

A close-up, high-angle photograph of a microchip, showing its intricate grid of circuitry and various components. The chip is set against a dark, blurred background, creating a sense of depth and focus on the technology.

Consumer Markets –
How to Reduce Costs, Complexity
and Speed Time to Market

Capturing More (Moore's) Value

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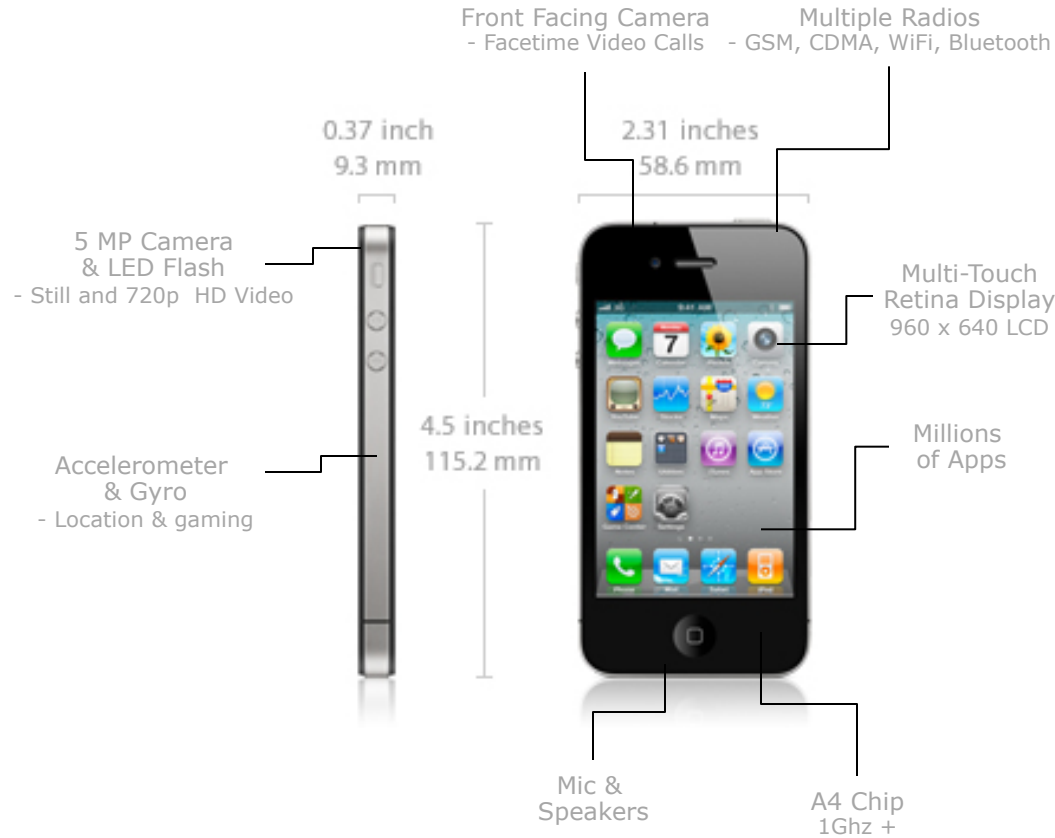
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Mourning After, Moore's Law

Stages of Withdrawal...

- ▲ Embrace Consumer-Like Markets
- ▲ Time-to-market and Cost Are Critical Issues
- ▲ IC Designer Must Develop Products Faster to Compete
- ▲ User Experience May Trump Performance
- ▲ IC Designer's Challenge – CE Design Methodology Not Standardized

Consumer-Like Markets – Changes The Playing Field!



