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# Digitalization & Cloud

Peter Mendev





# Contacts

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Digitalization

Digitalization enablers

Cloud

Riding the cloud

Opportunities



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# Digitalization

Various  
perceptions



Various  
definitions

**The adoption and usage of digital technologies and of data (digitized and natively digital)** in order to create revenue, improve business, replace/transform business processes (not simply digitizing them) and create an environment for digital business, whereby digital information is at the core.

Digitalization



Digitization



# Digitalization - where?

## EXTERNAL

Business model  
Clients  
Partners  
Providers

## INTERNAL

Operations  
Employees



# Digitalization - why?

## INTERNAL

- Innovative thinking
- Led by visionary CxO
- Push stay ahead of competition

## EXTERNAL

- Covid-19
- Lagging to the competition

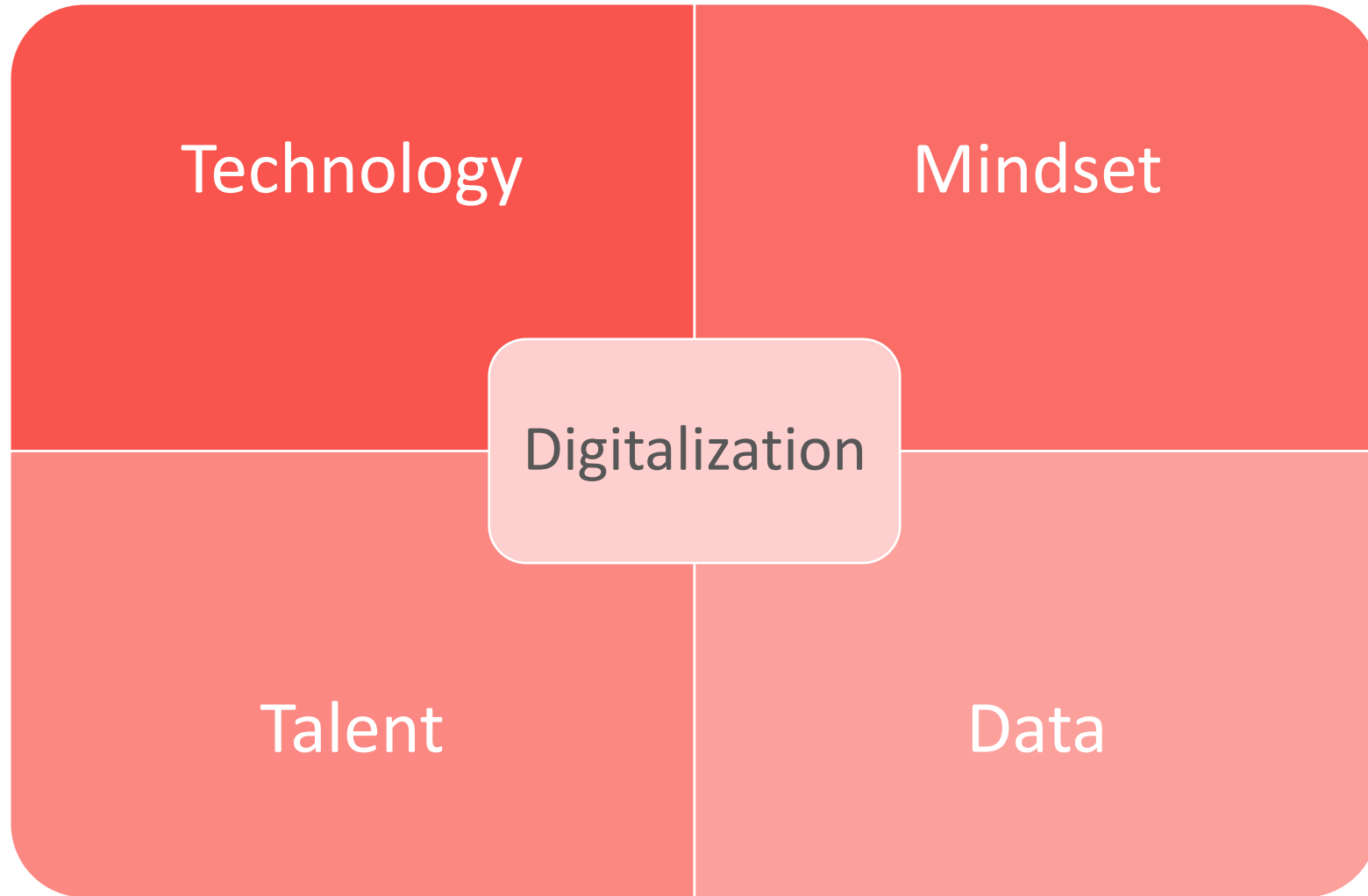


