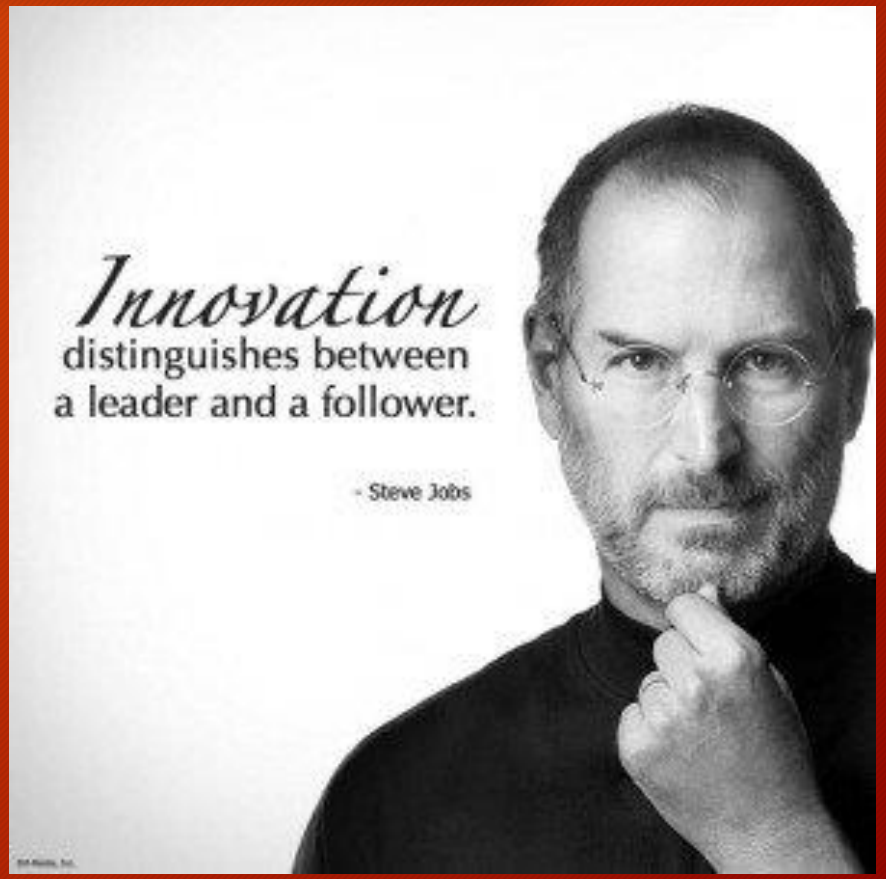
Business and Career Development

Managing Disruptive Innovations

C1:Understanding Innovation: Types of Innovation

“Innovation is the act or process of introducing new ideas, devices, or methods"

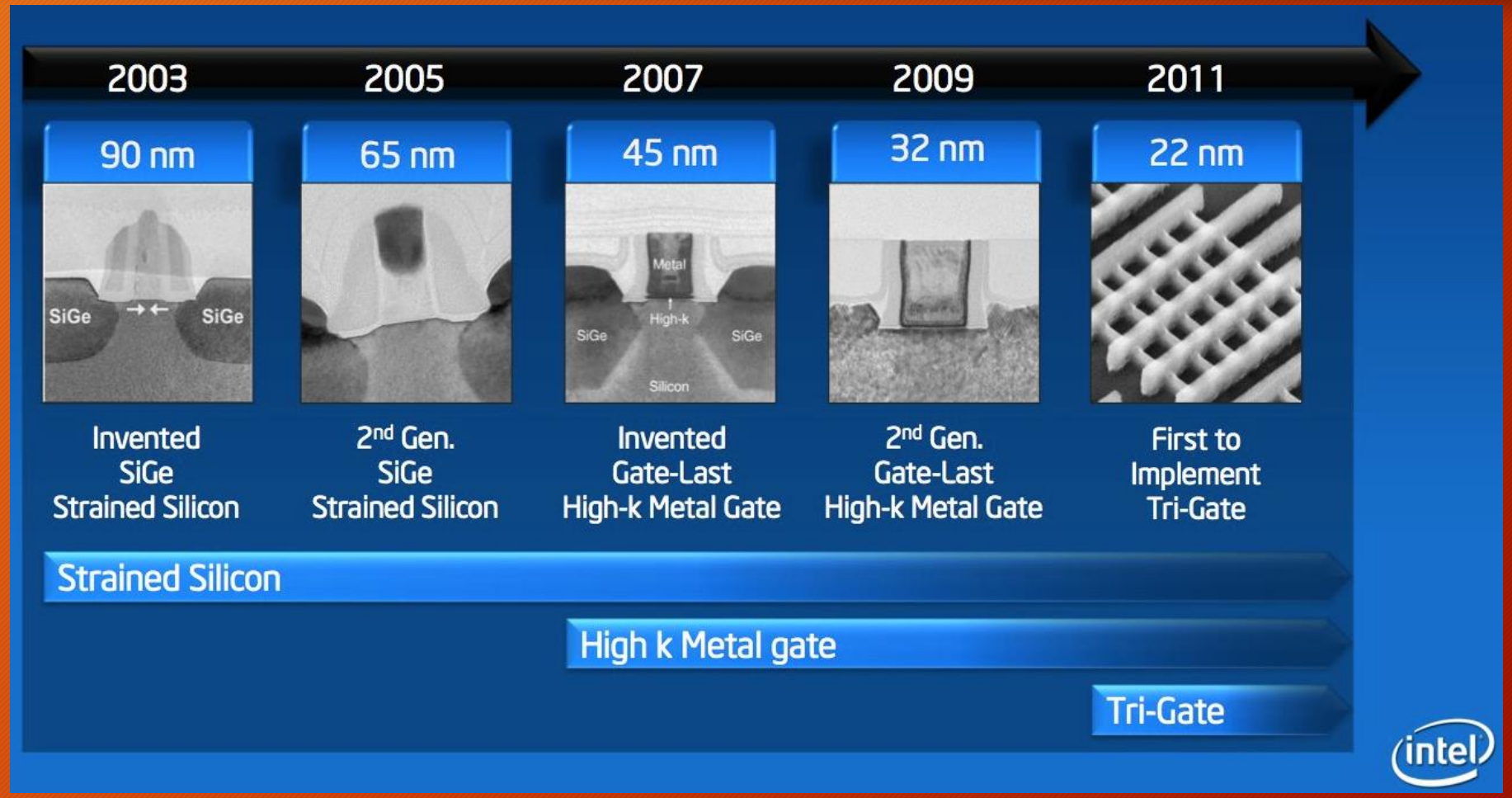
- Sustaining Innovation
- Low-end Disruption
- New Market Disruption



