The Craft of Thinking

Crossing the Divide

**Between
Engineering and Marketing**

Raj Karamchedu

My Background

- 5 years: Product marketing manager

  - Silicon Image (HDMI chip marketing)

  - Systemonic (Philips Semiconductors) (WLAN chip marketing)

  - Chameleon Systems (software tools marketing)

- 5-1/2 years: Technical project manager, staff design engineer, Wireless communication systems

  - Cadence Design Systems

- BSEE, MSEE

Today's Themes

Premise:

- Most execution failures occur due to a breakdown in marketing vs. engineering interaction
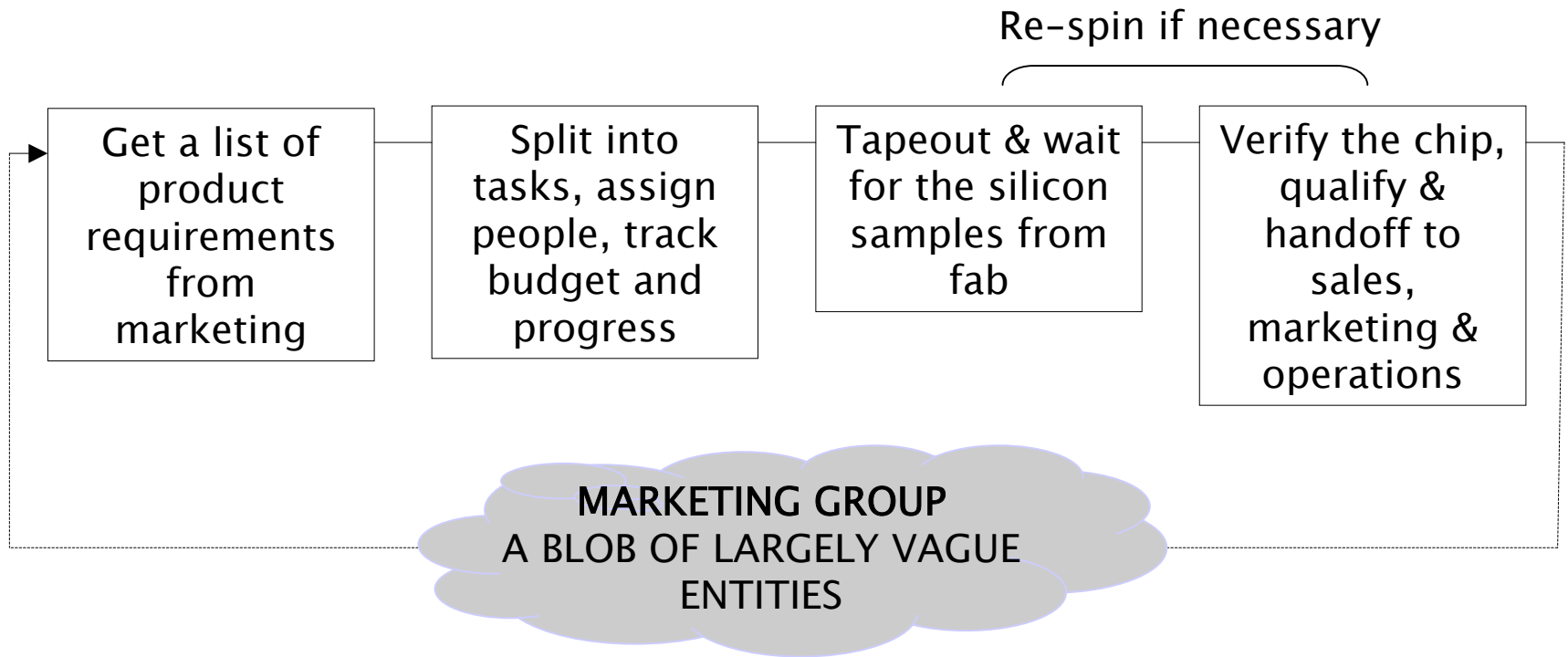
Proposition:

