

DISRUPTIVE TECHNOLOGICAL INNOVATIONS & BUSINESS MODELS

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ABSTRACT

Disruptive Technology Innovations and Business Models

Disruptive innovations are innovations that have unexpectedly created new markets or value networks, disrupting existing markets and toppling incumbents. More often than not, companies just don't know how to deal with disruptive innovations. Why? Because it requires substantial rethinking of their business models to see how to make use of opportunities created by disruptive innovation or to come up with a completely new one. In this session, implications of disruptive innovations on business models will be discussed, and the questions companies should ask to make sure they don't lose out on any opportunities.

- *Examples of Disruptive Innovations*
- *Disruptive Business Model*
- *Implications for Senior Management*

Example: Walkman

- In 1978, designers at Sony managed to shrink a tape recorder into a specified footprint but failed to fit the recording mechanism into it
 - a “*non-recording*” tape recorder was viewed as a **failed product**.
- Mr Masaru Ibuka, Sony’s Co-founder and Honorary Chairman, popped into their lab one day and found it “**interesting**”. He remembered an entirely unrelated project going on elsewhere in the building, where an engineer was developing a lightweight portable headphone.
 - “What if you combined them?” **asked** Ibuka.
 - The resultant prototype Walkman was born; but who would buy such an “**inferior**” and “**unconventional**” **product?**
 - **Eventually created history of a great success for many years.**

What can we learn from this SONY example (a classical Disruptive Innov)?

Example of an Innovation with just good enough performance but with new features such as portability, ease of use, cool, etc – and mostly ignored by dominant incumbents!

History repeated itself: **Walkman was replaced by iPod in the 2000s!**

Question: Why did SONY fail to lead the digital revolution with MP3 enabled products like Apple-iPod in the 2000s??

Another Observation:

Sony had to develop a new business model for Walkman in order to sustain the innovative business for many years.

Insights From the Hard Disk Industry – 1997 Book: “Innovator’s Dilemma” by C Christensen



The most disruptive technologies were *architectural innovations* that shrunk the size of drives from diameters of

14 inch → 8 → 5.25 → 3.5
[→ 2.5 → (1.8) → (1.0)?? inch]

Casualties : Ampex, Memorex, Control Data,
Shugart, Micropolis, Quantum, Miniscribe,
(total : > 100)