C1:Understanding Innovation: Sustaining Innovation

- Incremental or breakthrough improvements of products or services coming from listening to the needs of customers in the existing market to satisfy their predicted needs for the future.
- Established market leaders are extremely good at dealing with and exploiting sustaining innovations in order to fuel the short-term growth of their companies.
- Improves or maintains profitability by utilizing existing processes, cost structure, customers and competitive advantage.

C1:Understanding Innovation: Sustaining Innovation – Intel Processors

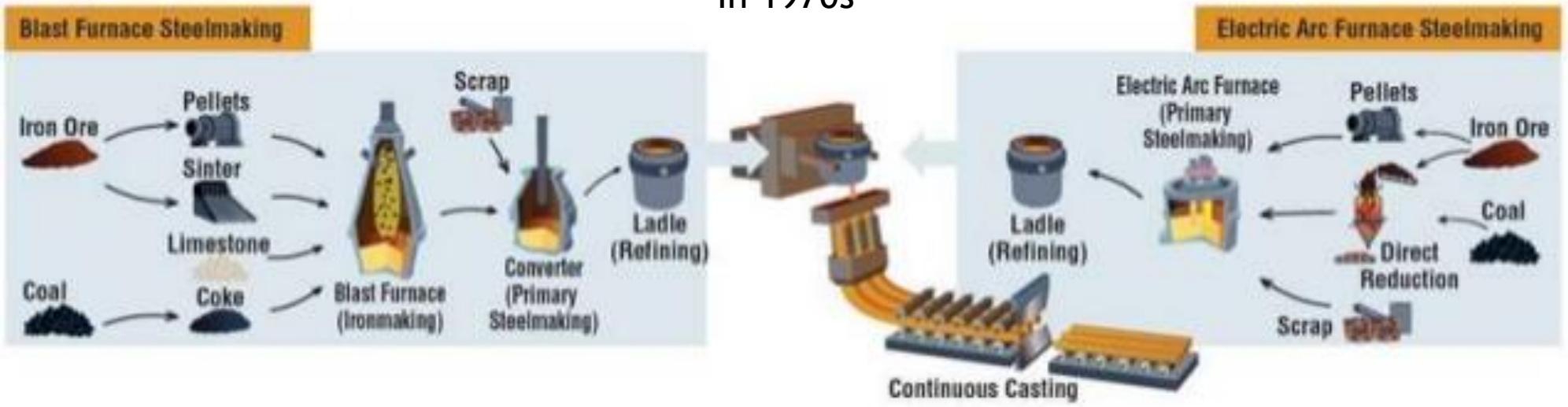


C1:Understanding Innovation: Low-end Disruption

- Low-end disruption targets customers who do not need the full performance valued by customers at the high end of the market
- Ensures only “good enough” performance to target “over served” customers at the low-end of the mainstream market
- Utilizes new operation model to get return from discounted prices offered to capture the low-end market
- Due to low profitability of the low-end customer segment, incumbent avoids competition and put more focus on the high end market

C1:Understanding Innovation: Low-end Disruption – Rise of Mini Steel Mill

In 1970s



Integrated Mill

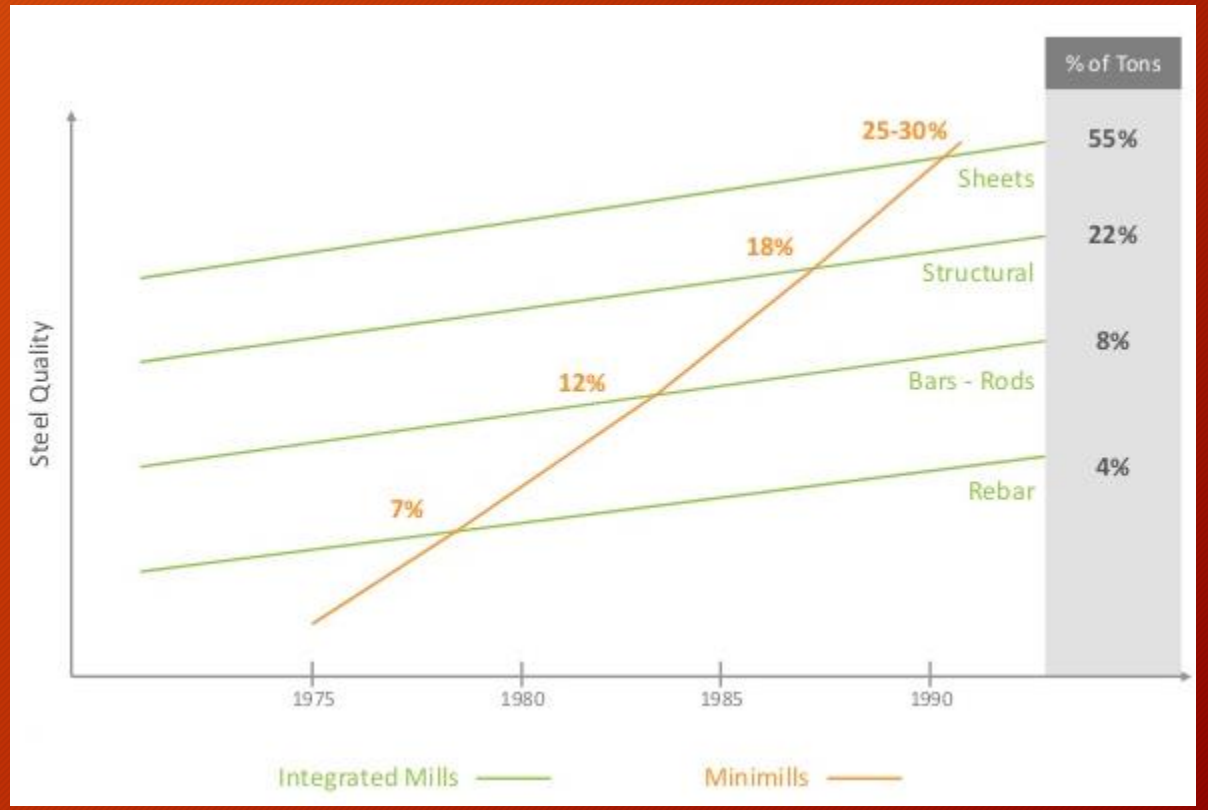
Integrated mill could produce high quality steel