CE Pose Design Challenge

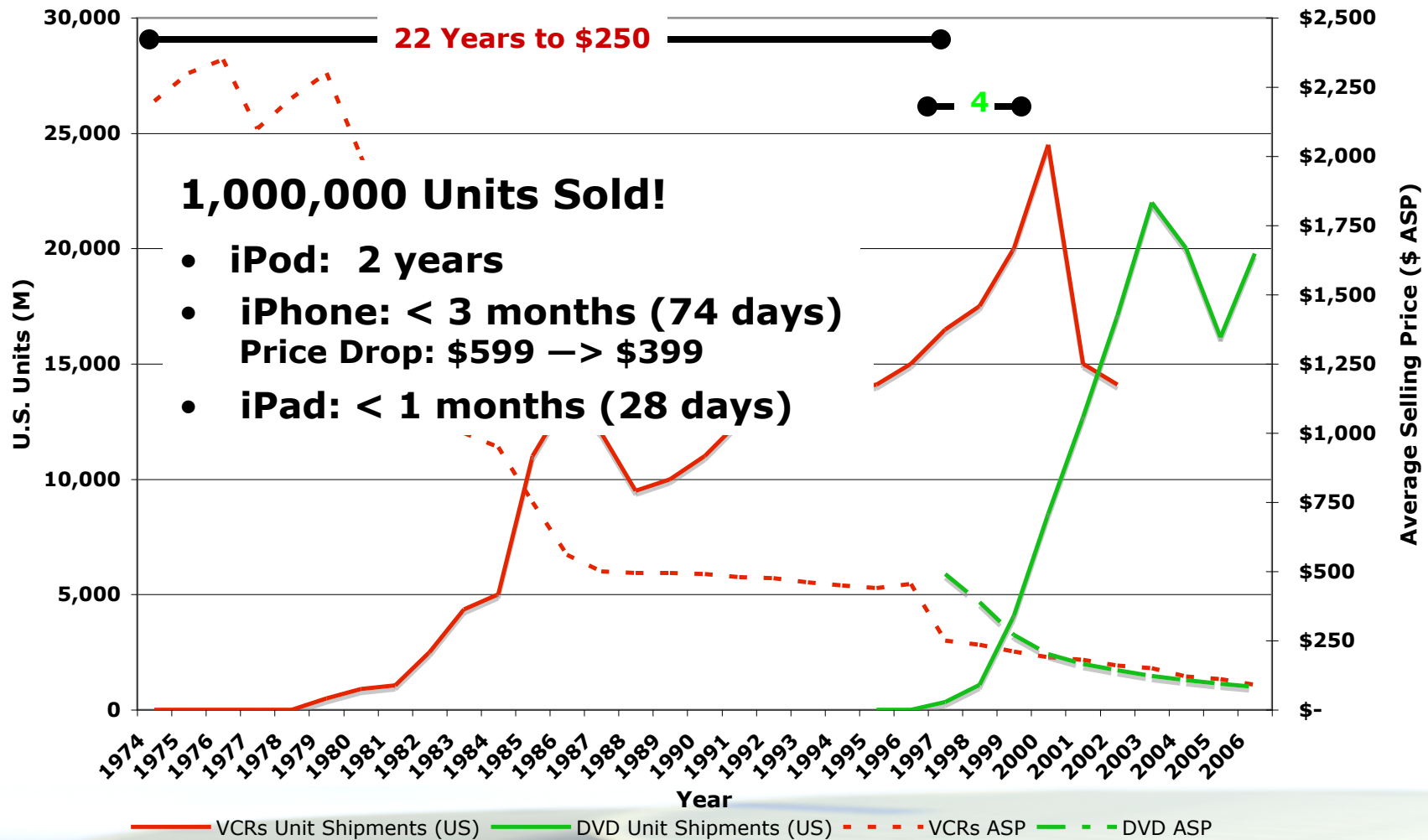
- ▲ Non-Spousal Approval Price Point vs. Corporate Sign-Off
- ▲ AI Dente Marketing vs. Planned, Defined Markets
- ▲ Highly Segmented Markets vs. Big, Deep, Markets
- ▲ Silicon Platforms vs. Accelerating ASIC Cost