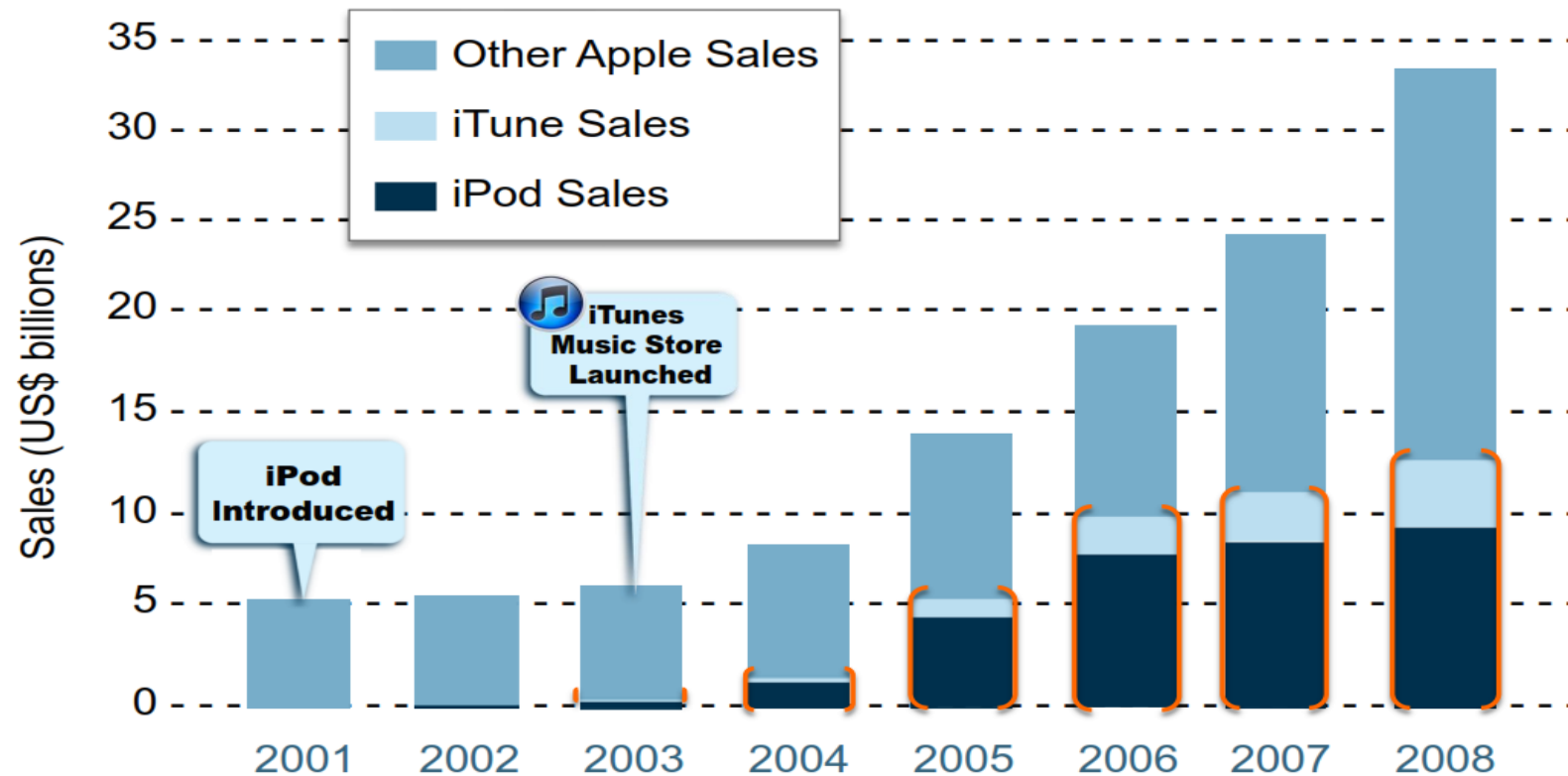


Learnings over the Last 17 Years

- Disruptive Technologies (DT)
 - mostly created by chance, by outstanding innovators like Steve Jobs, or outstanding companies like P&G
 - in future, more DT will be created on-purpose by entrepreneurial firms, especially those in the developing countries (also the new market created may even be much larger than the incumbent business)
- Beyond technologies – Disruptive Business Models will be essential for disruptive business creations/growth

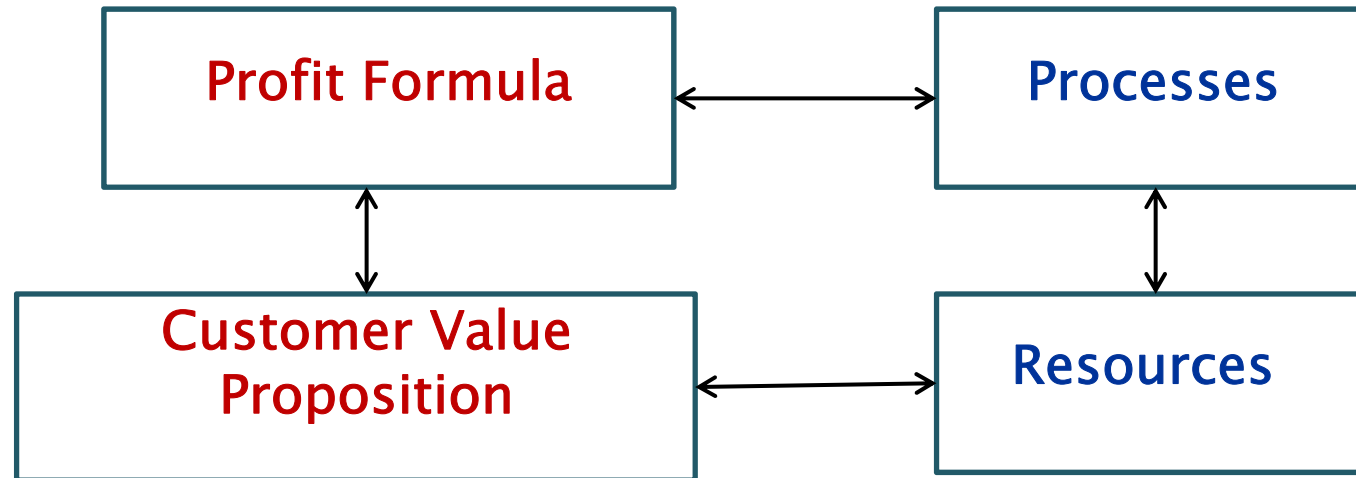
Famous example of Business Model Innovation