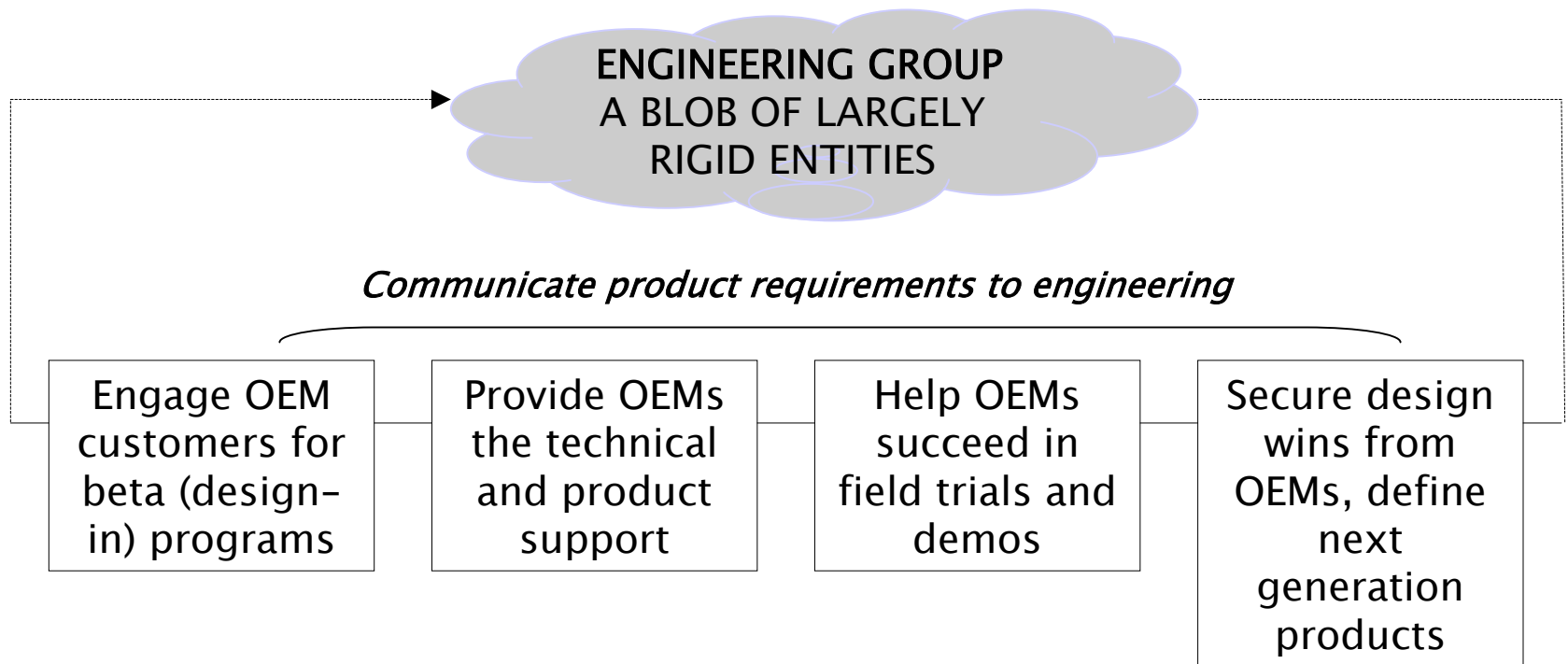- This breakdown is due to a failure in the thinking

Exploration:

- What this thinking is, how it is not "just common sense" and must be learned *as a craft*

Mental Model: An Engineering Group's View

Re-spin if necessary

| Get a list of product requirements from marketing | Split into tasks, assign people, track budget and progress | Tapeout & wait for the silicon samples from fab | Verify the chip, qualify & handoff to sales, marketing & operations |

**MARKETING GROUP
A BLOB OF LARGELY VAGUE ENTITIES**

Mental Model: A Marketing Group's View

ENGINEERING GROUP
A BLOB OF LARGELY
RIGID ENTITIES

Communicate product requirements to engineering

Engage OEM customers for beta (design-in) programs	Provide OEMs the technical and product support	Help OEMs succeed in field trials and demos	Secure design wins from OEMs, define next generation products

The Problem

- Most engineers do not *relate* to marketing

    - Yeah, marketing is important, but what *exactly* do you guys *do*?

- It all sounds like fakery

    - Some engineers are actually embarrassed to take marketing guys to design review meetings

- How can anything *so non-technical* be so important?

The Problem

- What is all this "differentiation," "time-to-market," "competitive advantage" stuff anyway? Sounds like a lot of "b.s."

