

Digital Transformation

① Innovation Waves

② Burning Platform

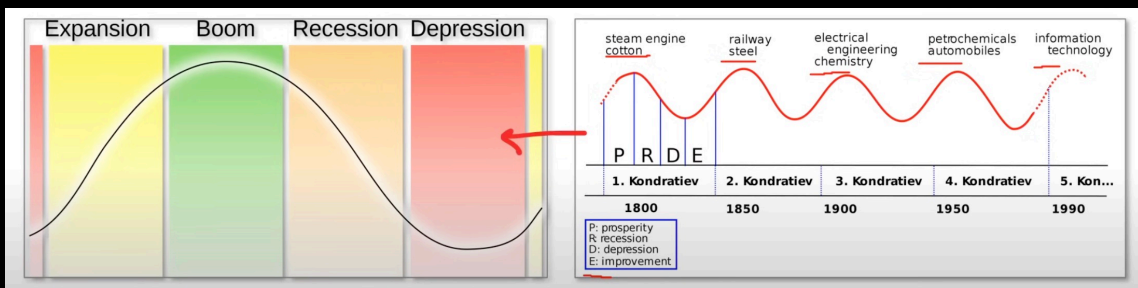
③ Digital Transformation checklist

④ Evolution of computing power

⑤ Amazon Bracket

① Innovation Waves

Kondratiev waves (or K waves) are hypothesized cycle like phenomena in global world economy. Close connected with technology life cycles



A common pattern of wave change of supply & demand

Each wave irreversibly changes the society on a global scale

The latest wave is cloud technology

② Burning Platform

→ a term used when a company abandons old technology for new technology with uncertainty of success and can be motivated by fear that the future survival hinges on digital transformation

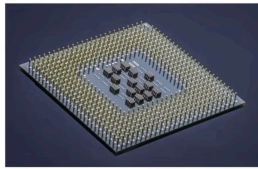
③ Evolution of Computing Power

What is computing power?

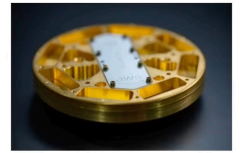
→ The throughput measured at which a computer can complete a computational task



General Computing
Xeon CPU Processor



GPU Computing
*50x faster than traditional CPUs



Quantum Computing

- D-Wave 2000Q
- **Rigetti 16Q Aspen-4**
- IonQ linear ion trap
- 100 Million times faster

AWS Service Offering



Elastic Compute Cloud EC2



AWS Inferentia (Inf1)



AWS Bracket

Via CalTech

AWS general computing

AWS

The Benefits of Cloud

① The 6 Advantages of Cloud

② The 7 advantages of Cloud

① Benefits of Cloud

Agility

↳ increase speed & agility

Pay-as-you-go pricing

↳ Trade capital expense for variable expense

Economy of scale

↳ benefits from massive economies of scale

Global reach

↳ go global in minutes

Security

Reliability

↳ stop spending money on maintaining data centers

High availability

Scalability

↳ Benefit from massive economies of scale

Elasticity

② Six Advantages of cloud

1. Trade Capital expense for variable expense
You can pay on demand meaning there is no upfront-cost and you pay for only what you consume or pay by the hour, mins or secs

2. Benefit from massive economies of scale
You are sharing with other customers to get unbeatable savings

3. Stop guessing capacity
Scale up or down to meet the current need.
Launch and destroy services whenever (instead of paying for idle or unutilized servers)

4. Increase speed and agility
Launch resources within a few clicks or minutes. (instead of waiting days/weeks of your IT to implement the solution on premise)

5. Stop spending money on running and maintaining data centers

Focus on your own customers, developing and configuring your applications. (Instead of operations such as racking, stacking, and powering servers)

6. Go Global in minutes

Deploy your app in multiple regions around the world with a few clicks. Provide your latency and a better experience for your customers at minimal cost.

③ Seven Advantages of Cloud Computing

Cost Effective: You pay what you consume, no upfront cost. On demand pricing or pay-as-you-go (PAYG) with thousands of customers sharing the cost of the resources

Global: Launch workloads anywhere in the world, just choose a region

Secure: Cloud provider takes care of physical security. Cloud services can be secure by default or you have the ability to configure access down to granular level.

Reliable: Data backup, disaster recovery, data replication & fault tolerance

Scalable: Increase/Decrease resources and services based on demand

Elastic: Automate scaling during spikes & drop in demand

Current:

The underlying hardware and managed software is patched, upgraded and replaced by the cloud provider without interruption to you.