Impact of iPod/iTunes on Apple's growth



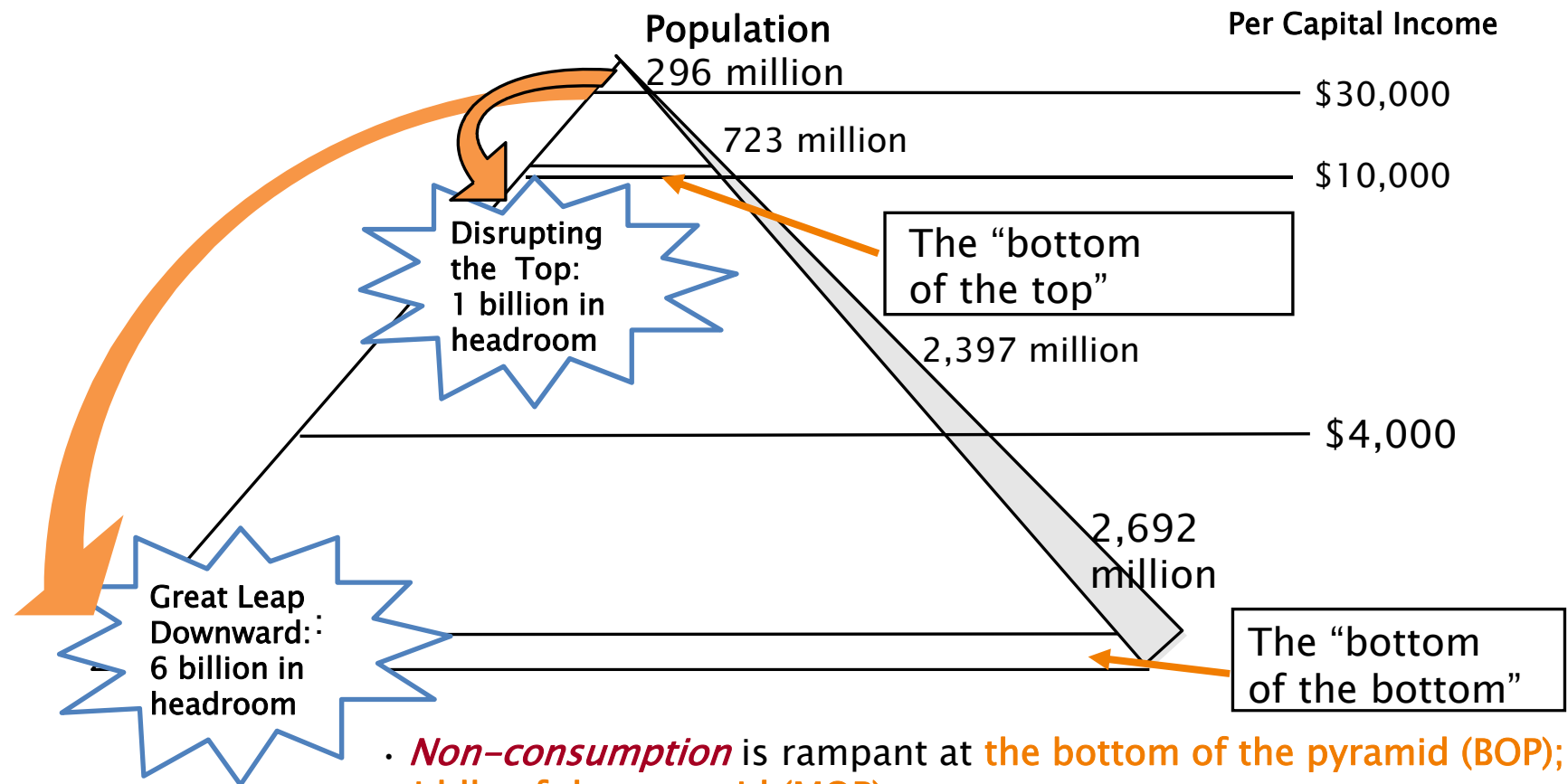
Reference: INNOSIGHT presentation OECD 2012