All at a

Non-Spousal Approval Price Point

Learning Curves Are Compressing

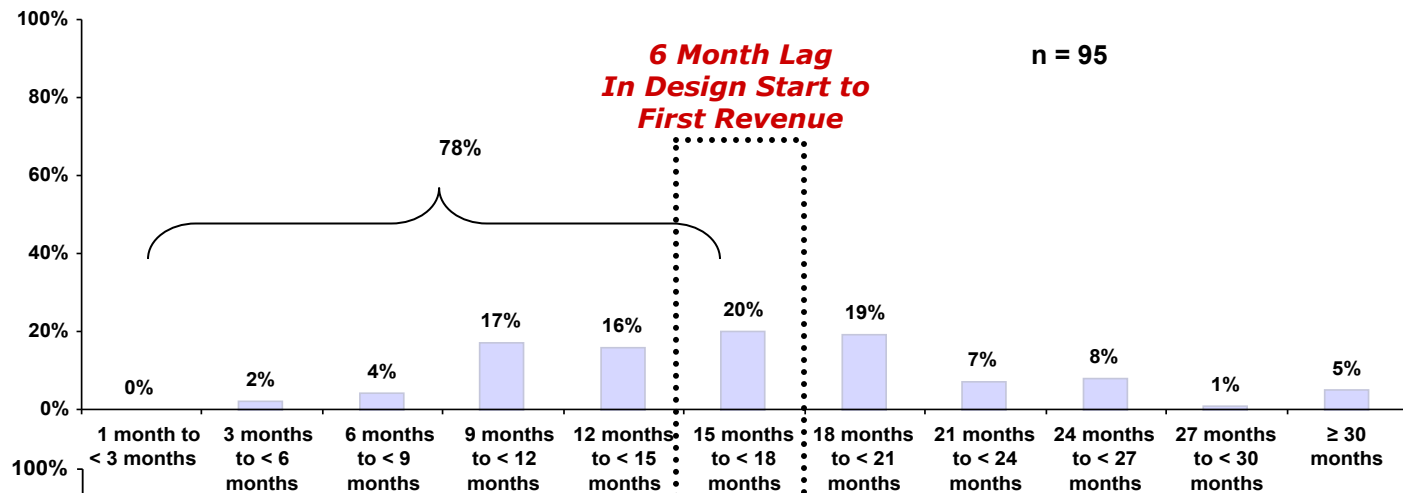
VCR vs. DVD Penetration



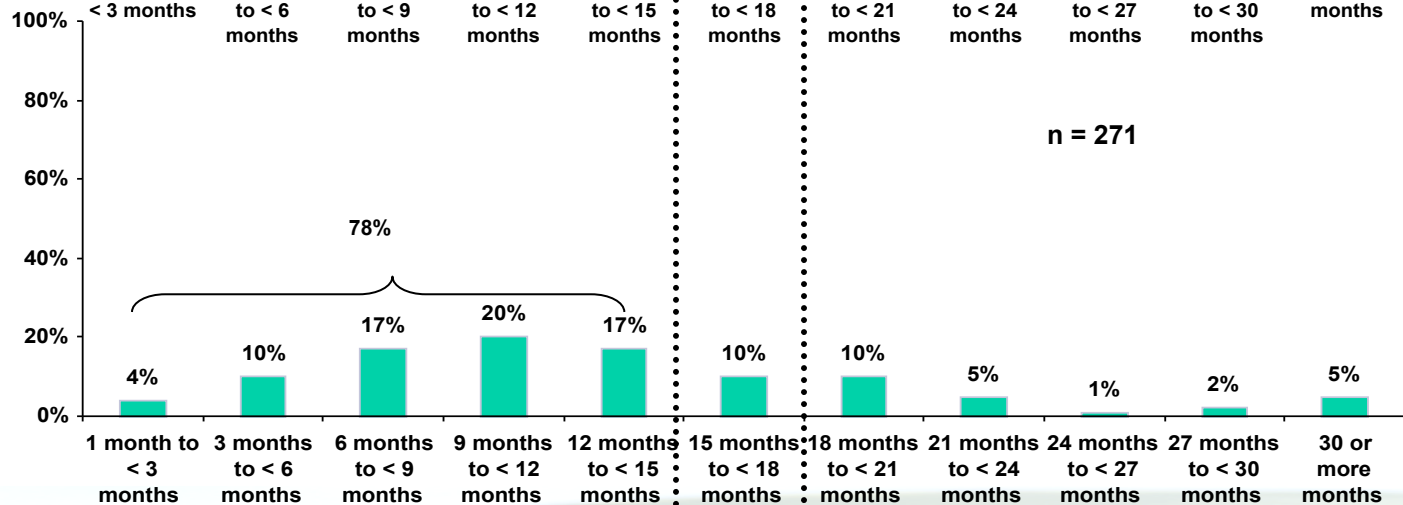
Source: CEA and D-Side Advisors

IC Designers Must Design Faster! Six Month Lag Between IC and CE Average Time from Design Start to First Revenue

IC Respondents —
Most Expect to See
Revenue Between
15 – 18 Months
From Design Start



CE Respondents —
Most Expect to See
Revenue Between
9 – 12 Months
From Design Start