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# Digitalization enablers

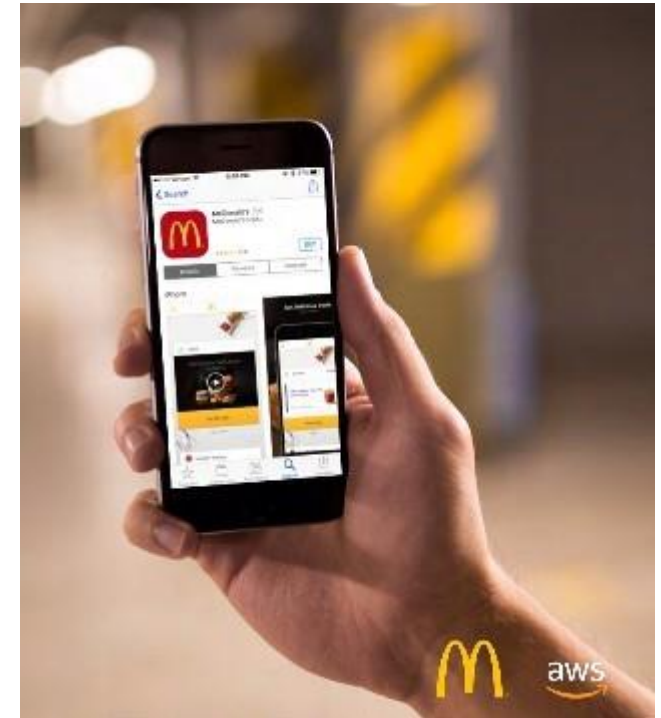






# McDonalds - home delivery

- In 2016 McDonalds India envisioned their mobile app as the preferred medium for ordering
- Built and launched in less than 4 months in multiple countries
- Based on microservices architecture
- Allows to scale to 20,000 orders per second with less than 100-millisecond latency
- Open API to easily integrate with multiple global delivery partners
- Cost-effective



## INDUSTRIAL CLOUD

Increasing range of software applications provided by partner companies



- 12 automotive brands
- 365 models
- 120 plants
- 44K vehicles produced a day
- 65K employees
- 30K locations of more than 1500 suppliers and partner companies
- 1 architecture worldwide to integrate production and supply chain processes
- Gains:
  - 30% reduction of factory costs
  - 30% increase of productivity
  - Targeted 1 billion EUR in savings
  - Improved product launches