Elements of a (Disruptive) Business Model



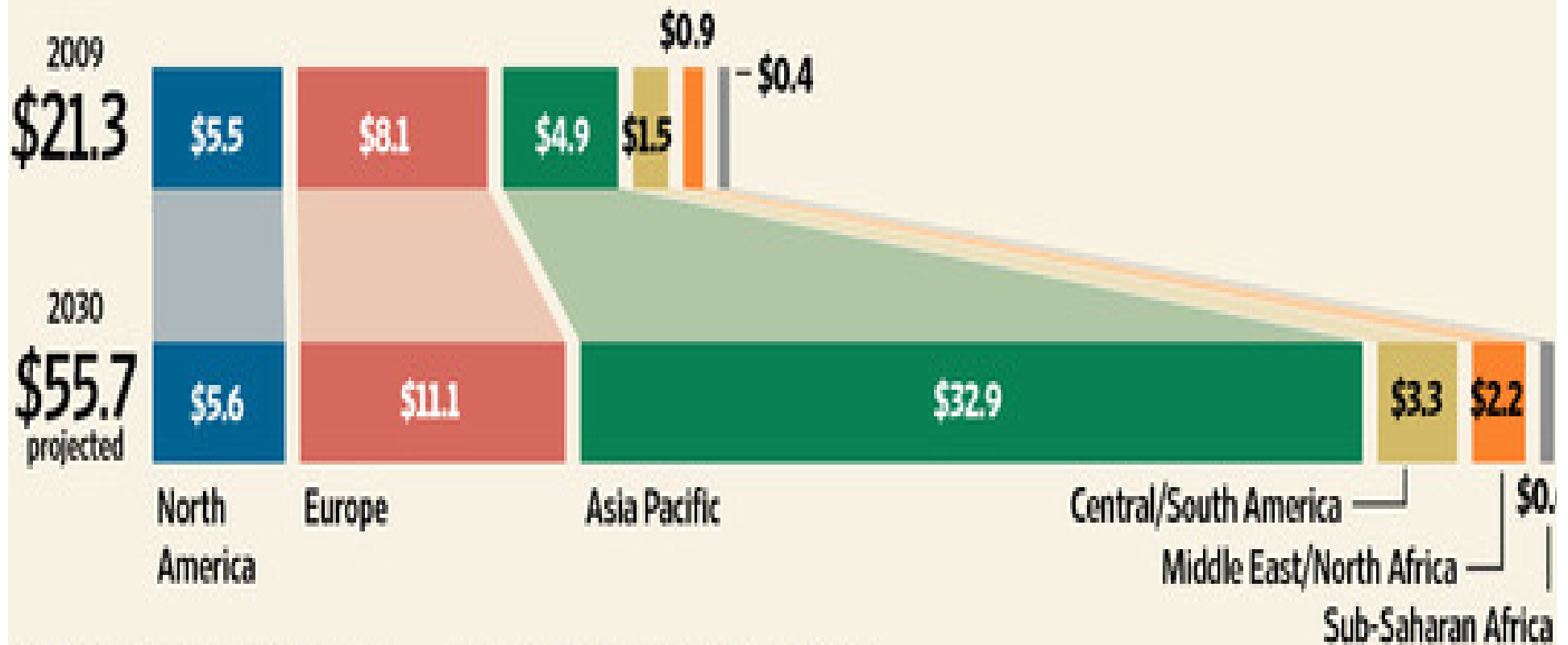
- 1) Low-end vs New-market Creation
 - 2) Market: Developed vs Developing
 - 3) Customers: Young vs Old; (Universal)
Corporate vs Individual
 - 4) Other Disruptive Features: Design;
- [To target at Non-consumption]

A Viable Strategy: Targetting the Bottom or “Middle” of The Pyramid



A Tectonic Shift

The middle class in Asia will make up the majority of 2030 consumer spending, according to an OECD estimate. Share of global middle-class spending by region, in trillions.*