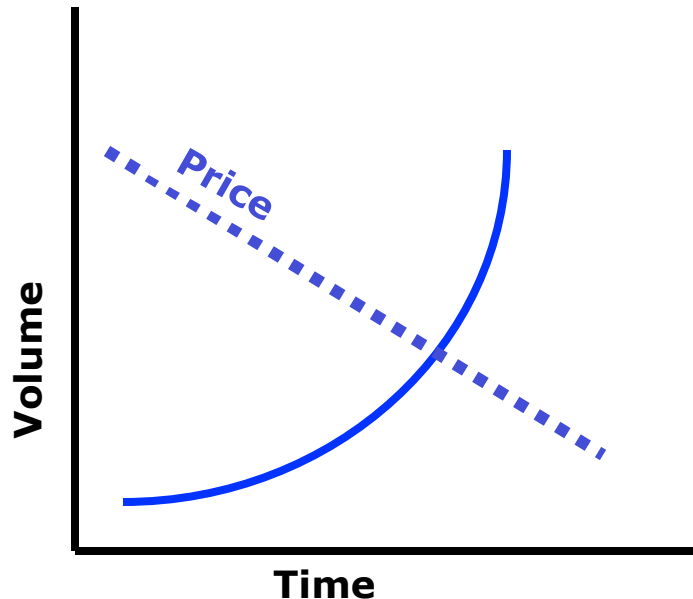


May not add up to 100% due to rounding

Source: KPMG CE Survey 2008

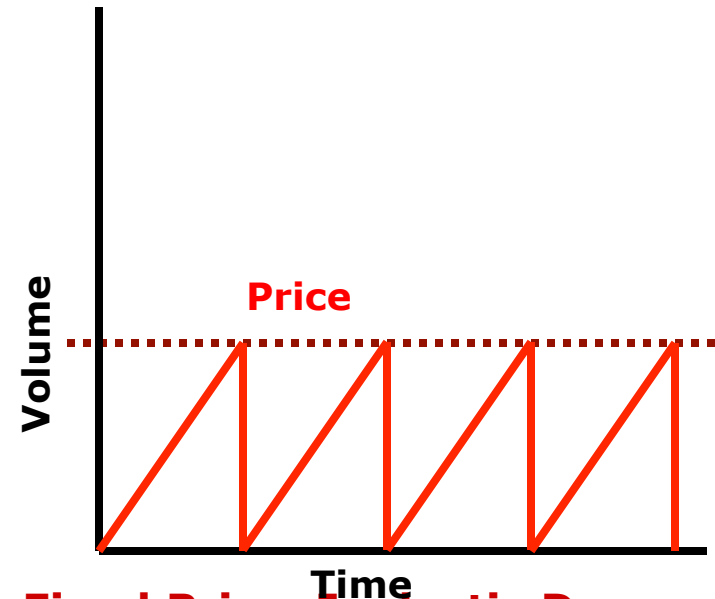
Consumer Markets – Fixed Price Points! Inelastic Demand, Highly Segmented

Old – Learning Curve



- ▲ Lower Cost, Elastic Demand
- ▲ Integration thru Silicon
- ▲ Technology is Strategic
- ▲ EDA, IDMs, Design Services and Foundry Wins
- ▲ Sales: VP Eng., Purchasing

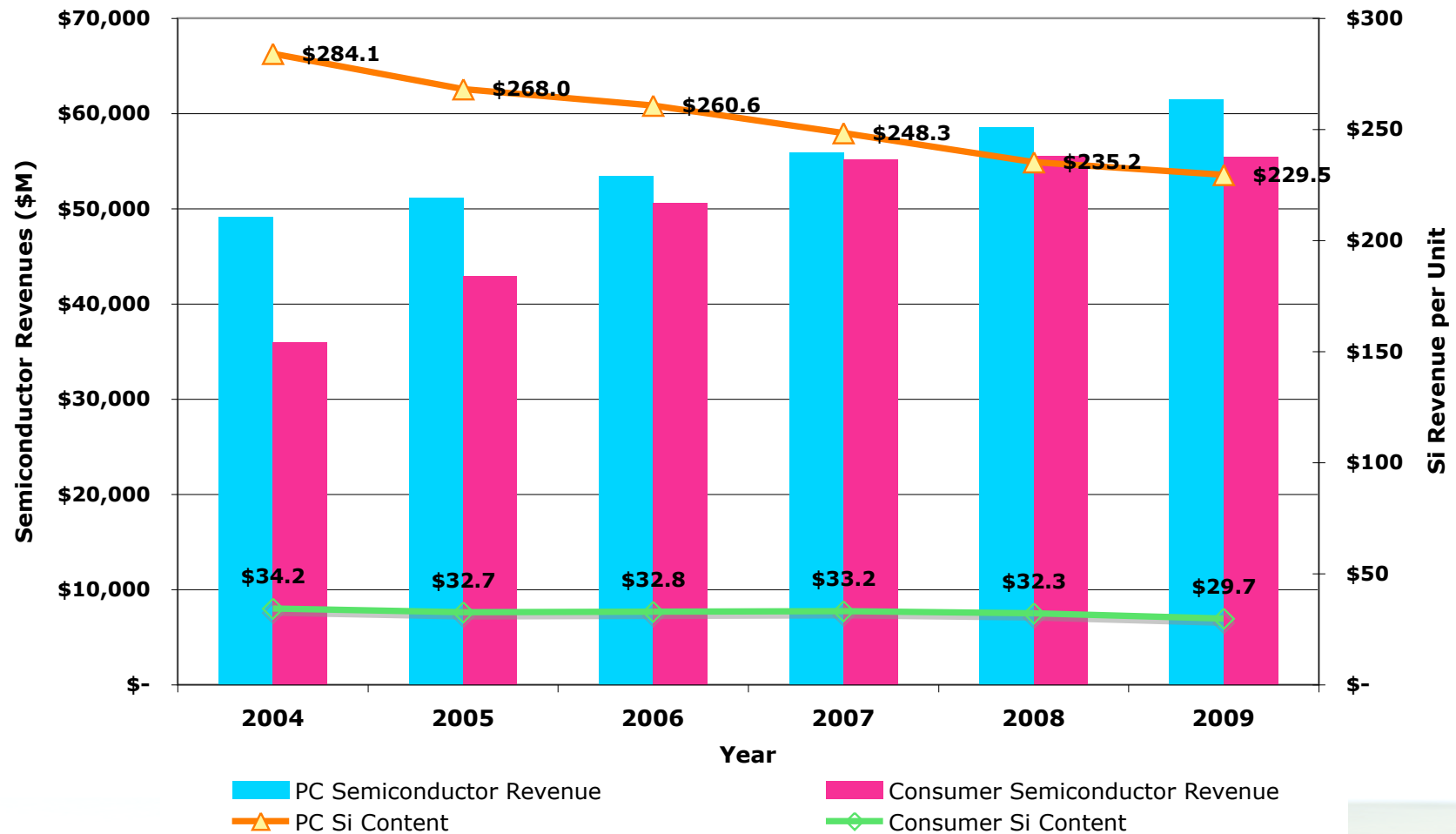
NEW – Order Stocking Model



- ▲ Fixed Price, Inelastic Demand
- ▲ Integration thru Prog. Platform, Packaging & S/W
- ▲ Supply Chain is Strategic
- ▲ Subsidized Model, CONSUMER Wins
- ▲ Sales: Innovators/Mavens