Minimill

Mini mill had 20% less cost

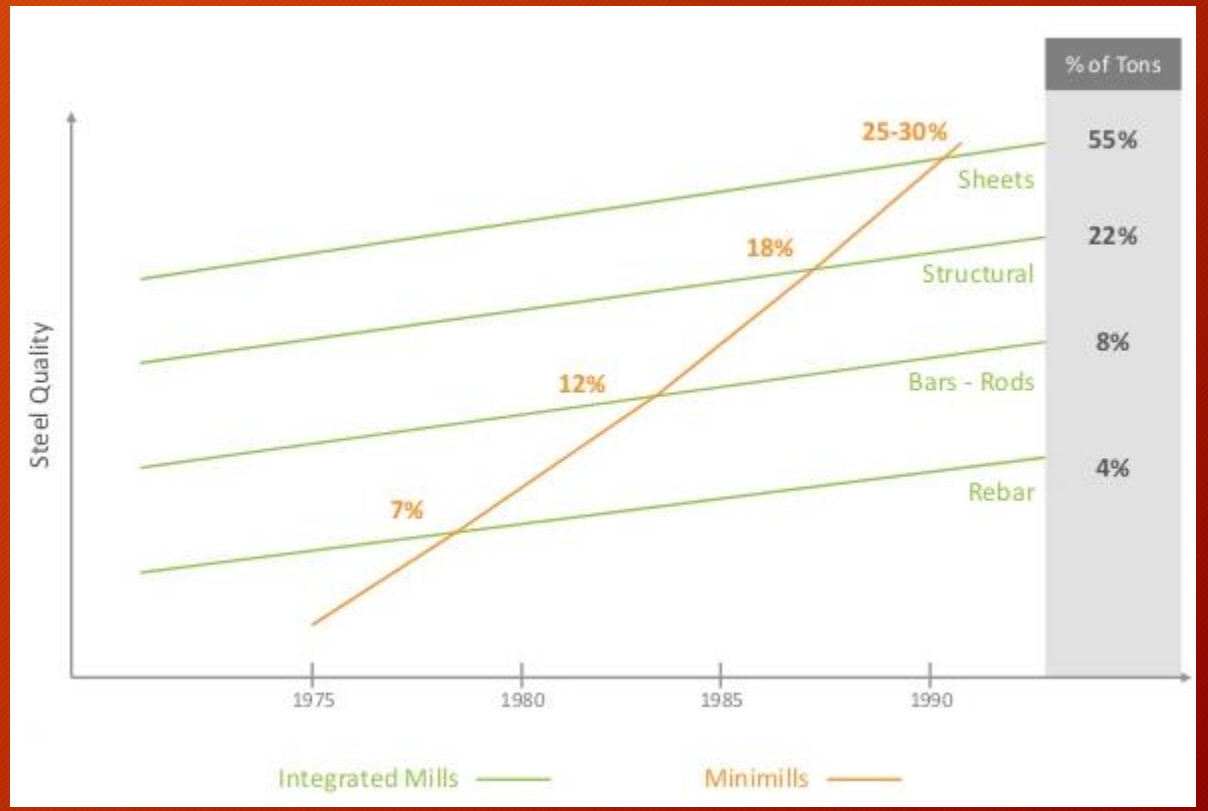
C1:Understanding Innovation: Low-end Disruption – Rise of Mini Steel Mill

- Mini mills put all their efforts to target rebar market which has lowest return (7%) and required quality among the steel produced by integrated mills. But mini mills can still make higher return due to its lower cost structure.
- Integrated mills found the high end markets more attractive and completely got out of rebar market rather than competing.
- Guess what happened??????