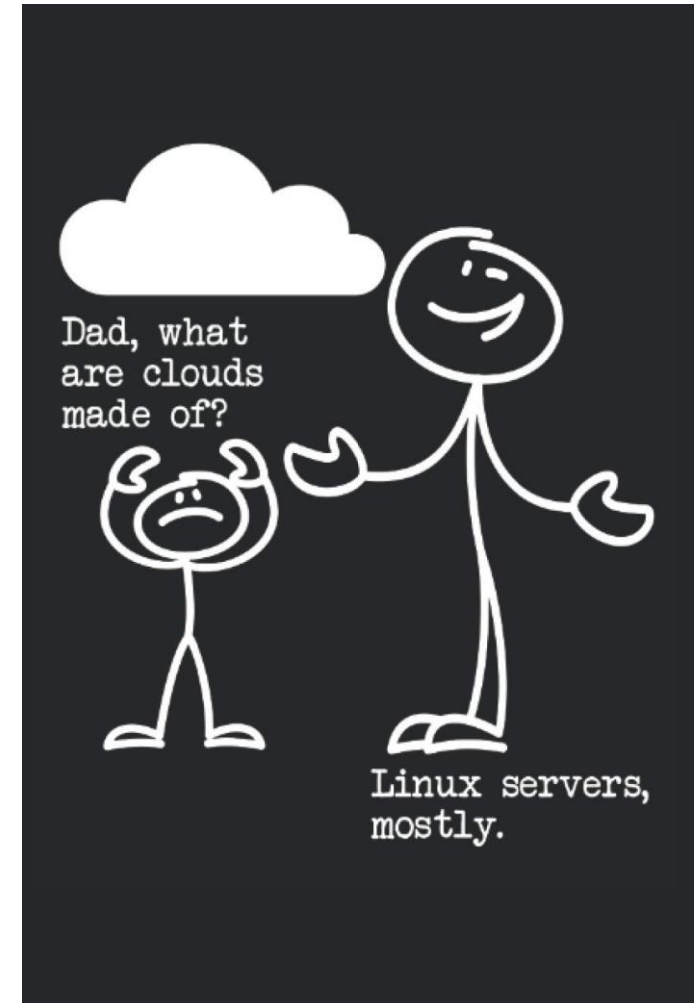
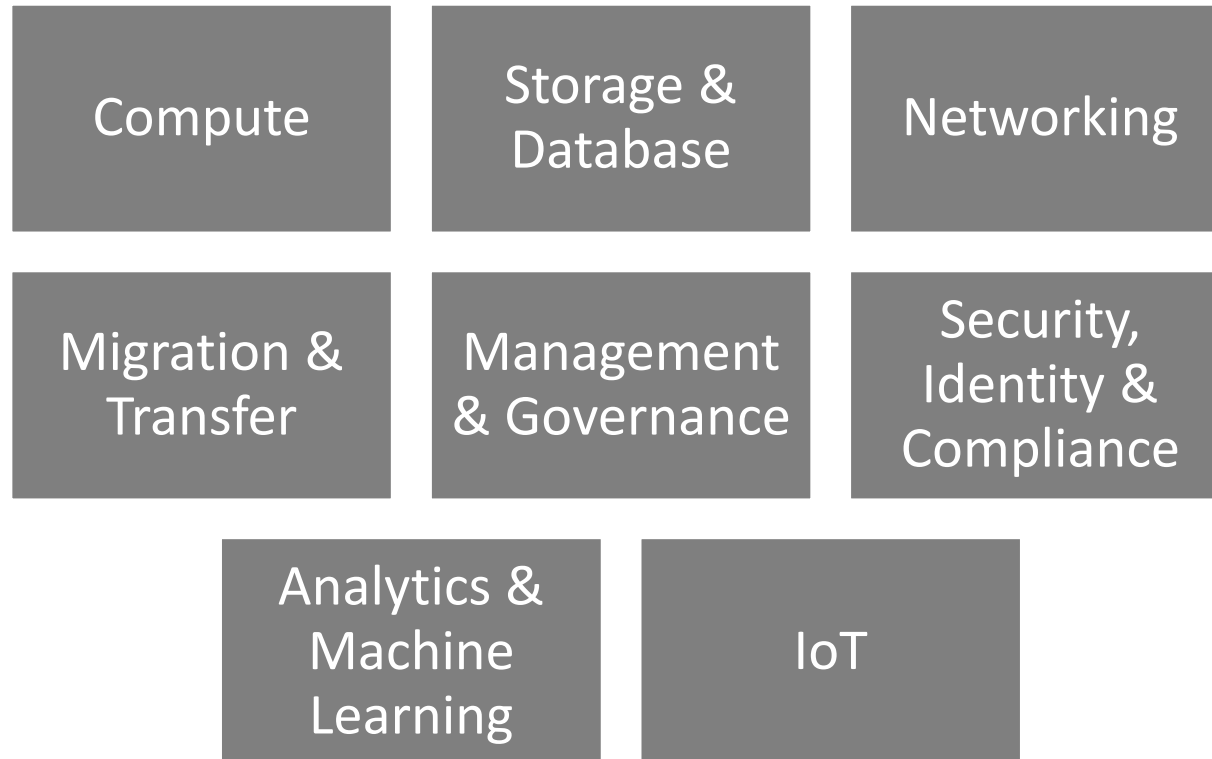