PCs vs. Consumer: Revenue vs. ASP

PCs vs. Consumer Markets
Comparing Total Revenue Against Average Si Revenue Unit



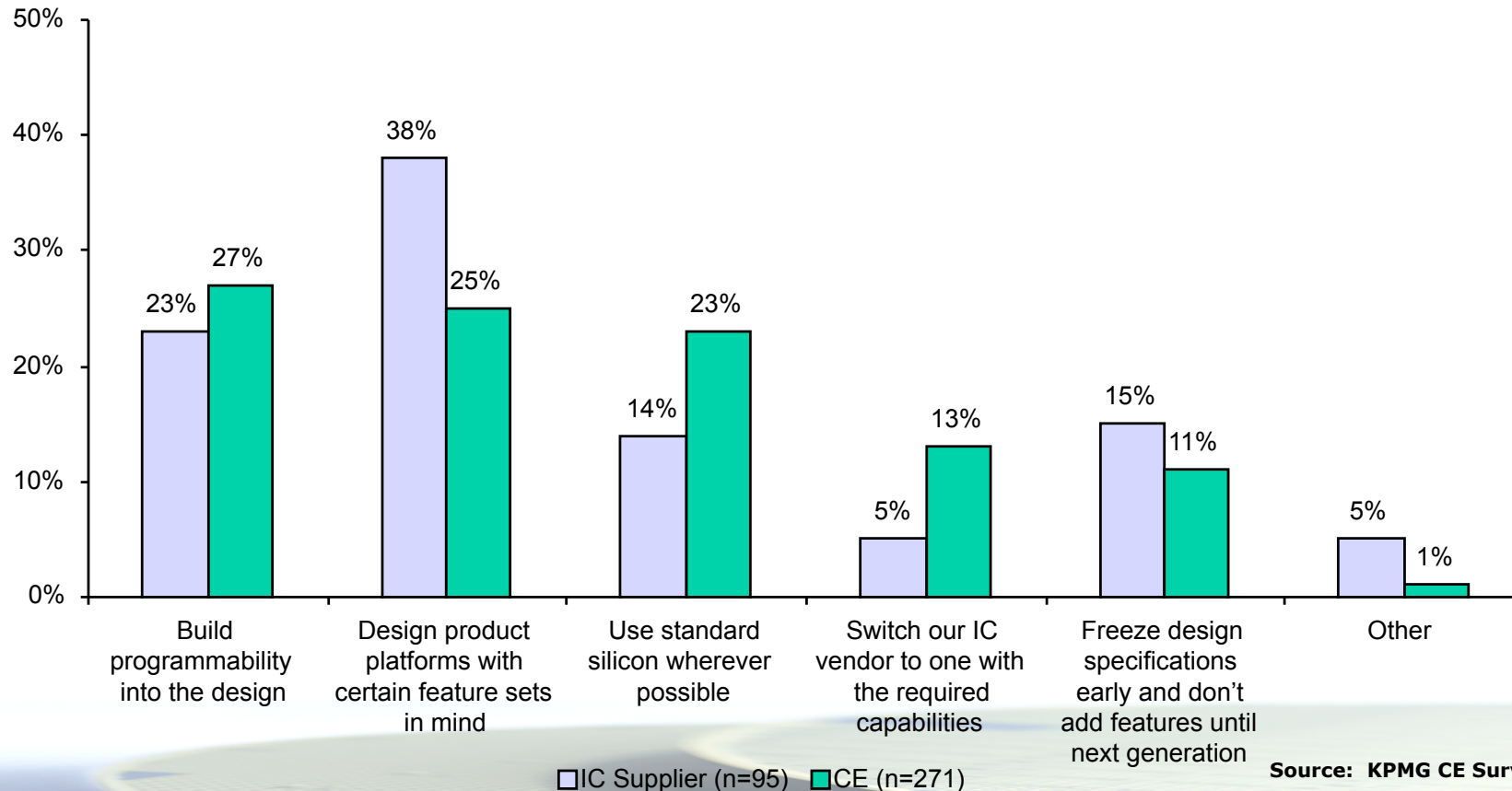
Source: CIBC Semiconductor Primer, IDC, Gartner and D-Side Advisors 2007