*On a purchasing power parity basis

Sources: OECD; PricewaterhouseCoopers

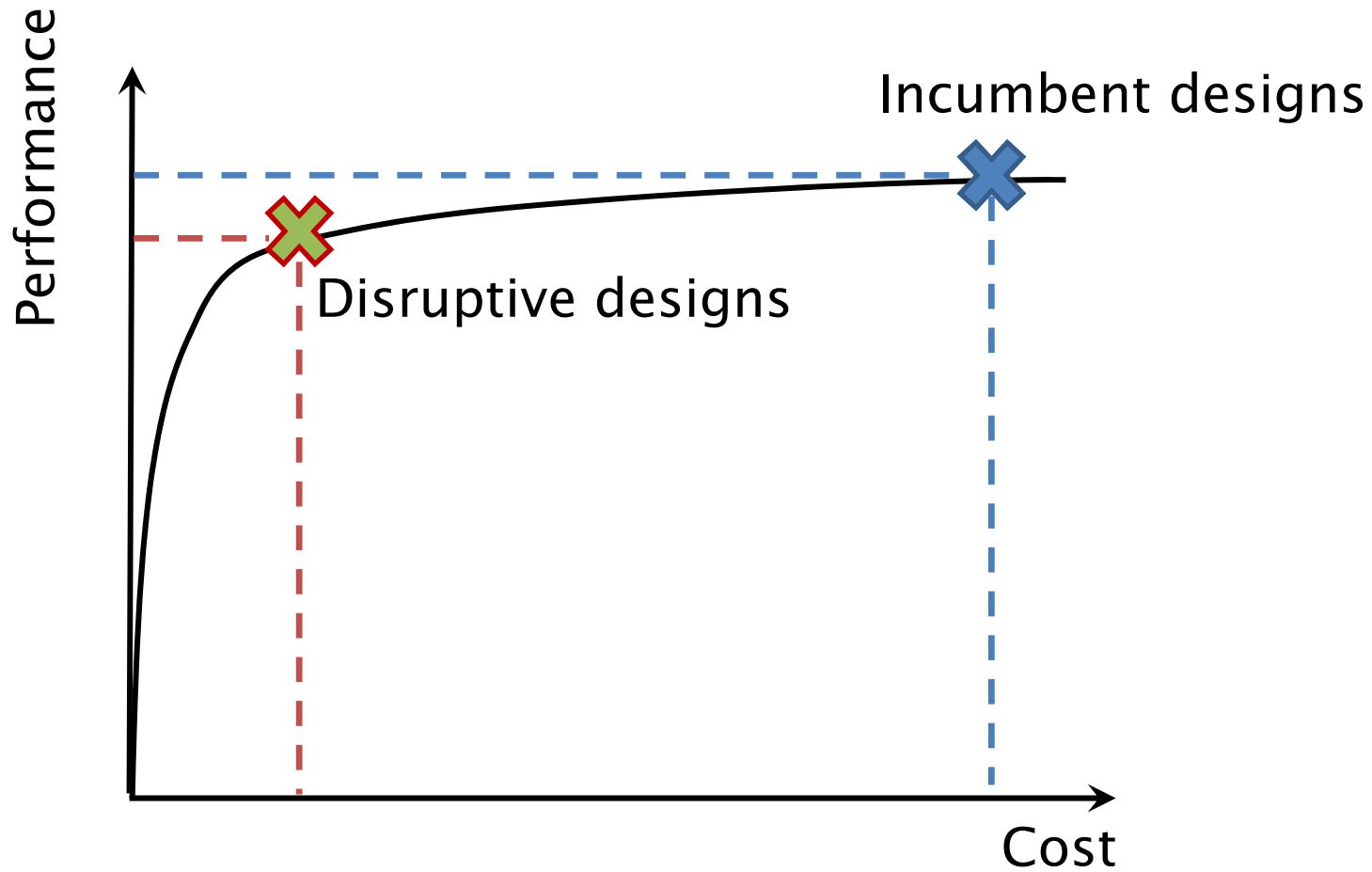
Implications for Senior Management

- Great opportunity (for both incumbent and entrants) to use the DI Strategy to disrupt incumbents or to create new high-growth businesses
- Increasing opportunity to introduce Reverse Innovation (from emerging to developed markets)
- Cannot be complacent after initial success: Need to overcome **Innovator's Dilemma** to avoid being disrupted (like Kodak, Nokia, HP?? Intel??) & aim to become Serial Disruptors

(But How??)