- Most designers believe that marketers are
  - Those sub-par engineers who couldn't make it in the intellectually superior world of design

Block-oriented Thinking

| Get a list of product requirements from marketing | Split into tasks, assign people, track budget and progress | Tapeout & wait for the silicon samples from fab | Verify the chip, qualify & handoff to sales, marketing & operations |

- Most technology-driven companies have a block-oriented view of the world:
  - Systematic, task-oriented, and data-flow like
  - Neat handoff points from one block to the next
  - Largely project/program management driven
- Real world markets are hardly this!

| Engage OEM customers for beta (design-in) programs | Provide OEMs the technical and product support | Help OEMs succeed in field trials and demos | Secure design wins from OEMs, define next generation products |

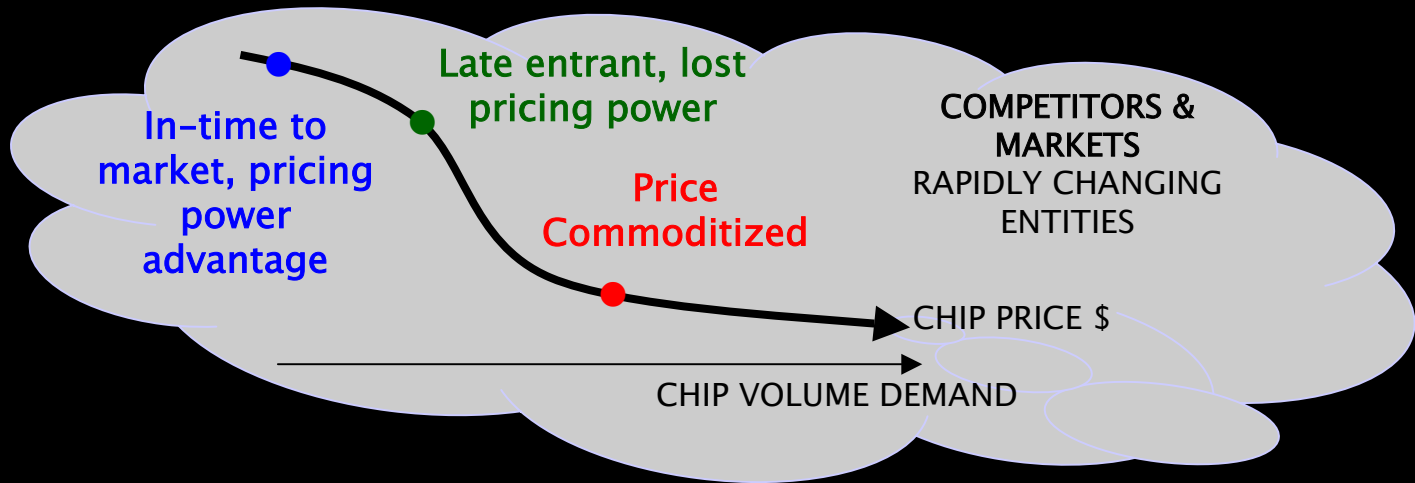# Easy Target: Market Changes → Conflict

Get a list of product requirements from marketing

Split into tasks, assign people, track budget and progress

Tapeout & wait for the silicon samples from fab

Verify the chip, qualify & handoff to sales, marketing & operations

ENGINEERING GROUP

In-time to market, pricing power advantage

Late entrant, lost pricing power

Price Commoditized

COMPETITORS & MARKETS
RAPIDLY CHANGING ENTITIES

CHIP PRICE $

CHIP VOLUME DEMAND

MARKETING GROUP

Engage OEM customers for beta (design-in) programs

Provide OEMs the technical and product support

Help OEMs succeed in field trials and demos

Secure design wins from OEMs, define next generation products

So, What to do?

- Real world markets abhor products that are not shaped by them.

- So, if you find yourselves in a conflict with engineering, it is usually <u>a result of a change in the market, customer condition.</u>

- Thinking = Thinking for markets

- Lesson: Coach your engineering colleagues to think like a good marketer. Easy, right?

