

# **Internet of Things**

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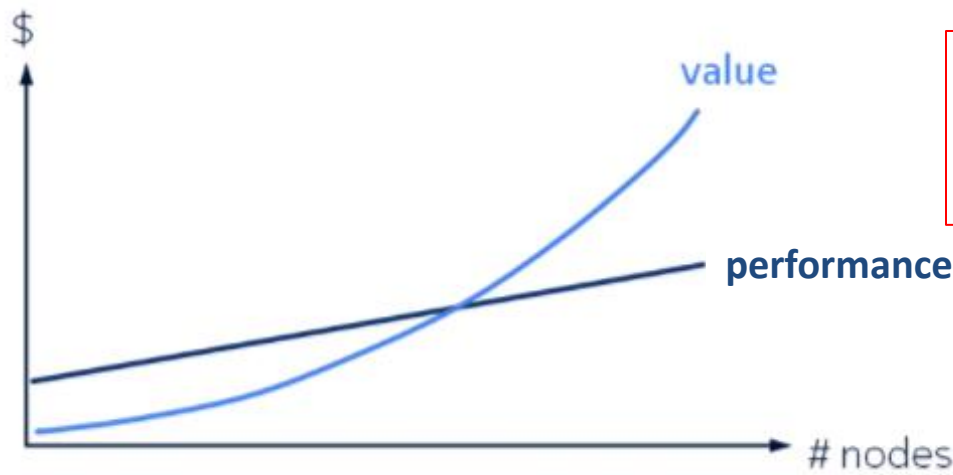
Lecture - 3

# Internet of Things

- Recap
  - Formula for successful IoT
  - Metcalfe's Law
  - Moore's Law

# Laws That Governs IoT

- Combination of Moore's and Metcalfe's laws explains the evolution of communication networks and services, as well as the rise of the **Internet of Things**.
- The current IoT growth is enabled by **hardware miniaturization**, **decreasing sensor costs**, and ubiquitous wireless access capabilities that are empowering an explosive number of smart devices and applications



Technology is not only a recipe for success, but user adoption too

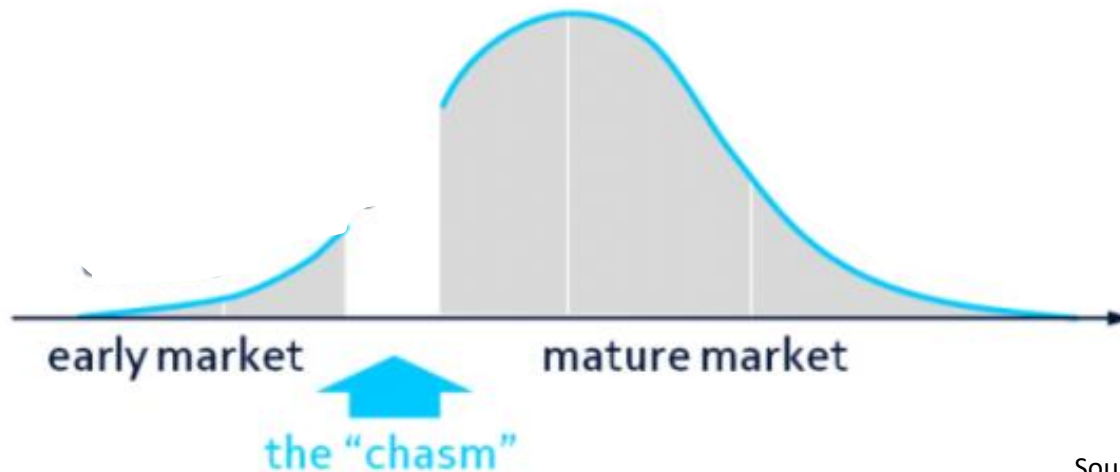
- Support “killer” devices/apps

Source : Nokia's vision for the IoT

# Laws That Governs IoT

- **Chasm Theory**
  - Geoffrey Moore , 1991, University of Washington
- Technology adoption lifecycle
  - “The gap that product marketers have to bridge for the take up of new technology by early enthusiasts and mass market adoption”

Crossing the Chasm: Marketing and Selling High-tech Products to Mainstream Customers