Fixed vs. Flexible: Design Strategies

▲ IC — Platforms is Key

▲ CE — Programmability/Flexibility is Key

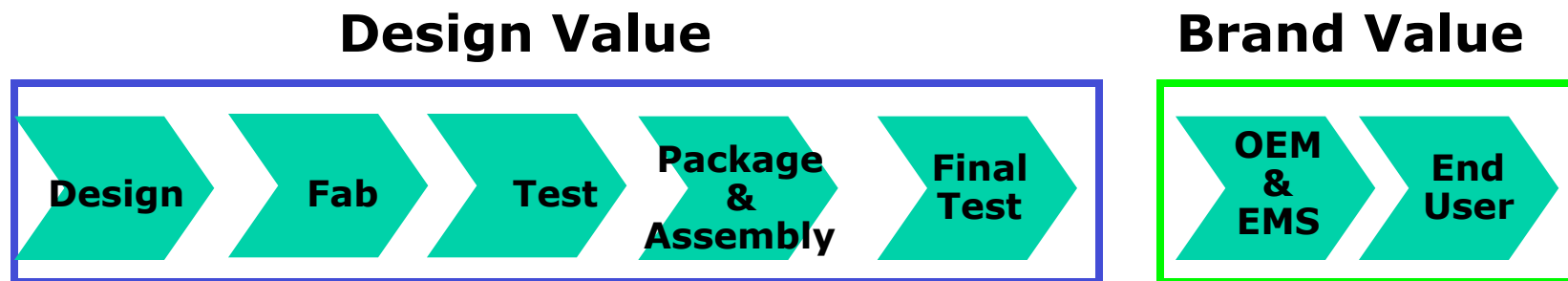
Q. *What do you do to solve the number one ranked issue in getting a new product to market?*



Source: KPMG CE Survey 2008

Value: Capturing More!

- ▲ **Historically:** Value Resided In Chip and Design
- ▲ **Today:** System Architecture Determines Value
- ▲ **Future:** Software Adds More Value to System
As the Silicon Is Virtually Free!



Design value is based on engineering deliverables. Brand value is based on users experience. In consumer-like markets the technology is often given away. In most cases lowest value per unit goes to the back of the chain

Design Strategies – Must Evolve!