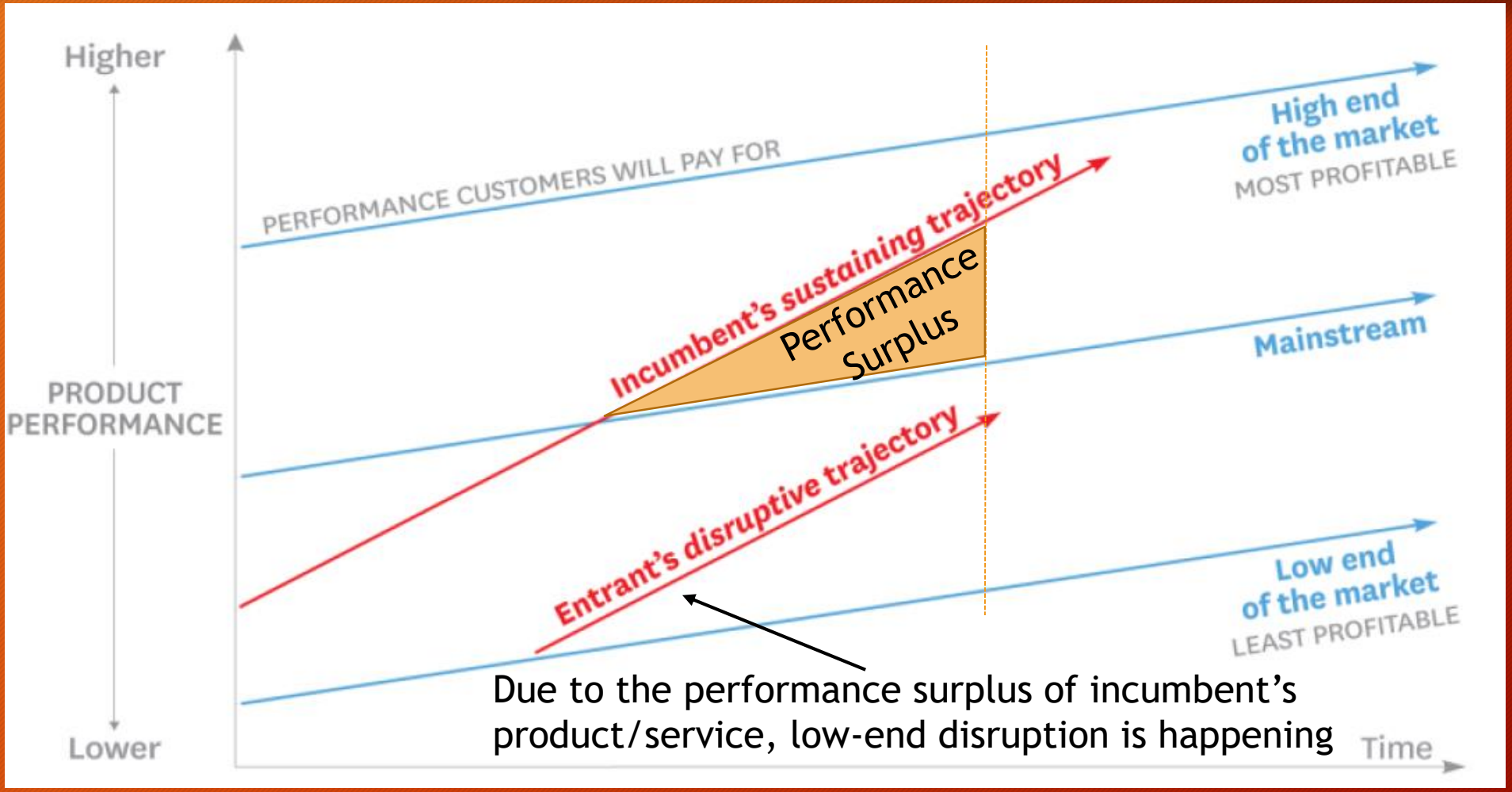


C1:Understanding Innovation: Low-end Disruption – Rise of Mini Steel Mill

- Rebar price dropped by 20%!!!! Because now mini mills are competing with each other whose cost structure are same. The low cost strategy only works when you have a high cost competitor.
- So, mini mills targeted the next Angle Iron, Bars – Rods market and the price collapsed again when integrated mill fled!!!
- Same happened again and again and most of integrated mills became bankrupted.



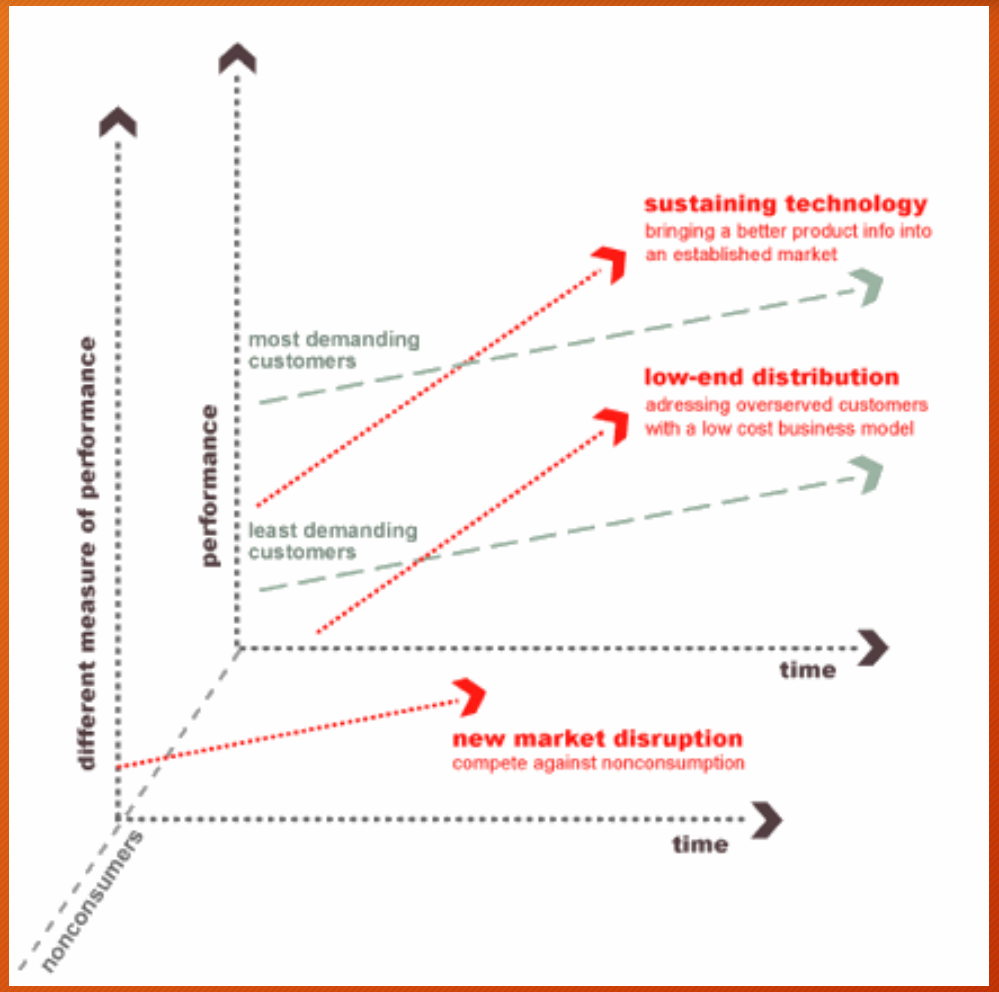
C1:Understanding Innovation: Low-end Disruption due to Performance Surplus



C2:Understanding Innovation: New Market Disruption

- New market disruption targets “Non Consumption”; customers those lack money or skill to use the product or service.
- Though the new product or service has lower performance compared with existing products or services but offers better performance in new attributes.
- Usually provides simpler and convenient product or service
- The business model differs from existing model to confirm profitability in spite of lower prices.
- Incumbent doesn’t show retaliation as the “Non Consumption” customer base is not of their concern.