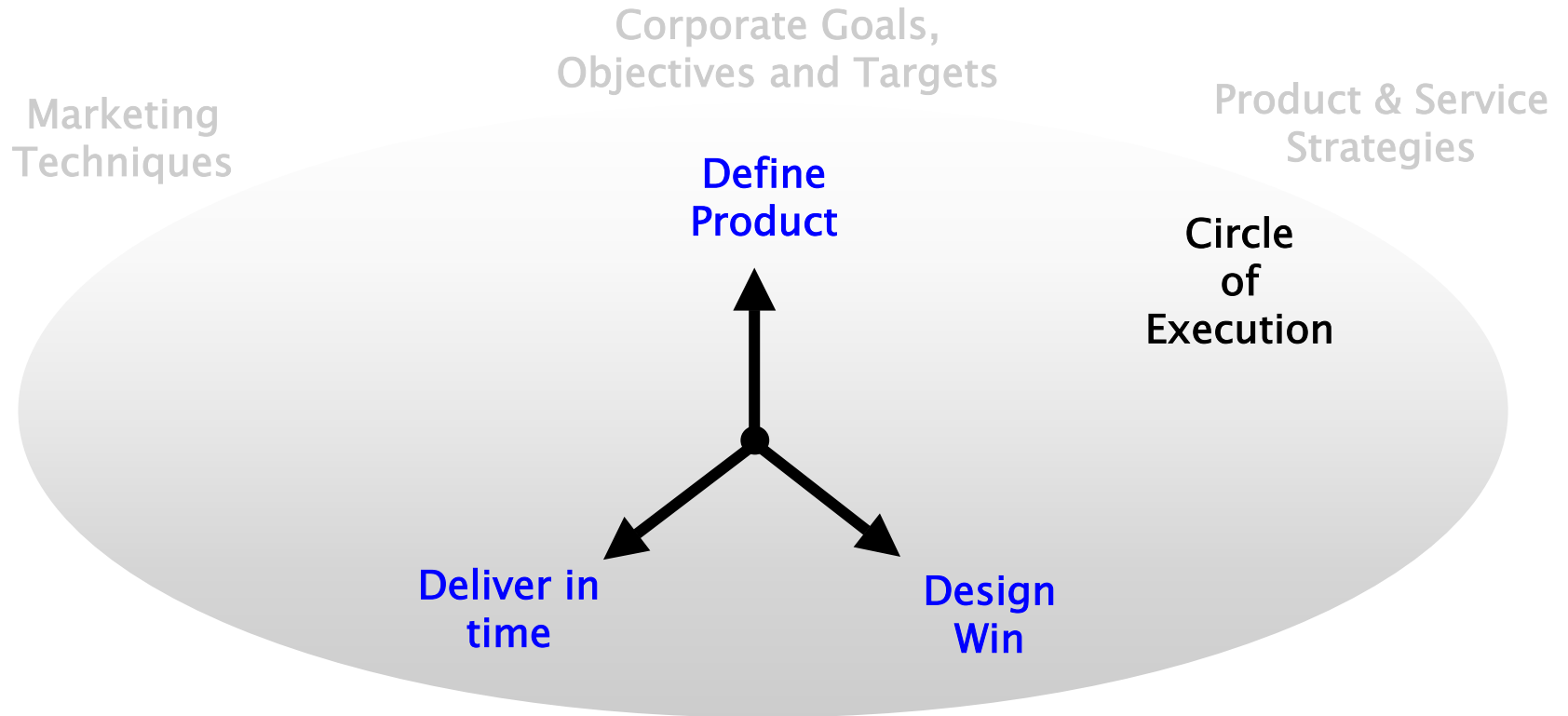# Marketing Roles Are a *Result* of a Particular Kind of Thinking

Corporate Goals, Objectives and Targets

Marketing Techniques

Product & Service Strategies

partnerships

product management

requirements analysis

tactical marketing

competitive data gathering, analysis

marcom/pr

product planning

sales support

business case financials

applications/ technical marketing

customer marketing

Goal of Marketing - Wrong

Don't confuse tools for goals

Corporate Goals,
Objectives and Targets

Marketing
Techniques

Product & Service
Strategies

partnerships

product
management

requirements
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tactical
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marcom/pr

product
planning

business case
financials

application
technical
marketing

sales ___ort

customer
marketing

Goal of Marketing - Right

Corporate Goals,
Objectives and Targets

Marketing
Techniques

Product & Service
Strategies

**Define
Product**

Circle
of
Execution

**Deliver in
time**

**Design
Win**

Whence Come the Seeds of Conflict?