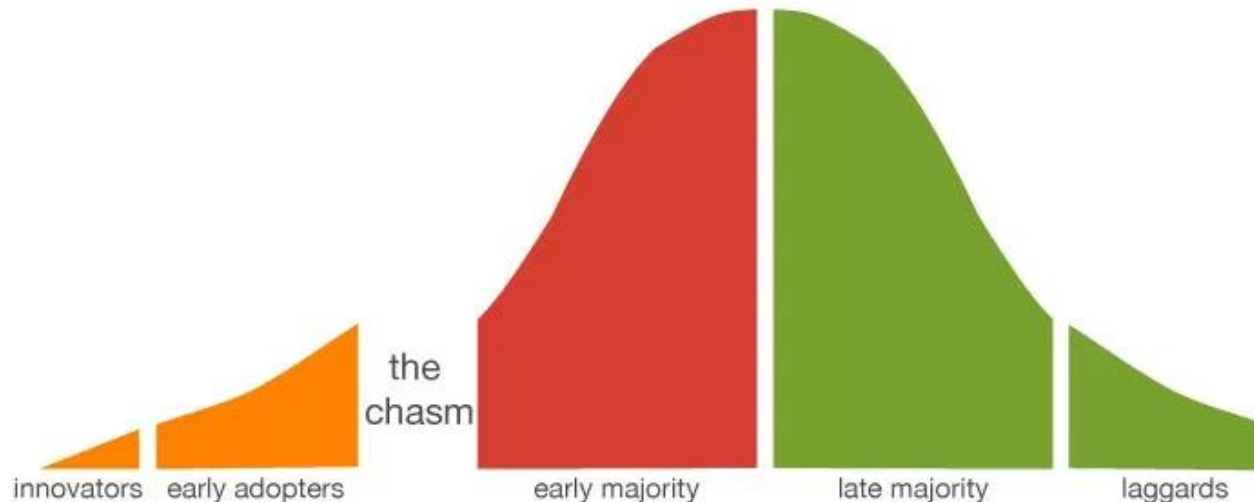


Source : Nokia's vision for the IoT

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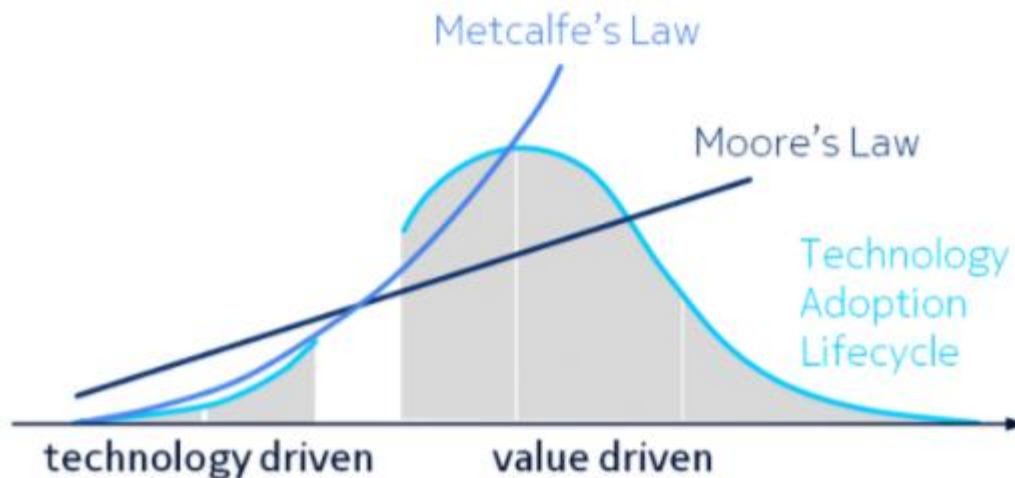
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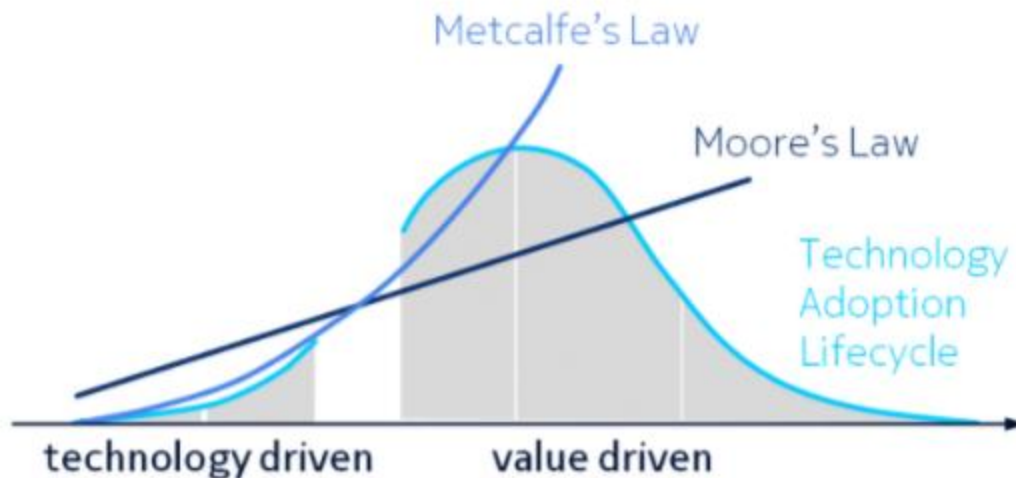
- **Combining : Metcalfe, Moore, Chasm**
- A major challenge for IoT
  - “ Chasm is actually the point where the shift from a technology driven model to a value and customer experience driven business needs to take place. If this doesn't happen, any new product or technology introduction will be fail.”



