

# Digital Transformation

## Driving Business Value

**Tom Marrs**  
**Enterprise Architect**



# What's The Point?

Digital Transformation (DX)  
is not just a technical exercise  
— it's about transforming your  
business

# Your Takeaway

**How to Drive Business Value  
with Digital Transformation  
and Improve  
The Bottom Line**

# Agenda

## Digital Transformation and Business Value

What is Real Digital Transformation?

1

## Technical Disciplines of Digital Transformation

Drive Business Value with Innovative Technology

2

## Digital Transformation Success Stories

Real World Case Studies

3

## Conclusion

What Could Be? Where Do We Go From Here? Leading Change

4

# We're Not Covering

**Any Deep Technical  
or Architectural Discussion  
(unless you ask for it)**

# Slides Will Be Available At ...

[https://github.com/tmarrs/presentations/tree/  
master/CO-IT-Symposium/2019/Digital-  
Transformation-Drive-Business-Value](https://github.com/tmarrs/presentations/tree/master/CO-IT-Symposium/2019/Digital-Transformation-Drive-Business-Value)

[thomasamarrs@comcast.net](mailto:thomasamarrs@comcast.net)

# The Journey ...



# Where Are We?

**Digital Transformation and Business Value**

**What is Real Digital Transformation?**

1

**Technical Disciplines of Digital Transformation**

**Drive Business Value with Innovative Technology**

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**Real World Case Studies**

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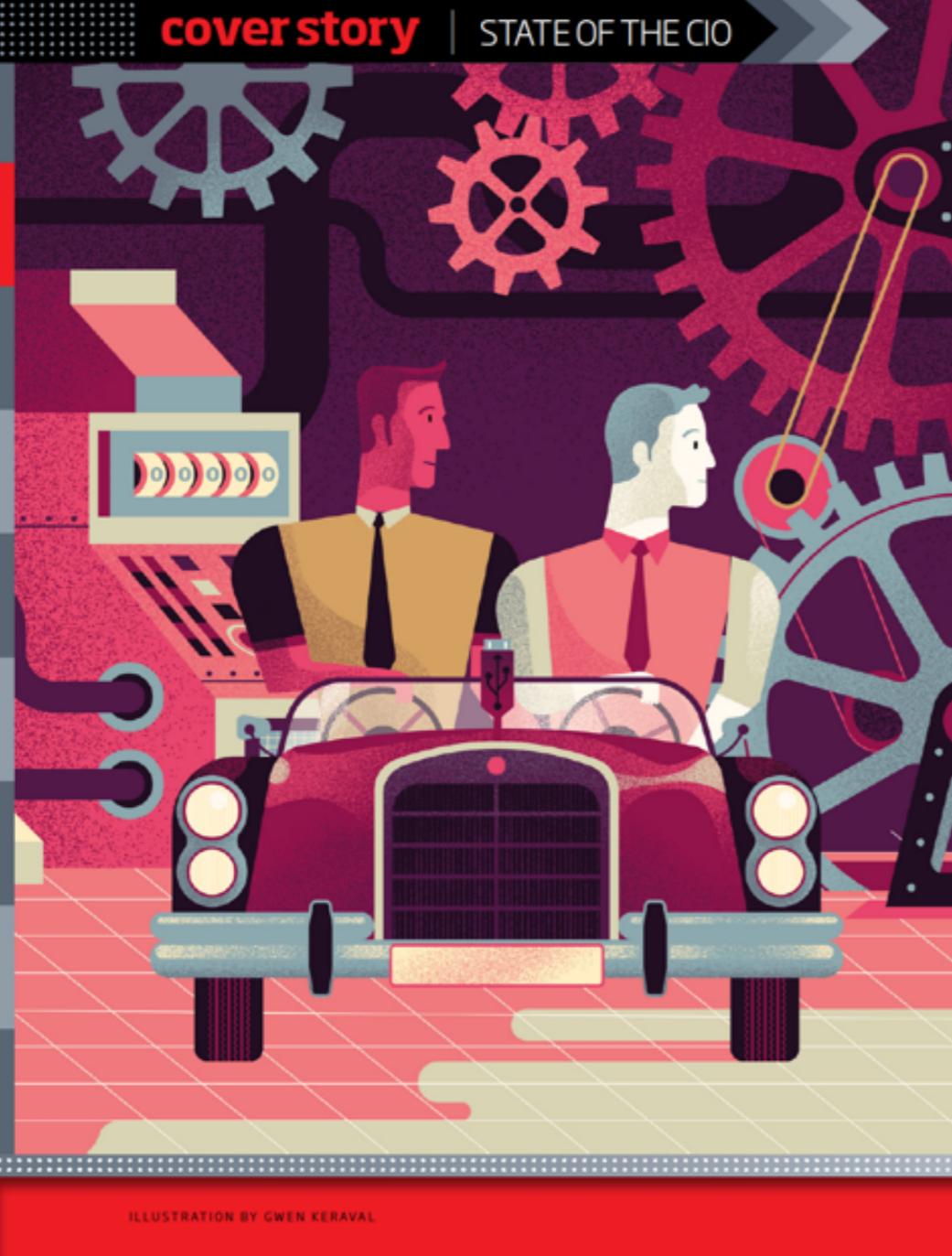
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# The Beginning of the DX Journey

