices in globally distributed product development with a focus on handling complexity in execution and how to build the appropriate globally distributed product development organization
- Models that consider market, cost, capability and culture in predicting the best location for developing a particular subsystem
- Models that can help us decide which subsystems can best be developed globally