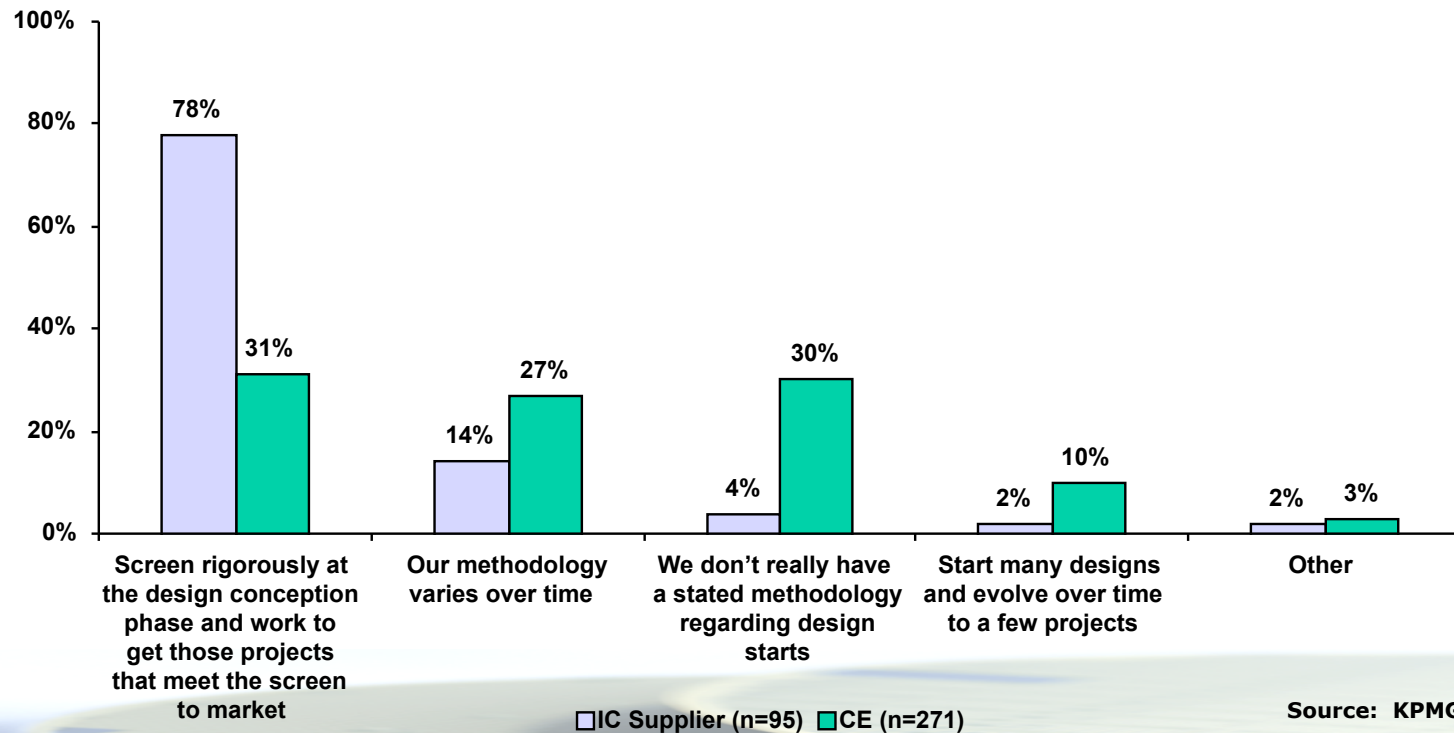


Key Customer	System Engineering	Product Engineering & Purchasing	Mavens
Platform	PC's	Game Platform	iPod, iPhone, iPad
Critical IC	Microprocessors	ASICs, SoCs	IC Platforms (A4), Software
Market Dynamics	<ul style="list-style-type: none"> ▲ No Standards ▲ System Partitioning Critical, System Evolving ▲ IC Performance Evolving to Support System Architecture 	<ul style="list-style-type: none"> ▲ Established Standards ▲ Known Product Spec. & Design-in Windows ▲ IC Performance "Good Enough" – Struggle with Logistics & EMS 	<ul style="list-style-type: none"> ▲ Established H/W, Evolving S/W Platforms ▲ Whole Prod. Partition w/ "Best of Breed" ICs ▲ IC performance given, Mavens Demand System Integration
Selling Process	Components	Systems Knowledge	Solutions and Integration

Key Challenge for IC Designers – CE Design Lacks a Methodology

- ▲ Two-Thirds of CE Respondents Don't Have a Stated Design Selection Methodology, It Varies, or It Evolves Over Time

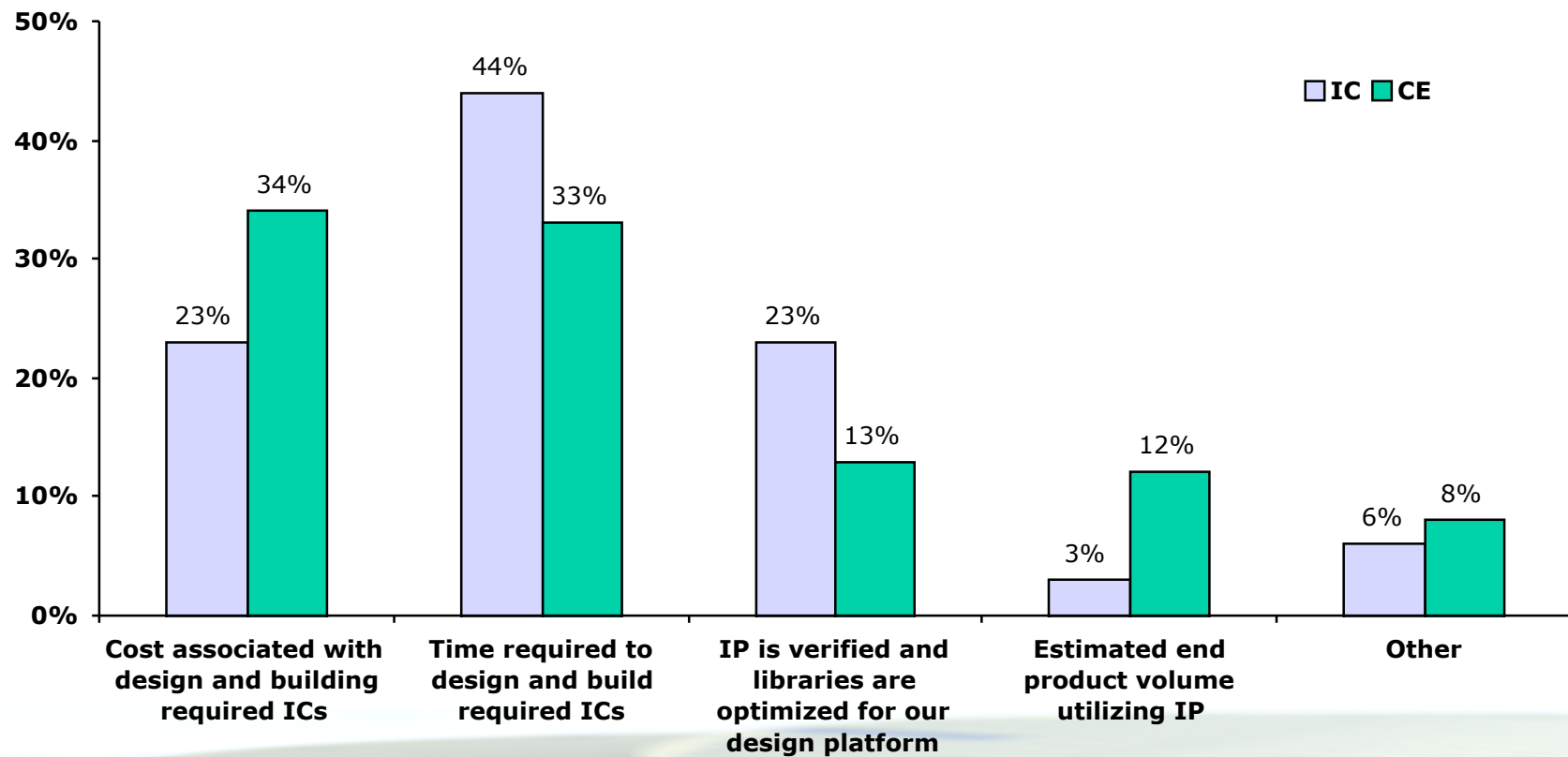
Q. What is your primary methodology regarding design starts, which are under your control?