C2:Understanding Innovation: New Market Disruption

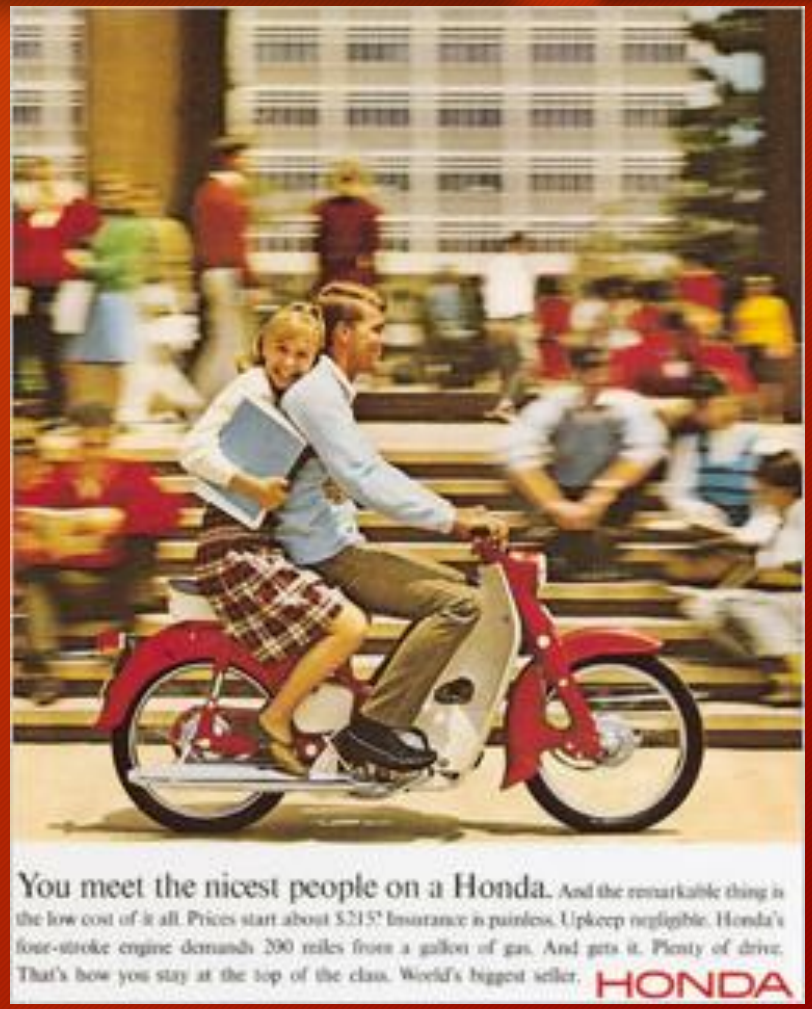


C2:Understanding Innovation: New Market Disruption – Honda in US Market

- Harley Davidson was market leader in 1959
- Honda faced steep challenge to acquire market share
- The problem was amplified when they tried to emulate Harley by making big bikes. Even they needed to send the bikes back to japan for maintenance works
- Existing customers (mostly police, army etc.) preferred Harley over Honda

C2:Understanding Innovation: New Market Disruption – Honda in US Market

- Honda targeted a new market (common people) where the high performance big bikes are not required
- Brought their Japanese small bikes (Honda Super Cub) to US market
- They used alternate distribution channel than motor cycle dealers
- Eventually they succeeded in the new market that they created



C2:Understanding Innovation: Some Principles

- Technology is not intrinsically sustaining or disruptive. It depends on how the technology is applied.
- A disruptive innovation can be both low-end as well as new market disruption
- A company cannot disrupt itself due to its own distinct characteristics. It can only harness disruptive innovation through,
  - Setting up a separate unite with separate organizational structure
  - Acquiring a disruptive innovation and keeping it separate from the parent firm. If they marge the, it will destroy the distortive innovation.
- A disruptive innovation is an opportunity long before it becomes a threat
- A disruption can always can be spotted at the low-end of the market NOT at the high-end of the market
- Always begin innovating when the business is still strong

C3:Organiging for Innovation: Building around “Customer Job to be Done”

- A product/service developed around a technology is easy to disrupt but a product/service developed around “Customer Job to be Done” is difficult to disrupt.
- Customer don’t buy a product or service. When people find themselves needing to get a job done, they essentially hire products to do that job for them. e.g., “People don’t want to buy a quarter-inch drill. They want a quarter-inch hole!”
- If you can understand the job, design a product/service to the job and deliver it in a way that reinforces its intended use, then when customers find themselves needing to get that job done, they will hire that product/service

C3:Organiging for Innovation: Building around “Customer Job to be Done” – ChotuKool

- The idea to address the basic refrigeration needs of rural families in India
- The "job" is that people needed an affordable way to keep milk, vegetables and leftovers cool for a day or two—both at home or away
- This job is urgent in a country where a third of all food is lost to spoilage
- Godrej developed “ChotuKool” or “Little Cool” for this Job to be Done

C3:Organiging for Innovation: Building around “Customer Job to be Done” – Disney

- When Disney moved to the theme park business by building Disney California Adventure, it moved away from its original “Customer Job to be Done” of creating memories.
- It was just another theme park with adventure rides and failed to attract visitors. Disney characters were practically non-existent in the park and that families with children under age ten would find practically nothing to do.
- Finally the again leaned back to the original “Customer Job to be Done” by bringing Disney characters in the park and turned around the business.