Cloud



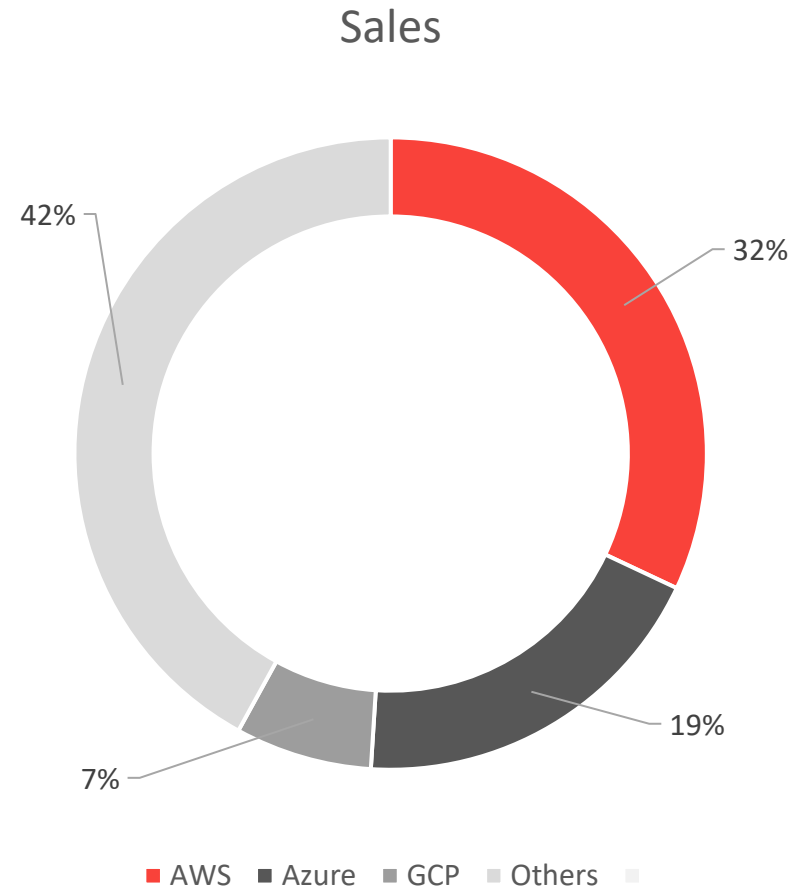
# Cloud Computing

The delivery of on-demand computing services - from applications to storage and processing power, typically over the internet and on a pay-as-you-go basis.





# Cloud Service Providers







## Public

- Cloud resources are owned and operated by 3<sup>rd</sup> party CSP and delivered over the internet
- Azure, AWS, GCP
- Low costs, high-reliability, almost unlimited scalability, no maintenance

## Private

- Cloud computing resourced used exclusively by one business or organization
- Located on-prem in your datacenter or hosted by 3<sup>rd</sup> party CSP
- Private network
- HW and SW dedicated to you organization
- More control and security

## Hybrid

- Combines on-prem infrastructure or a private cloud with a public cloud
- Data and apps can move between the two environment
- More control, flexibility, cost-effectiveness and ease of migration

Government





## SaaS

- Software as a service
- Cloud-based ready and out of the box solutions
- Clients do not have to maintain hardware or software

## IaaS

- Infrastructure as a service
  - Base infrastructure provisioned by CSP
- End users configure and manage platform and environment, deploy applications on it.