Source : Nokia's vision for the IoT

# Laws That Governs IoT

- **Combining : Metcalfe, Moore, Chasm**
  - Conclusion:



# IOT EVOLUTION



# Internet of Things

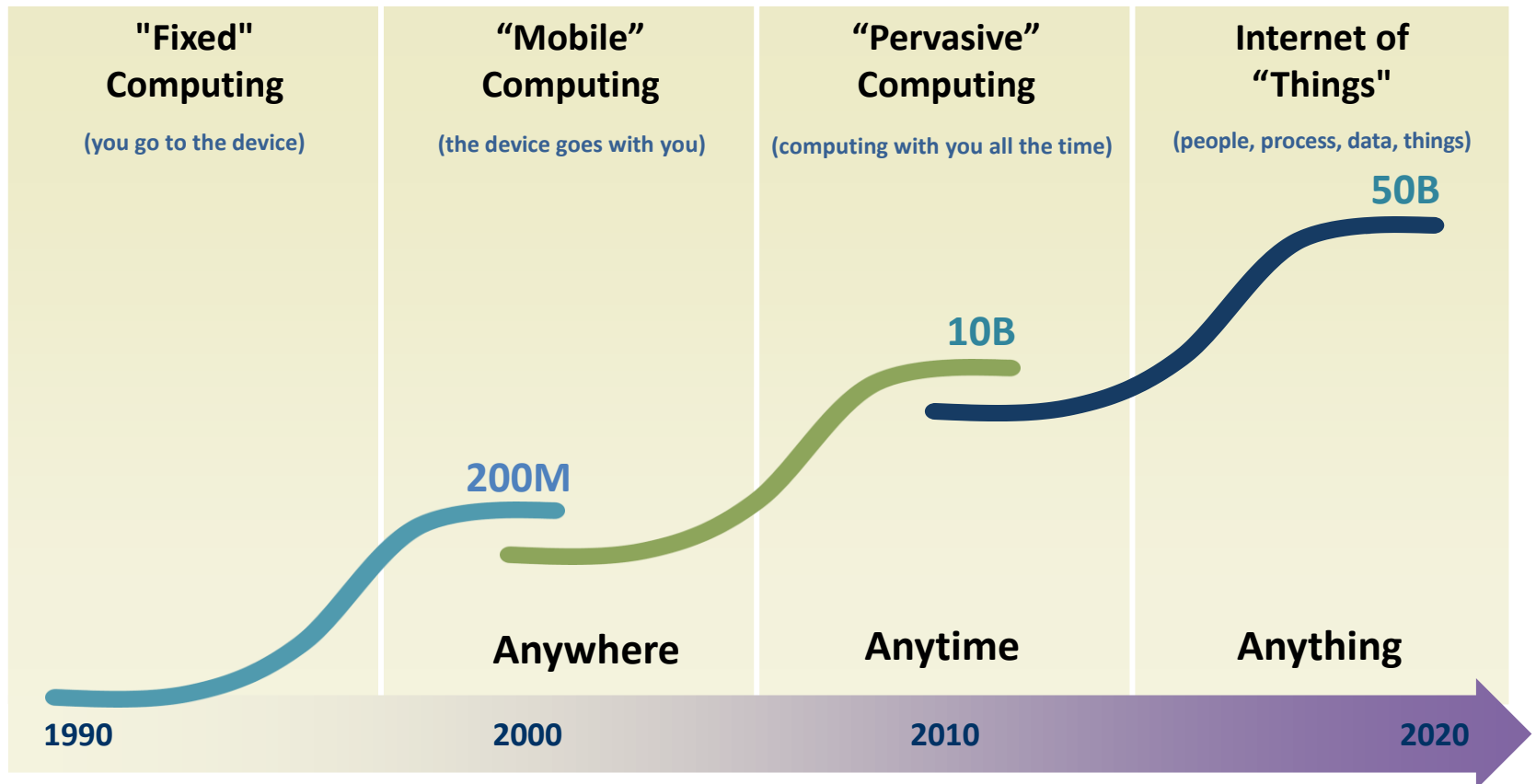
- How this Evolution will change our life?
  - Smart City - [Watch](#)

# Benefits from IoT

- There are 6 major benefits (at least) that the IoT will bring (irrespective to applications):
  - Tracking behavior in real-time;
  - Enhanced situational/context awareness;
  - Sensor-driven decision analytics;
  - Process optimization;
  - Optimized resource consumption;
  - Instantaneous control and response in complex autonomous systems

# Internet of Things

- Technological Evolution



# Next Lecture

- Research Proposal
  - Search for related research papers on specific challenge using
    - <https://scholar.google.com.pk/>
    - Read the **Abstract** and **Introduction** parts to understand that particular problem
  - Additionally, have look on papers (+ previous assigned readings), to read about particular research problem
    - The Internet of Things: A survey
    - Internet of Things: A Survey on Enabling Technologies, Protocols and Applications
  - Submit on/before 10 Feb on this link:
    - <https://goo.gl/forms/DkG5laM7HzztbZYl1>