C3:Organiging for Innovation: Aligning Business Model for Innovation

- Breakthrough, game-changing products rarely emerge from established businesses because a radically new product usually needs a new business model
- Three factors of the business model defines what an organization can or can't do,
  - Resources
  - Processes
  - Profit Formula
- A new business model is needed when developing product or service as a disruptive innovation

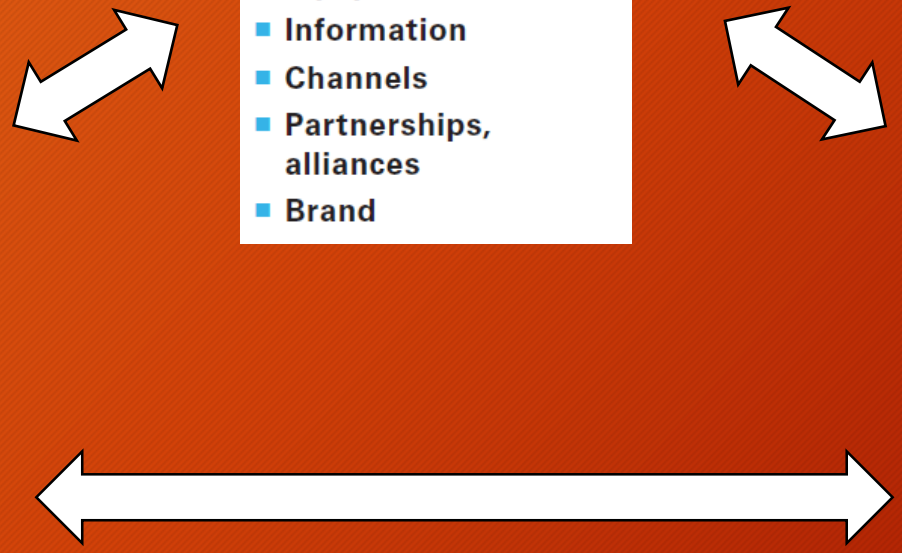
C3:Organiging for Innovation: Aligning Business Model for Innovation

KEY RESOURCES needed to deliver the customer value proposition profitably. Might include:

- **People**
- **Technology, products**
- **Equipment**
- **Information**
- **Channels**
- **Partnerships, alliances**
- **Brand**

KEY PROCESSES, as well as rules, metrics, and norms, that make the profitable delivery of the customer value proposition repeatable and scalable. Might include:

- **Processes:** design, product development, sourcing, manufacturing, marketing, hiring and training, IT
- **Rules and metrics:** margin requirements for investment, credit terms, lead times, supplier terms
- **Norms:** opportunity size needed for investment, approach to customers and channels



PROFIT FORMULA

- **Revenue model** How much money can be made: price x volume. Volume can be thought of in terms of market size, purchase frequency, ancillary sales, etc.
- **Cost structure** How costs are allocated: includes cost of key assets, direct costs, indirect costs, economies of scale.
- **Margin model** How much each transaction should net to achieve desired profit levels.
- **Resource velocity** How quickly resources need to be used to support target volume. Includes lead times, throughput, inventory turns, asset utilization, and so on.

C3:Organiging for Innovation: Aligning Business Model for Innovation - Hilti

Hilti reconsidered the real job to be done for its customers and started selling tool “use” instead of the tools themselves

Traditional Power Tool Company		Hilti’s Tool Fleet Management Service
Sales of industrial and professional power tools and accessories	Customer value proposition	Leasing a comprehensive fleet of tools to increase contractors’ on-site productivity
Low margins, high inventory turnover	Profit formula	Higher margins; asset heavy; monthly payments for tool maintenance, repair, and replacement
Distribution channel, low-cost manufacturing plants in developing countries, R&D	Key resources and processes	Strong direct-sales approach, contract management, IT systems for inventory management and repair, warehousing

C3:Organiging for Innovation: Aligning Business Model for Innovation - Charles Schwab

- In 1990s, when Charles Schwab a brokerage company, decided to disrupt itself by going online,
  - It established a new business unit separate from the core
  - Core business charged $79 for each trade whilst online trade only charged $29
  - Though the margin was small for online trading, the profit formula was also different which depended on high volume low margin trades
  - Different resource, processes and profit formula enable the separate unit to be successful beside its core business
  - If they tried to implement this online with in the core business model, it would haven't worked as the resources, processes and profit formula were designed for manual trading and the initiative would have been failed.

C4:Organiging for Innovation: Selecting Architecture – Interdependent Architecture

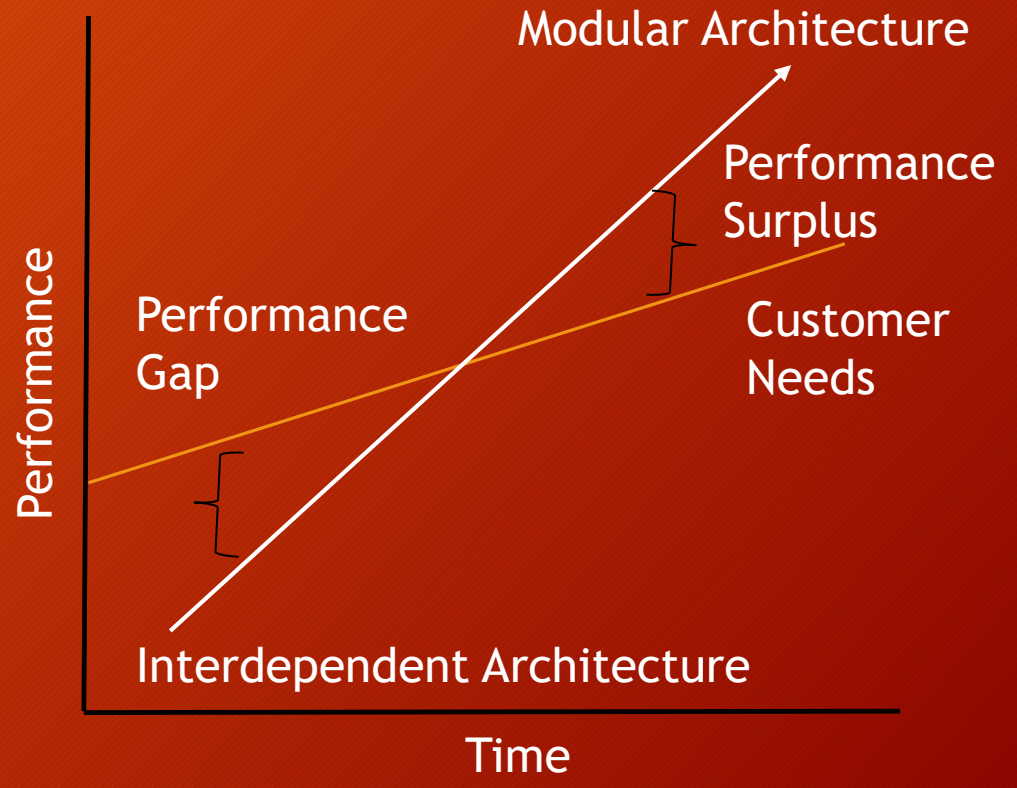
- An architecture is interdependent if the way one part is designed, made, and delivered depends on the way other parts are designed, made, and delivered—and vice versa.
- Interdependent architectures optimize performance in terms of functionality and reliability.
- This is precisely what successful companies have done when a service is “not good enough” to serve its customers and when the causal mechanisms between constituent parts are understood poorly.