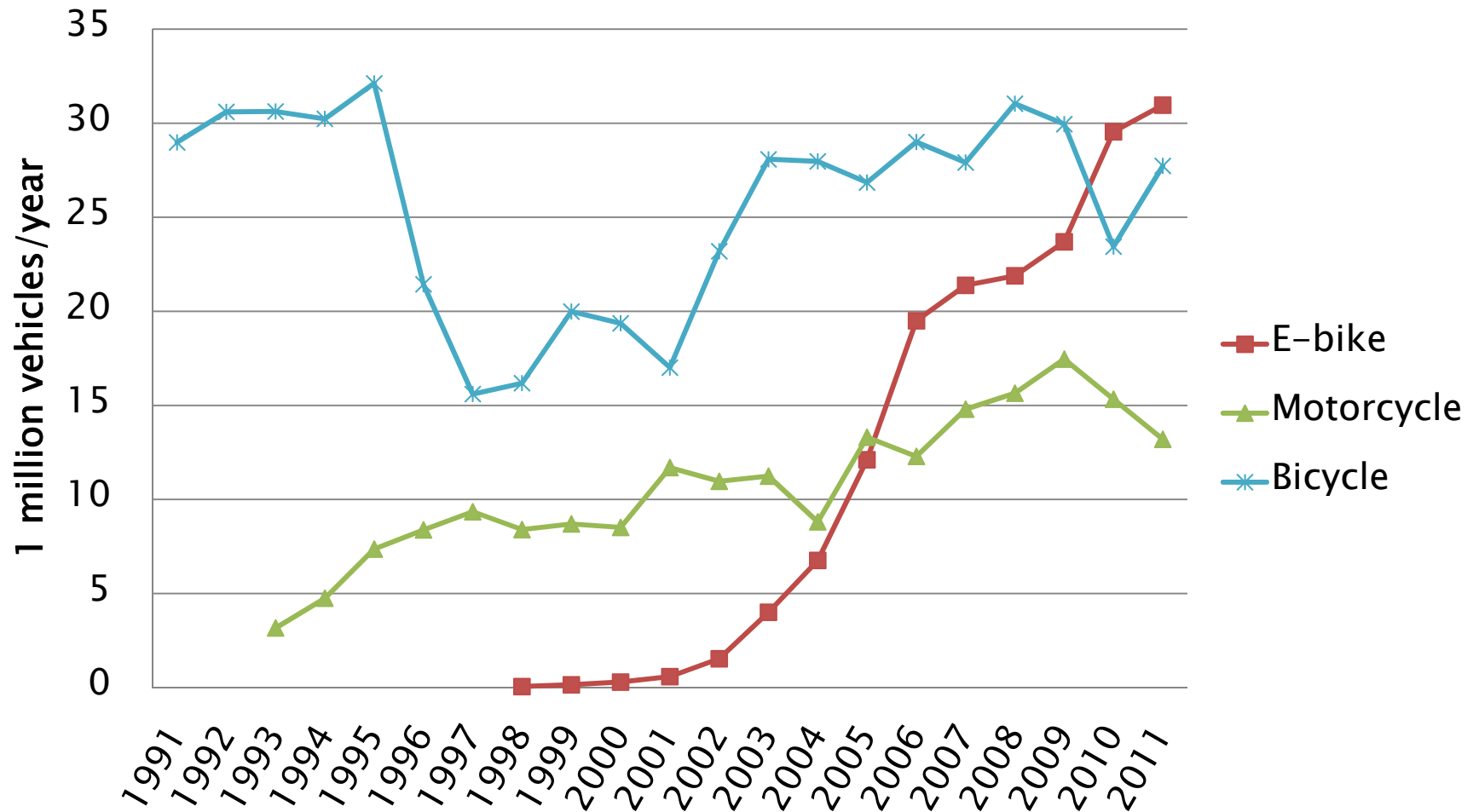


Disruptive Innovation in Emerging Market



Frugal Engineering

- Needed to address the challenge of meeting **price/performance** demand in the emerging (BOP/MOP) markets (*Instead of holding the price and keep on adding performance as in the case of products like PCs, cars, etc, the BOP/MOP markets require us to achieve significant price reduction without sacrificing basic performance*).
(opposite of Over-engineering !)
- Example: How to meet the US\$3000 price target of a Tata Nano car with acceptable performance in the Indian market?
(Back to basics: no welding; no power window; one wiper; etc)



(An example I used in 2011 to help P&G to think “Disruptive”)



Questions To Ask

Low-end disruption

Are there many customers at the low end of the market who would be happy to purchase a product with less (**but good enough**) performance if they could get it at a lower price (but still with a reasonable margin)?

New-market disruption

Is there a large population of people who historically have not had the money, equipment, or skill to do this thing for themselves, and as a result have gone without it altogether or have needed to pay someone with more expertise to do it for them?

Both types of disruption

Does our product or service help our targeted customers *get a job done* that they have always been trying to get done – but have not yet been able to do in simple, convenient way?

(i.e. **Job-to-be-done market analysis**)

“Leaders need to be prepared to deal with disruption 24/7. Change is a constant and savvy leaders leverage on these for greater opportunities.”

References

1. Clayton Christensen, [The Innovator's Dilemma](#), Harvard Business School Press, 1997.
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4. A.G. Lafley and R Charan, [The Game-Changer](#), Profile Books, 2008.
5. M. Johnson, [Sizing The White Space](#), Harvard Business Press, 2010.