## PaaS

- Platform as a service
- End users develop, run, and manage applications
- No infrastructure to manage

Serverless



# Major benefits

## Cost optimization

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- Pay as you go
- Take advantage of CSP's economy of scale

## Reliability

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- Built-in high-availability of services
- Easy Disaster Recovery and Business Continuity

## Flexibility

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- Hundreds of easily affordable services
- Integrate with on-prem solutions and data centers

## Elasticity

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- Scale up or down, in or out - on the fly
- In matter of a few clicks and a few minutes

## Security

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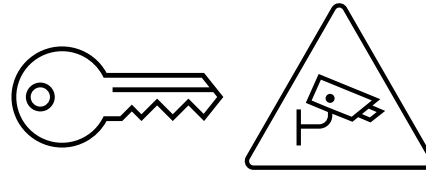
- Shared security model
- Built-in security and encryption mechanisms



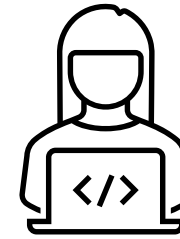
# Challenges to keep in mind



Legislation



Security



Talent

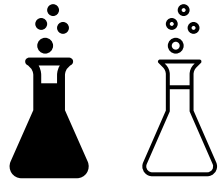


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**Riding the cloud**



# Cloud mindset



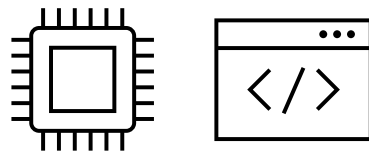
Innovation &  
Experimentation



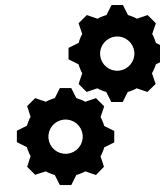
DevOps



2 pizza team



Infrastructure as  
code



CI/CD



# Adopt the cloud - best practices

**Provide executive support**

**Educate Staff**

**Create a culture of experimentation**

**Pick your partners**

**Create Cloud center of excellence**

**Implement a hybrid architecture**

**Implement a Cloud-first strategy**



# Cloud Migration Strategies

## Rehosting

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- Lift and shift
- Usually, the early cloud migration projects
- Allow your team to get better acquainted with cloud

## Replatforming

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- The core architecture of the application does not change
- Some cloud optimizations which produce tangible benefit e.g., move to a database-as-a-service platform while migrating web application

## Repurchasing

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- Moving to a different product
- Usually, move from on-prem to SaaS product



# Cloud Migration Strategies

## Re-architecting

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- Re-imagining how the application is architecture, typically using cloud-native features
- Tends to be more expensive, but can add new feature previously not supported by on-prem solution

## Retire

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- Get rid of!
- Typically, as a result of assessing your environment and ownerships

## Retain

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- Revisit later or do nothing
- Recently purchased, developed or upgraded solutions





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**Opportunities**



## Business volumes growth

- More companies using cloud = more companies that need help in the cloud

## Partnerships

- Image building
- Sales leads

## Marketing

- Co-marketing
- Marketplace
- Funding Marketing
- Funding projects



“Cloud’s trillion-dollar prize is up for grabs” McKinsey Article, Feb 2021

## 1. Rejuvenate \$430 billion

### IT cost optimization

Cost optimization of application development and maintenance and IT infrastructure

### Risk reduction

Improved business resilience of the organization

### Core-operations digitization

Implementation of latest technological/digitization achievements in core operations

## 2. Innovate \$770 billion

### Innovation-driven growth

Business growth from new and enhanced use cases in analytics, IoT, and automation

### Accelerated product development

Enhancement of operating-model agility, ease of cloud configuration, and democratized access to computational power