C4:Organiging for Innovation: Selecting Architecture – Modular Architecture

- In a modular architecture, there are no unpredictable interdependencies in the design of the service's parts.
- Modular parts fit and work together in well-understood, crisply codified ways.
- A modular architecture specifies the fit and function of all elements so completely that it does not matter who makes the components or subsystems as long as they meet the defined specifications.
- Modular components can be developed in independent work groups or by different organizations working at arm's length.

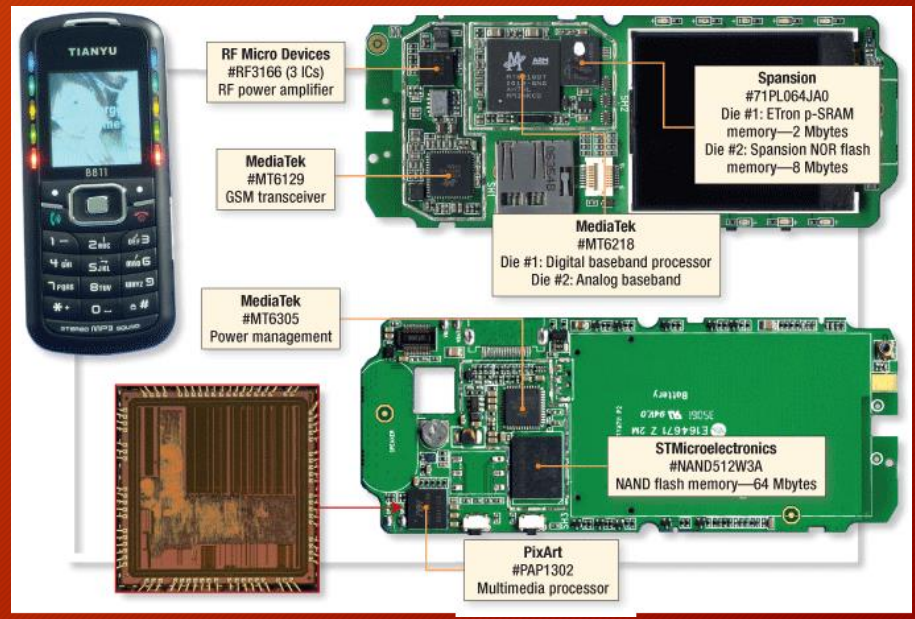
C4:Organiging for Innovation: Selecting Architecture – Interdependent vs Modular

- Product/service need to have right level of integration
- When product or service is not good enough, it needs more interdependent architecture to optimize functionality and reliability
- When the performance is better than needed, its needs more modular architecture to be fast, flexible and responsive



C4:Organiging for Innovation: Selecting Architecture – Mediatek

- Mediatek developed a tightly integrated reference design of 2G feature phone for customers who makes cheap phones for low-end of the market.
- Mediatek even took all software work and bundled it into a complete package. Anyone with a 10-engineer team could buy a Mediatek chip and this would come with everything they needed to build a phone.
- Competitor Qualcomm's customers were large handset makers (e.g. Motorola) who had the ability and desire to build some of their own pieces which required modular architecture.



C4:Organiging for Innovation: Selecting Architecture – Music Industry

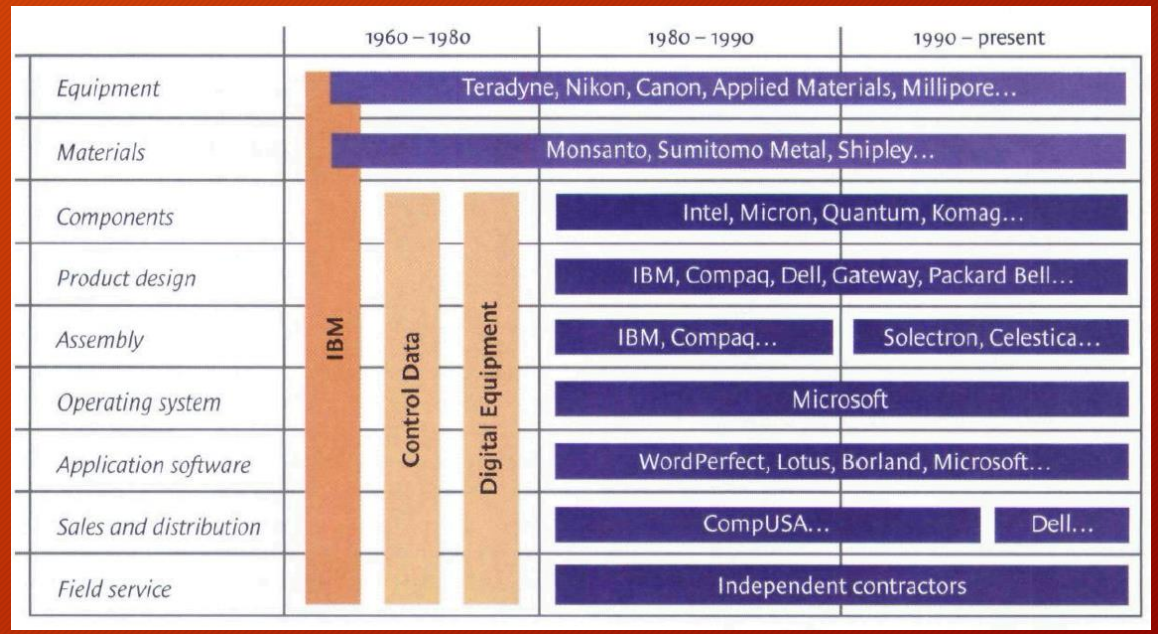
- Historically music industry was controlled by big levels who were using a highly integrated system comprising recording studios, marketing and distribution channels.
- Musicians had to sign contract with these levels.
- With the advent of digital music and online media channels, this good enough music industry is revolutionized and became modular and open.
- A musician can now record in his/her home studio, do marketing through YouTube, Facebook etc. and sell music through iTunes, Spotify etc.
- So money moved from big levels to social media and online distributors (performance defining subsystems)