## Connecting the Dots



**cover story | STATE OF THE CIO**

## IT-BUSINESS ALIGNMENT (*finally*) GETS REAL

After years of casual courting, IT and business are finally forging effective ways of working together to pursue shared objectives for digital transformation.

BY BETH STACKPOLE

**For years,** CIOs have been chasing the Holy Grail of IT-business alignment with limited success and plenty of indigestion. Digital transformation has elevated the CIO role, yet IT leaders still struggle to foster effective collaboration between their organizations and business units at a holistic level. Long-standing perceptions of IT as mired in the technical weeds, disconnected from core ►►►

ILLUSTRATION BY GWEN KERAVAL

WINTER 2018 | CIO.COM [Home](#) < 9 >

Source: IT-Business Alignment Finally Gets Real, CIO Magazine, Winter 2018 - <https://www.cio.com/article/3250845/digital-transformation/state-of-the-cio-2018-it-business-alignment-finally-gets-real.html>

# What is Digital Transformation (DX)?

## Definition #1

Digital transformation is a fundamental rethinking of customer experience, business models, and operations. It's about finding new ways to deliver value, generate revenue, and improve efficiency — and companies are using innovative technologies to do it.

# What is Digital Transformation (DX)?

## Definition #2

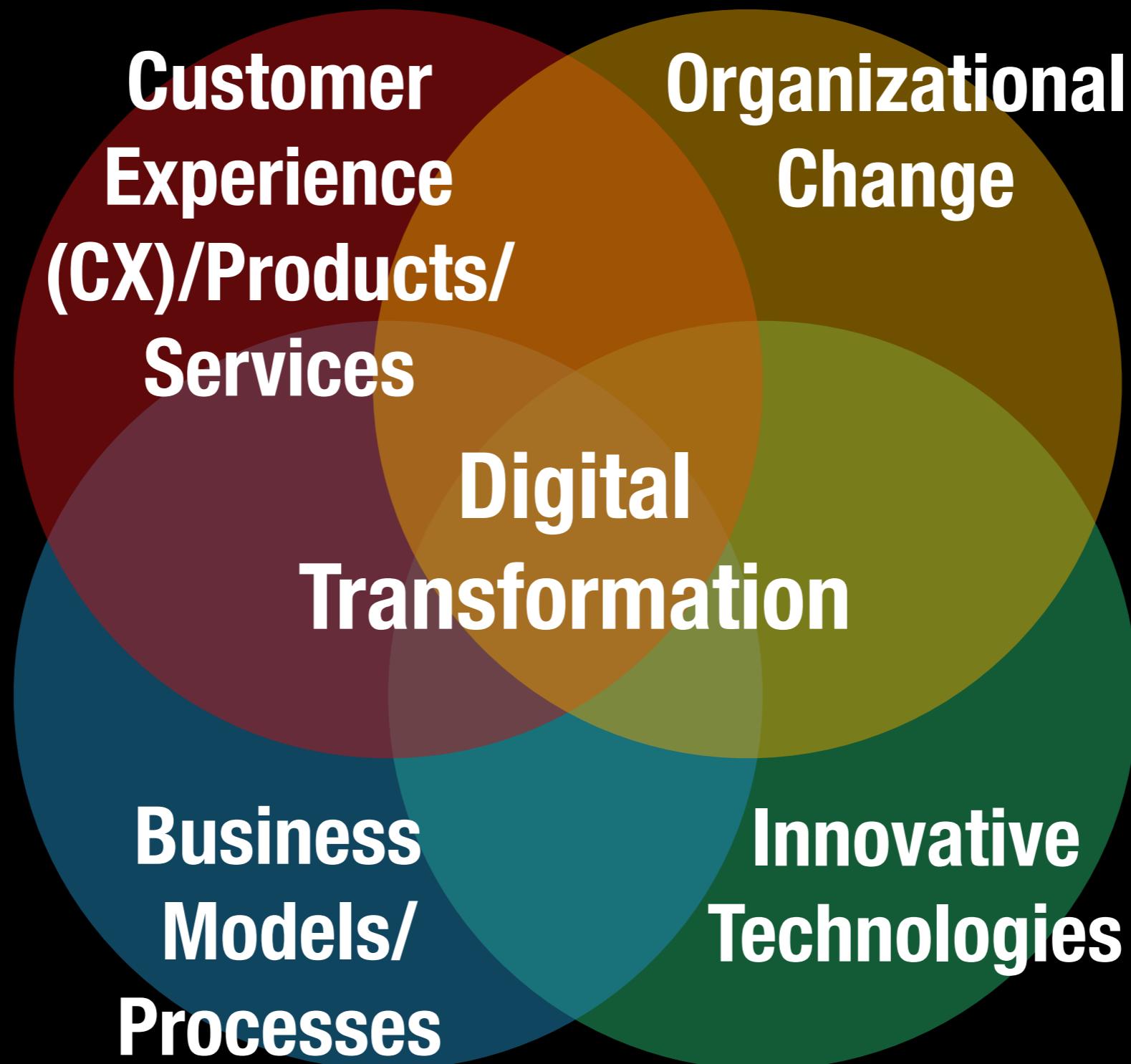
Real digital transformation isn't about getting your company to use a specific set of new technologies; it's about your company's ability to react and successfully utilize new technologies and procedures — now and in the future.

... your transformation programme is going to have to tackle three critical areas of your organization:

1. Business model - Revenue, Customer Acquisition & Retention
2. Customer experience - Core product and services, Customer engagement
3. Internal processes - Operations