- Teams are not prepared to tackle the pressures imposed by the circle of execution
  - It is a never-ending cycle: overlapping and staggered, but NEVER fully sequential
  - Lack of readiness to move with changing markets
- A typical engineering group has NO visibility into circle of execution in its entirety
  - Marketers have a tendency to hide the big picture

Execution is Not a Business Process

And We Are Prisoners of Our Own Contexts
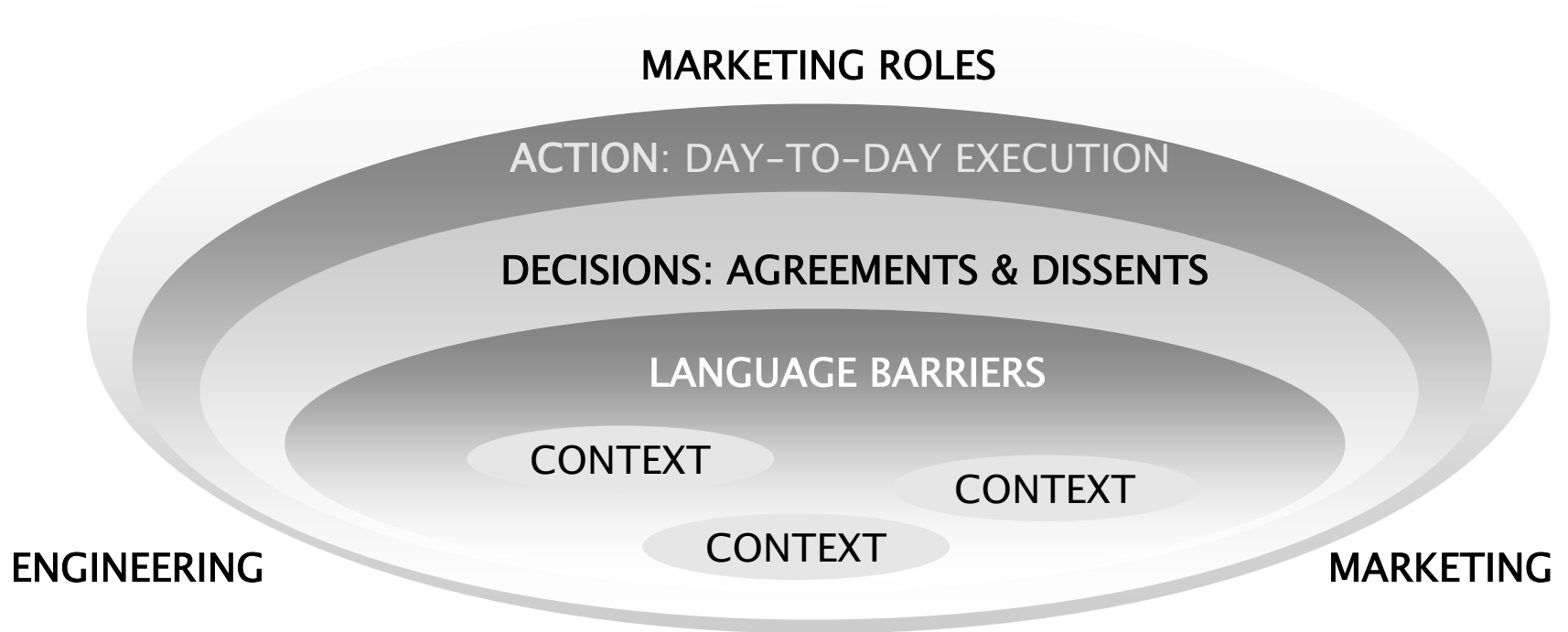
Subtle is the Context!

- The problem is in our thinking.

- The meanings we ascribe to things around us is strongly based on *our own* context.