C4:Organiging for Innovation: Selecting Architecture – Challenge of Modularity

- Once a modular architecture and the requisite industry standards have been defined, integration is no longer crucial to a company's success
- In fact, it becomes a competitive disadvantage in terms of speed, flexibility, and price, and the industry tends to dis-integrate as a consequence
- But then commoditization occurs and modular open architecture helps low-end disruptions to capture the low end of the market!!!
- In this case money moves to the performance defining subsystems rather than where the money was used to be made

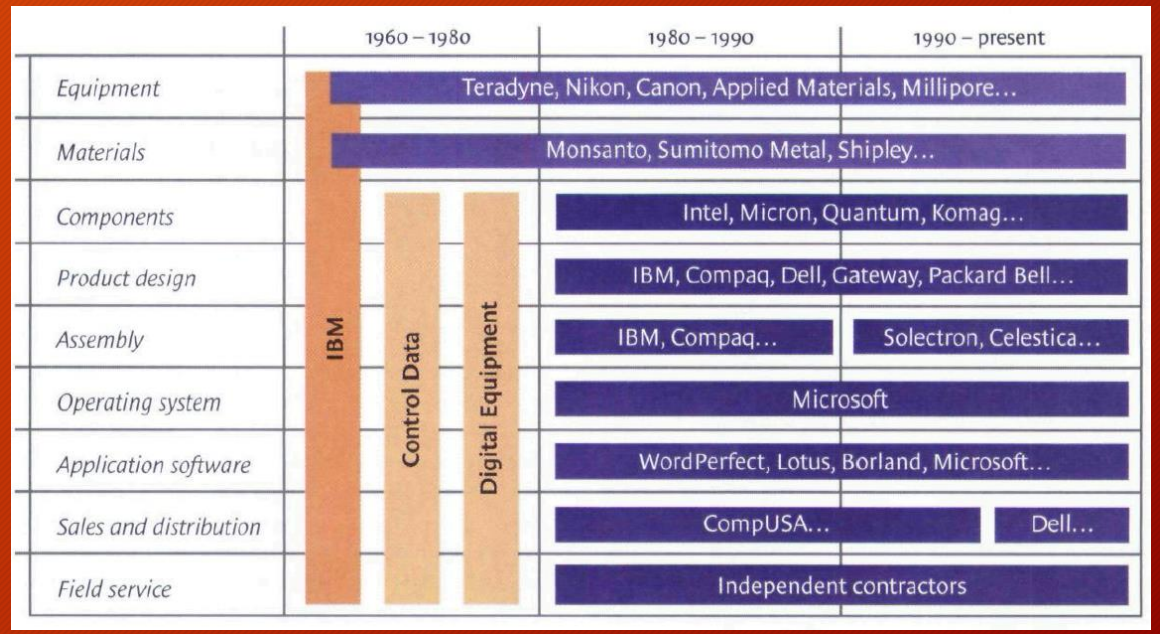
C4:Organiging for Innovation: Selecting Architecture – Computer Industry (till 2000s)

- During its early decades, the dominant companies were integrated across most value-chain links because competitive conditions mandated integration.
- As the personal computer disrupted the industry, however, it was as if the industry got pushed through a bologna slicer.
- The dominant, integrated companies were displaced by specialists that competed in horizontal strata within the value chain.



C4:Organiging for Innovation: Selecting Architecture – Computer Industry (till 2000s)

- This shift explains why Dell Computer was so successful in the 1990s. Dell did not succeed because its products were better.
- Rather, overshooting triggered a shift in the basis of competition to speed, convenience, and customization, and Dell's business model was a perfect match for that environment.
- Customers were delighted to buy computers with outsourced subsystems, custom assembled to their own specifications and delivered incredibly quickly at competitive prices (Sales & Distribution became the performance defining subsystem – Money moved here)



C4:Organiging for Innovation: Selecting Architecture – Smart Phone Market

- In the smart phone market Apple's iPhone follows a integrated architecture and Samsung follows an open, standardized and modular architecture.
- As both manufactures are getting better and better, Samsung is innovating and bringing new products faster due to the modular architecture compared with Apple.
- But as Samsung's phones are overshooting the customer's performance requirements, it enabled low-end disruption by Chinese phone makers to follow the same modular architecture, commoditize android smart phones and capture the low-end market by taking market share from Samsung.

C4:Organiging for Innovation: Selecting Architecture – Learnings

- Always consider your strategy as temporary strategy. If the situation changes, todays successful strategy may not yield success tomorrow.
- Money is always with the Performance Defining Subsystems and they moves over the time. So, you need to be prepared to move as well. Always follow the Money.
- Organize around “Customer Job to be Done” as it is very difficult to disrupt a product or service that is built around Job to be Done principle.

C4:Organiging for Innovation: Good Money vs Bad Money

- There are two goals investors have when they put money into a company – growth and profitability
- Research found, 93% of all companies that ultimately become successful had to abandon their original strategy - because the original plan proved not to be viable (emergent strategy takes over deliberate strategy)
- So, in the early stage of an innovation, **good money** becomes patient for growth but impatient for profit so that the innovators don't spend a lot of money in pursuit of the wrong strategy. And money that seeks growth before profits is **bad money** at this stage
- Only once a profitable and viable way forward gets discovered— the success then depends on scaling out (growing) this model.

C4:Organiging for Innovation: Good Money vs Bad Money – SnapTax

- Tax software firm Intuit in 2009 decided to try some thing different by developing a to liberate taxpayers from expensive tax stores by automating the process of collecting information typically found on W-2 forms
- They set up a small team liberated from the complexity and management of intuitive (executive sponsors created an "island of freedom“) with **little budget** to develop SnapTax
- SnapTax started modestly for only simple tax returns using mobile phone to capture information by taking a single picture of W-2 form only in California
- Customer love it and had 350,000 downloads within 1st three weeks