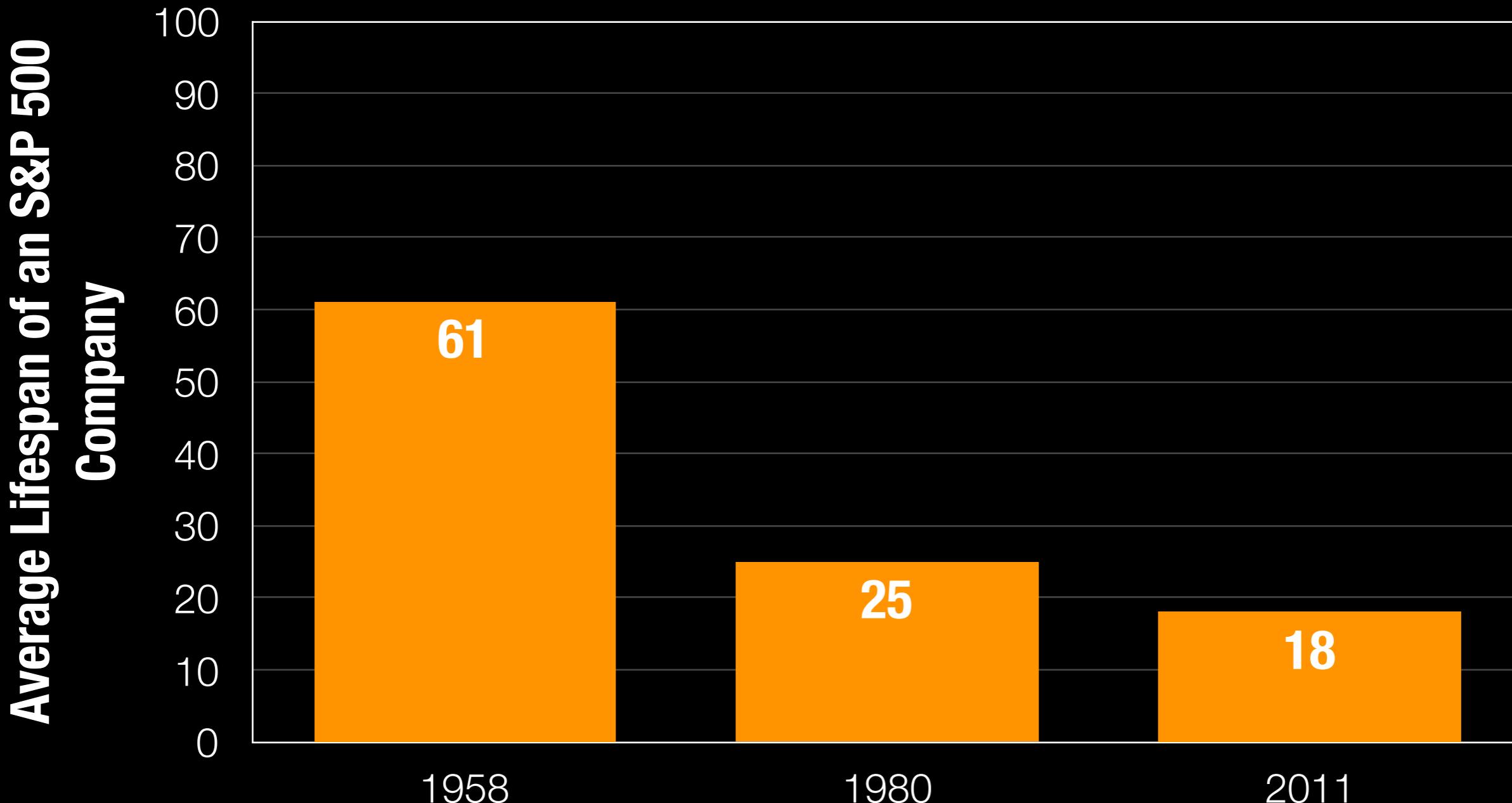
# What is Digital Transformation (DX)?