Validation Engineer
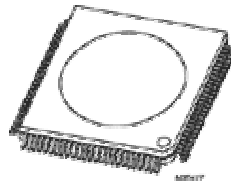
CEO

Product Manager

Finance Manager

Operations Manager

Tangibles Have a Powerful Presence

Engineering

- Silicon Area
- Power Dissipation
- Function
- Efficiency
- Cost

Marketing

CUSTOMERS

COMPETITION

EXTERNAL MARKET FORCES
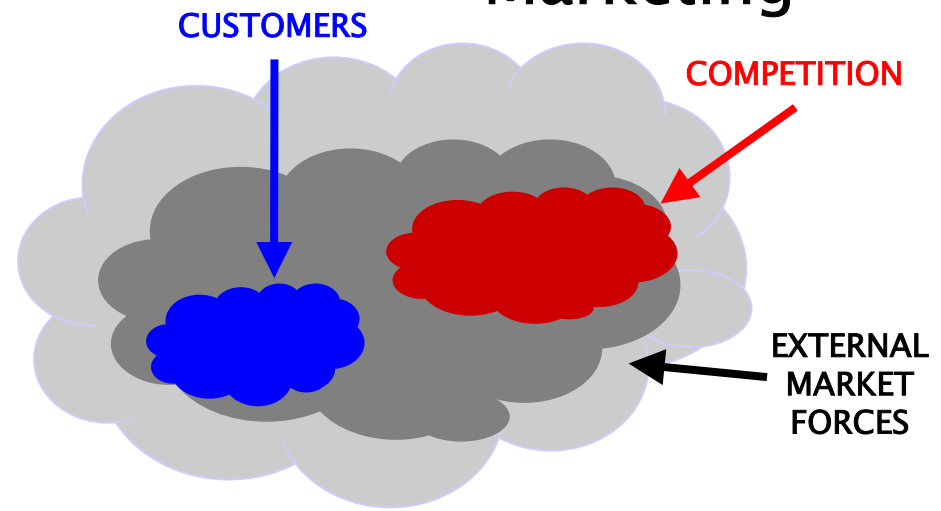
- Identify target market
- Clarity in presentation
- Influence customer's decisions
- Business justification
- Define, win, deliver

The Cost Mindset in a Marketer's World

- Always intertwined with *choice* and *decision making*, hence it is **opportunity cost.**

- Depends on the Customer's **perceived** benefits of competitor's product. Less cost is better.

- Hard to track, as the Customer's perception of perceived benefits changes incessantly.

- Feature addition *decreases* customer's opportunity cost, hence GOOD.

The Engineer's Cost Mindset

- Engineer's Cost: Budgetary.

- Stripped of choice-dependencies. All decisions are made already.

- Real. Not perceived.

- Measurable. Not subjective.

- Used in Executive staff meetings.

- Feature addition increases project cost, hence BAD.
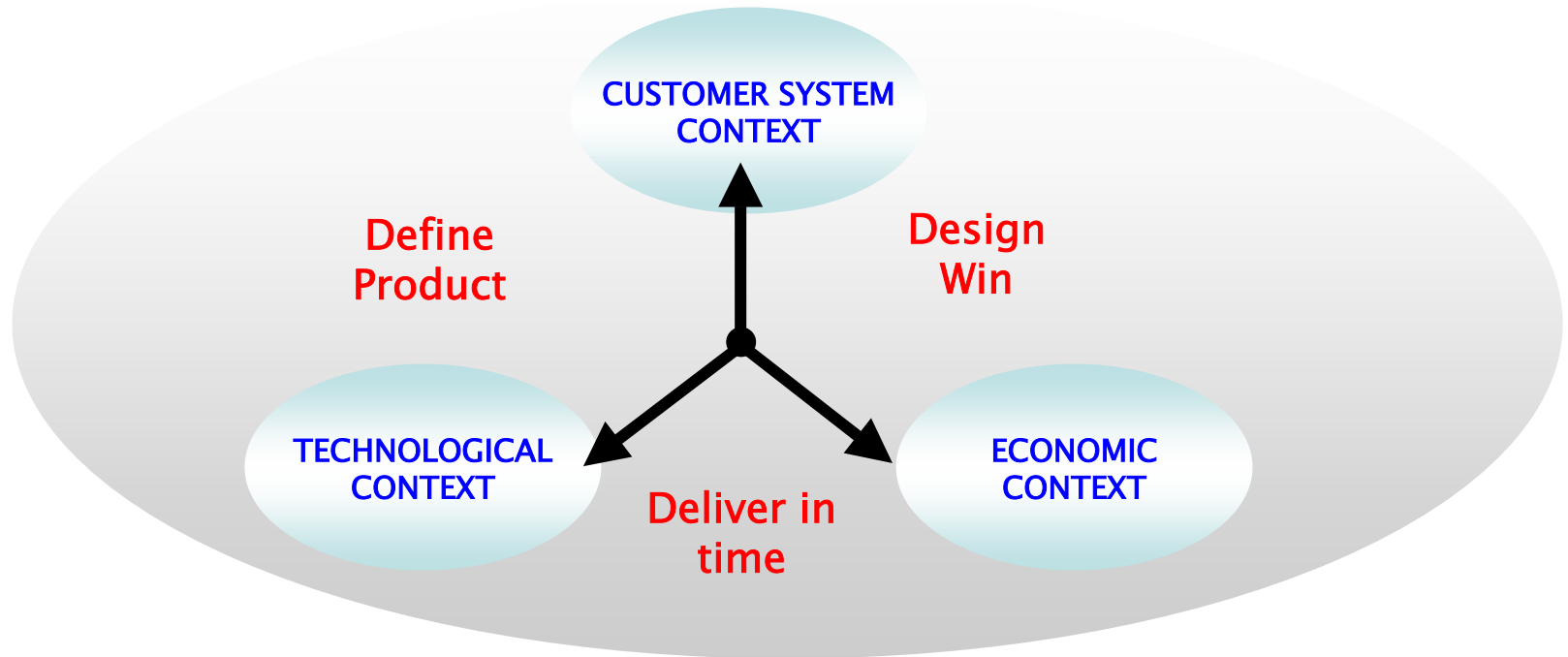
So, How to Cross the Divide?