Source: KPMG CE Survey 2008

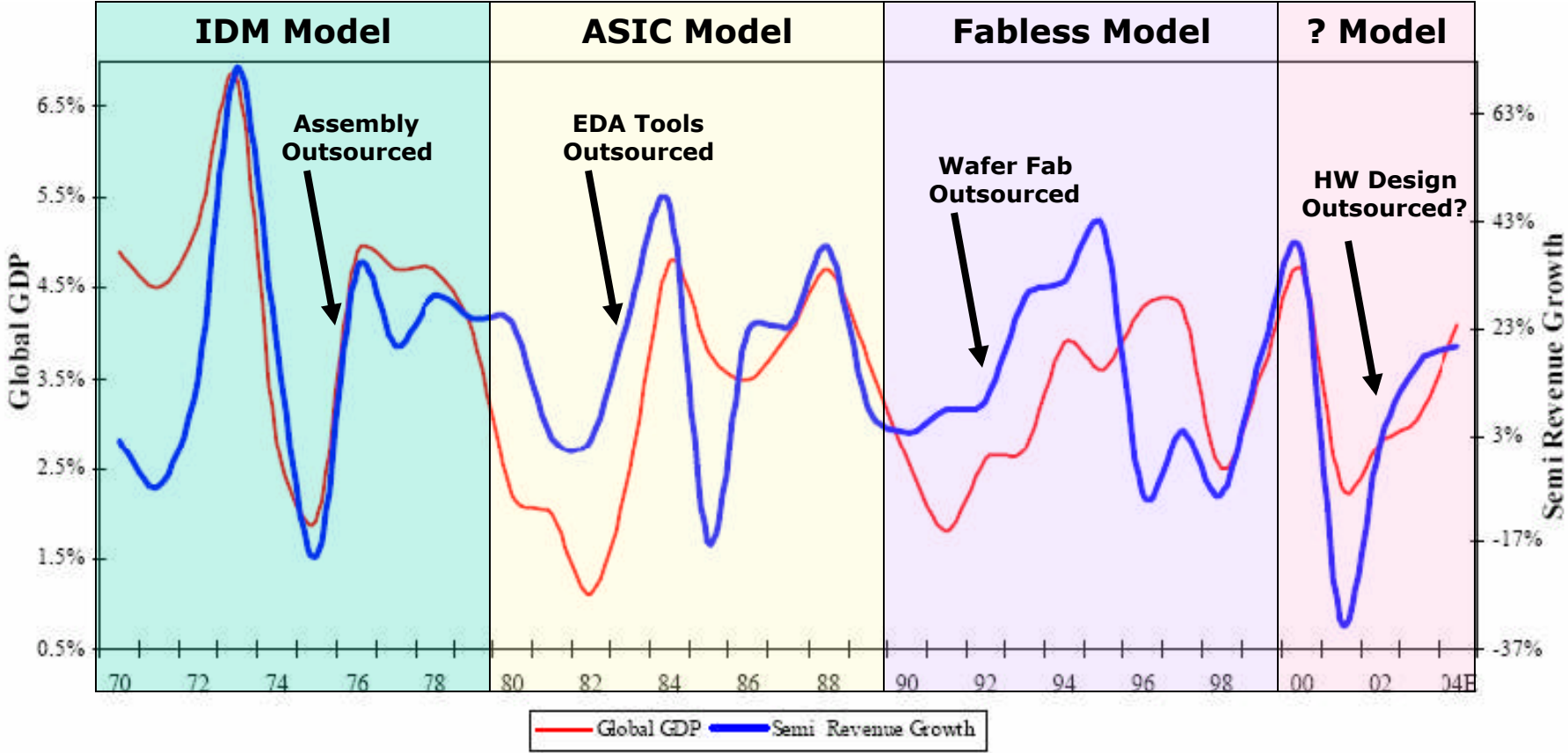
IP – Its About Time! CE Look equally at Cost and Time

Q. What is the leading criteria you use to determine make versus purchase of intellectual property (IP)?



Source: KPMG CE Survey 2008

Business Evolution Got Us Here. . .



Source: Morgan Stanley Research, WSTS, US Government Data, eSilicon

Keys to Success Is Understanding:

Value: What does the customer value?

Growth: How will you grow your business?

Profit: How do you capture the value?

Where is the Value Now?

Value: System: Time to Market

Growth: Time to Market: Rapid Product Intros

Profit: Software: Drivers, Functional Blocks, Connectivity

Think!
Value
Growth
Profit

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