## My Definition



# Why Digital Transformation?

Adapt or Die

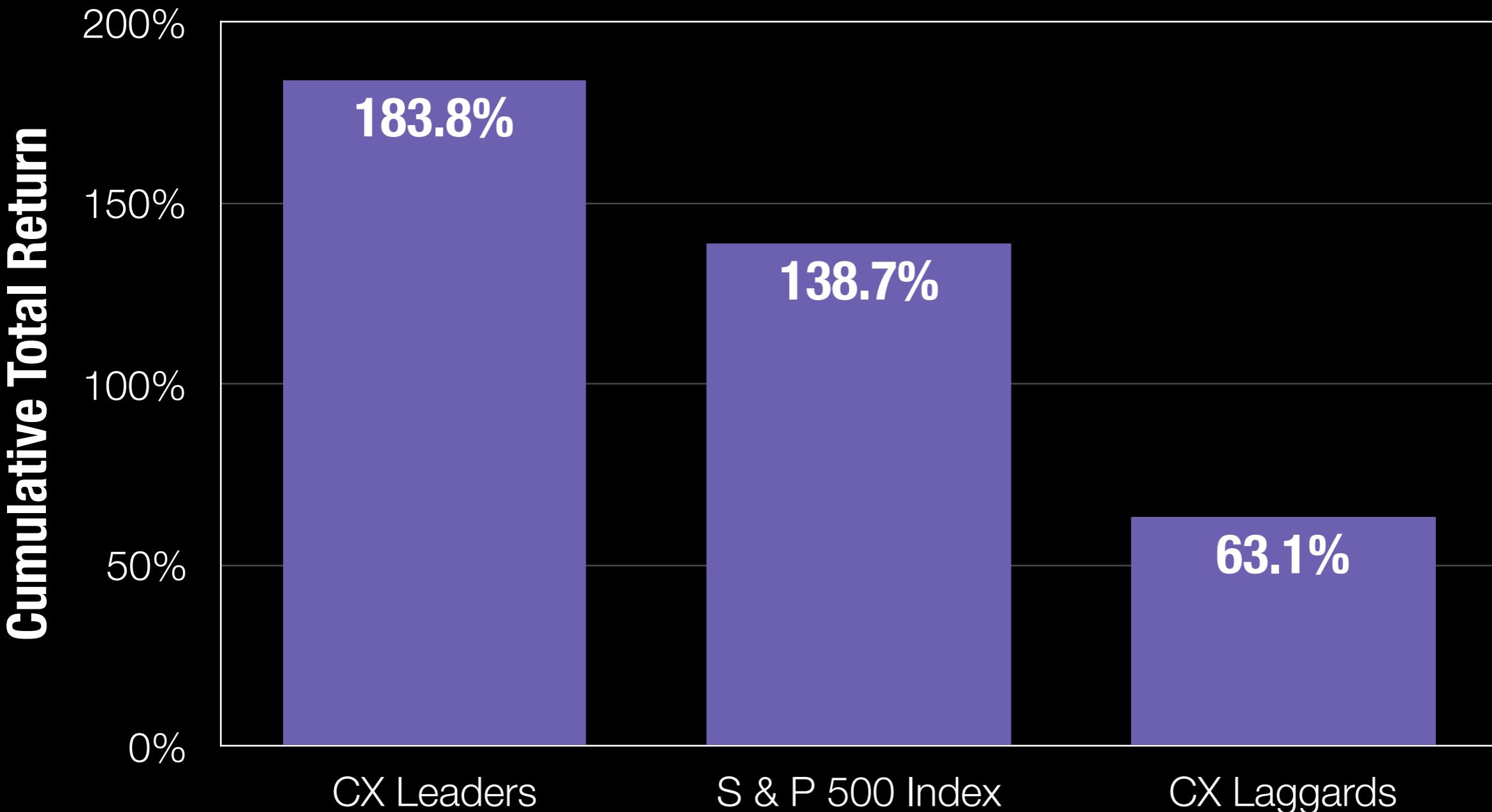


Source: The Enterprisers Project - <https://enterprisersproject.com/what-is-digital-transformation>

CNBC - <https://www.cnbc.com/2017/08/24/technology-killing-off-corporations-average-lifespan-of-company-under-20-years.html>

# CX Leaders Outperform the Market

## Customer Experience (CX) Leaders vs S&P 500 vs Laggards (2007-17)



Source: Watermark Consulting, 2019 - <https://www.watermarkconsult.net/blog/2019/01/14/customer-experience-roi-study/>