Break Out of Individual Contexts into Company Contexts

CUSTOMER SYSTEM CONTEXT

HIGH TECH COMPANY

TECHNOLOGICAL CONTEXT
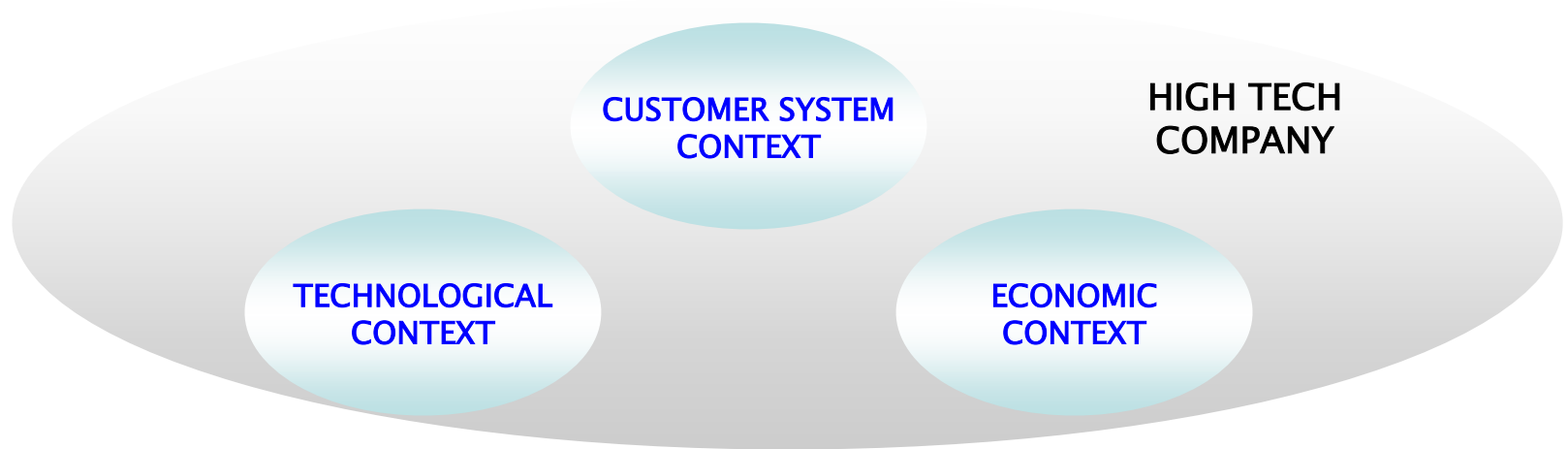
ECONOMIC CONTEXT

Demystify Execution

Create The Forward Movement in Your Interaction

Execution Manifests in Forward Movement Between Contexts

Examples of Forward Movement

- Economic Value Add can be thought of as a manifestation of forward movement

  Example: A Hypothetical Products Stock Market

  Each ticker = A product under development

| current value of product ticker | = | Economic value add | − | fixed budgetary costs |

Key to success: increase this faster and sooner

# Examples of Forward Movement

- Self requiring vs. value building features
    - Value building – moves forward
    - Self requiring merely sustains the product, i.e., commodity

- Tasks vs. Tools
    - Tasks remind us of burdens. Encourages hunkering down
    - Instruments remind us of construction, building from ground up, making something from nothing, *creating forward movement*

- And plenty more in the book!