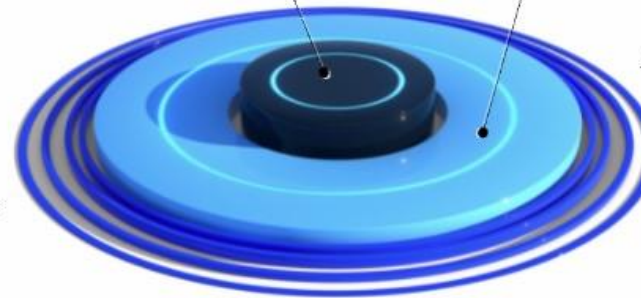
### Hyper-scalability

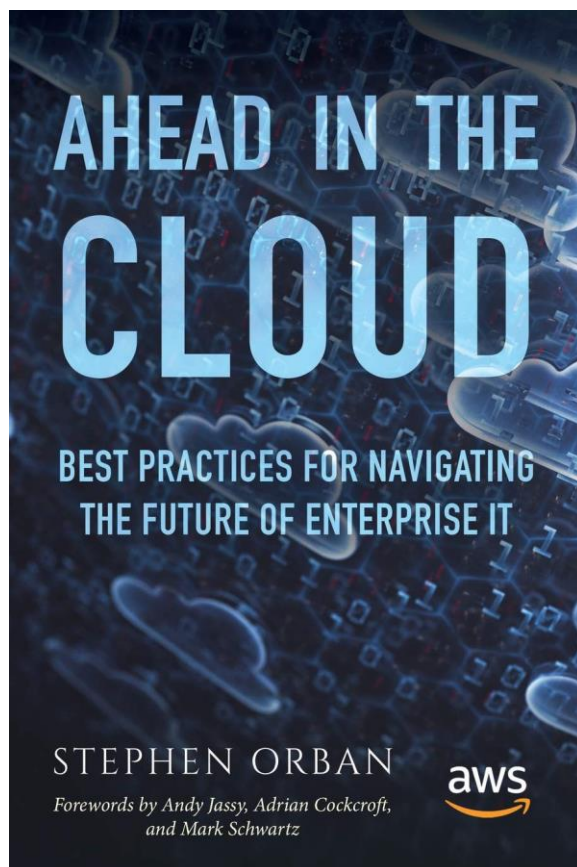
Access to instant on-demand elasticity in compute and storage capacity to scale across customer segments, geographies, and channels

## 3. Pioneer Additional opportunity

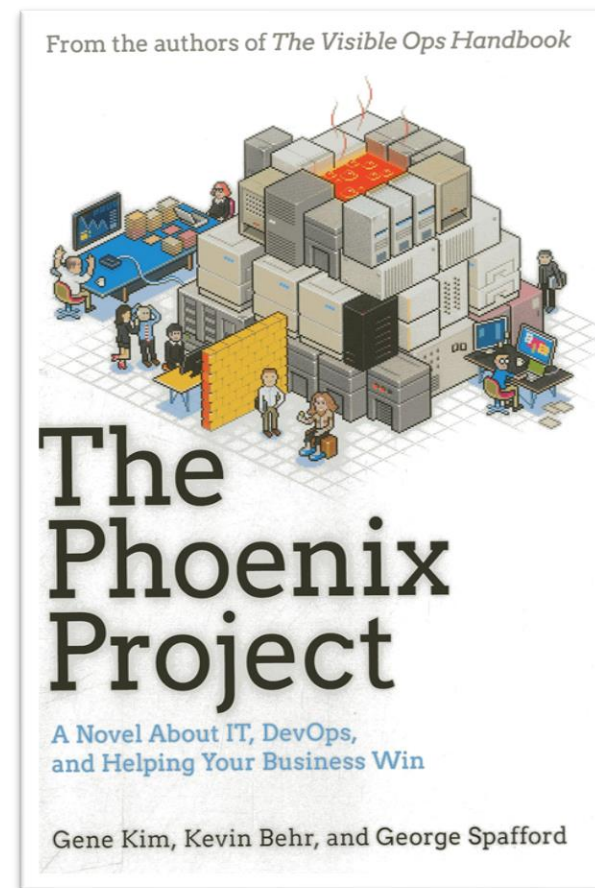
### Early adoption of cloud technology

Embracing culture of experimentation with low cost of failure and gaining experience in cloud technology, which is an enabler for early adoption of future tech such as quantum computing, AR/VR/MR (mixed reality), blockchain, and 3-D/4-D printing





**“Ahead in the cloud”**  
Stephen Orban



**“The Phoenix project”**  
Gene Kim, Kevin Behr,  
George Spafford



# Thank you!

Let's discuss..