Practical Hints

- Refer frequently to the value chain emphasizing
  - Who sells to whom
  - The margins, so they have **a sense of market value**, not just how good the product is

Practical Hints

Company ●━━━━━━━━━━━━━━▲━━━━━━━━━━━━━▶● Customer
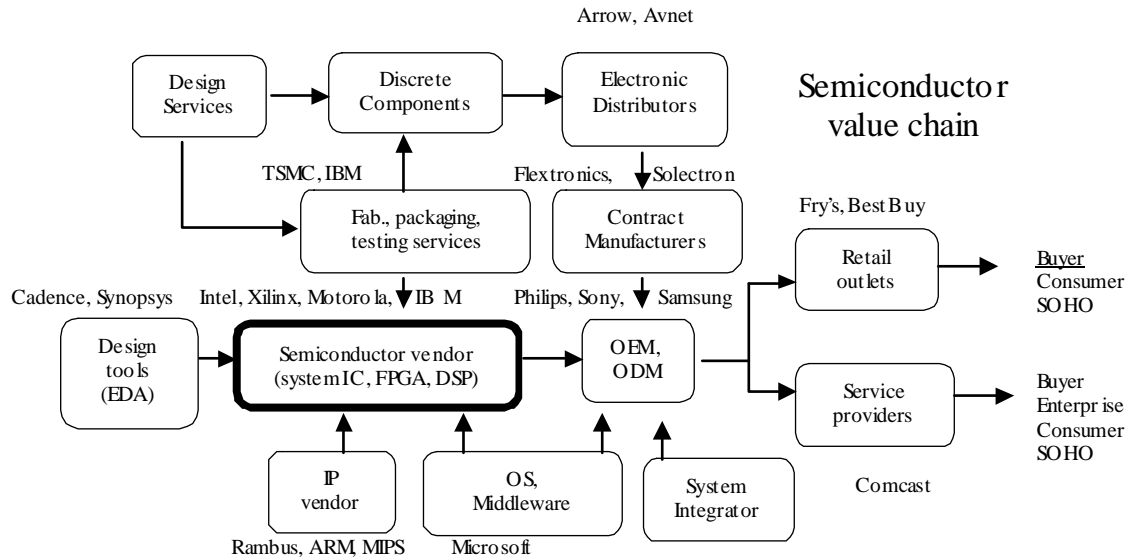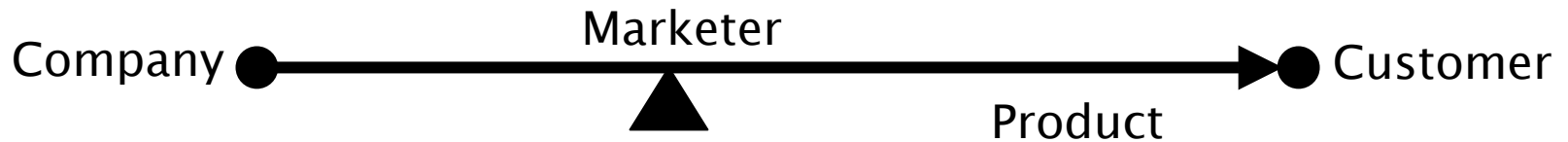
Marketer

Product

- Marketing is *knowing and articulating the problem*

- Position the roadmap as a blueprint for forward movement to engineers

  - Find a problem, build a product to solve it, go to next problem

  - Succeed in communicating that the engineering group's products are for solving problems

A Baseball Anecdote

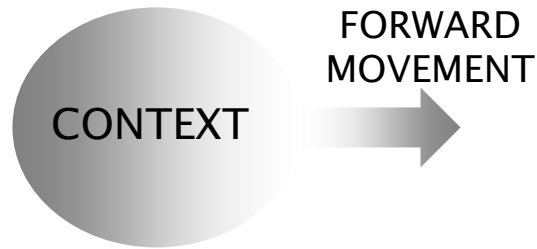A well-known exchange between three baseball umpires:

"I call them as I see them," said the first

"I call them as they are," claimed the second

"They ain't nothing till I call them." disagreed the third.

Until customer agrees, you got nothing!

The Takeaway

- Ask the question: "What actions can initiate the forward movement?" Switch the context.

- Aim to build the skill-sets measured on

  - Contextual experience

  - Contextual decision making

  - The ability to identify forward-moving actions

- Execute them!

What's Covered in the Book?

- An exhaustive treatment of contexts & the phenomenon of differentiation

- A reconstruction of the entire product marketing discipline with this thinking as a backdrop

Thank You!

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These foils were presented by the author at the SVPMA (Silicon Valley Product Management Association), Sunnyvale, California, on March the 3rd, 2005 where the author was the guest speaker. This PDF file can be downloaded from http://www.hightechcraftbook.slowread.com/