# Digital Transformation Spending

## Worldwide

**\$1.25 T**

Worldwide DX  
spending in 2019

**\$1.97 T**

Forecasted Worldwide  
DX spending in 2022

**16.7%**  
Compound Annual  
Growth Rate (CAGR)  
on DX from 2017 -  
2022

**30%**  
Of G2000 companies  
to allocate capital  
budget  $\geq 10\%$  of  
revenue on DX  
initiatives by 2020

# Haven't We Done This Before?

No

# Real DX Requires Collaboration

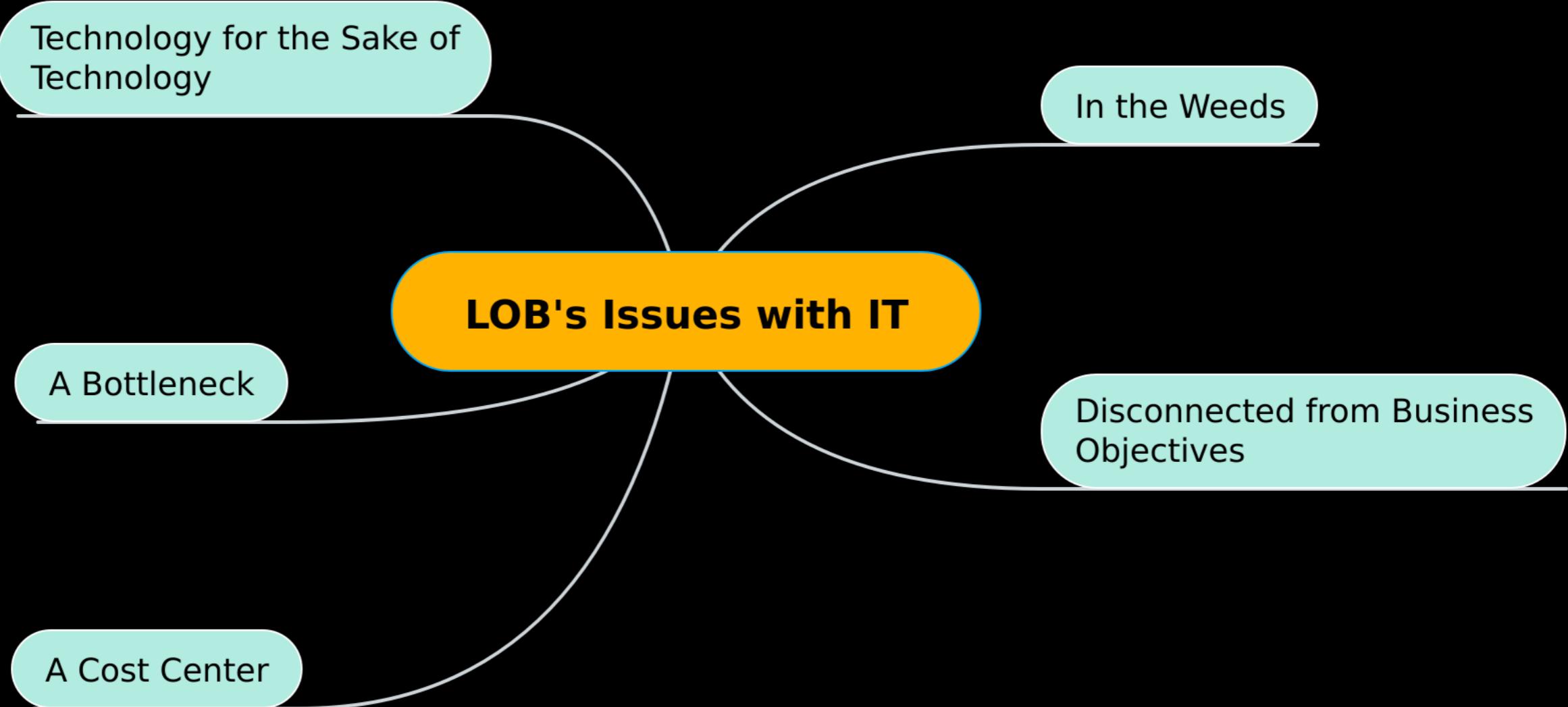
## 2018 State of the CIO Survey

**71%**

**Of respondents  
believe that IT  
and LOB engage  
more frequently**

# The IT-Business Divide

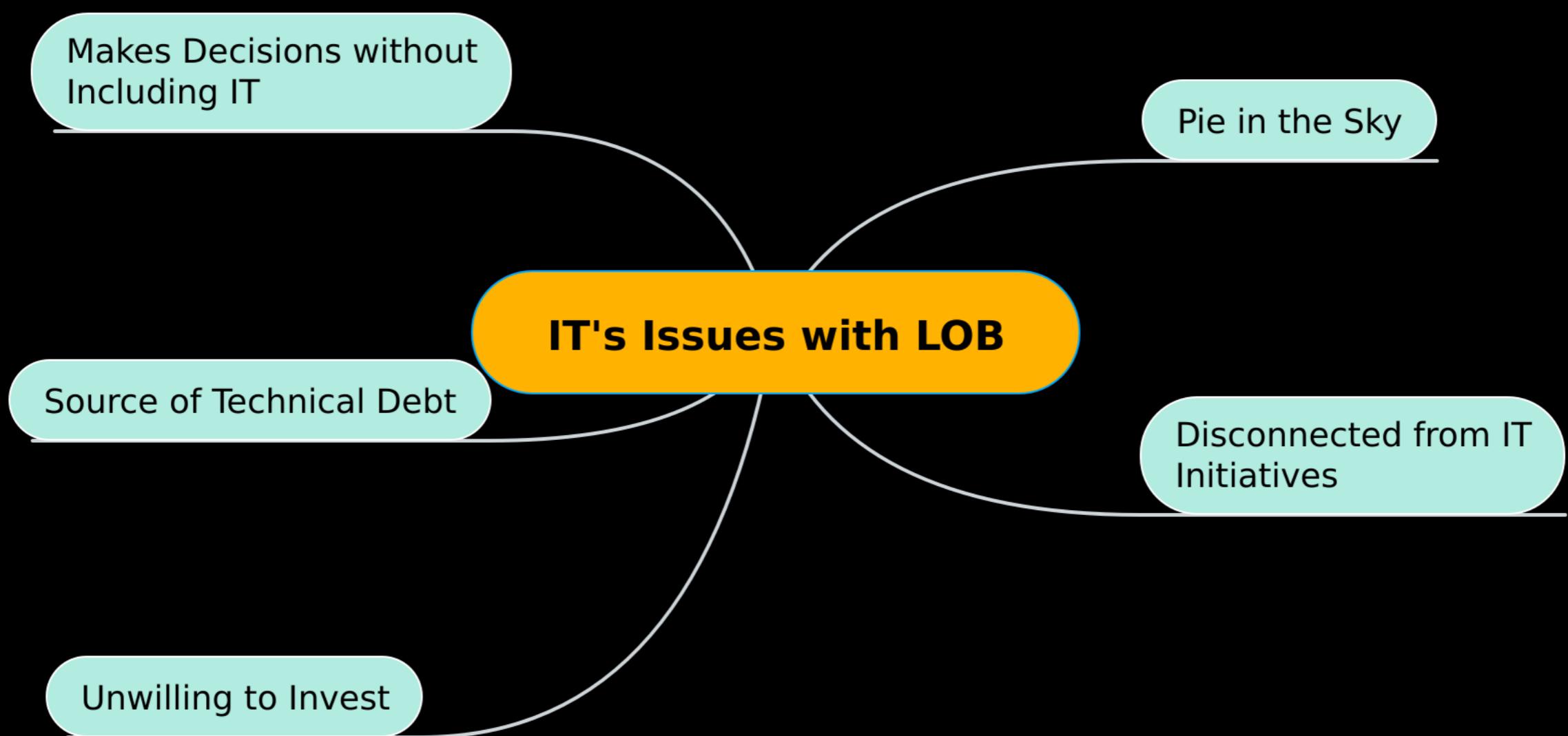
## LOB's Issues with IT



Source: CIO Magazine, Winter 2018 - <https://www.cio.com/article/3250845/digital-transformation/state-of-the-cio-2018-it-business-alignment-finally-gets-real.html>

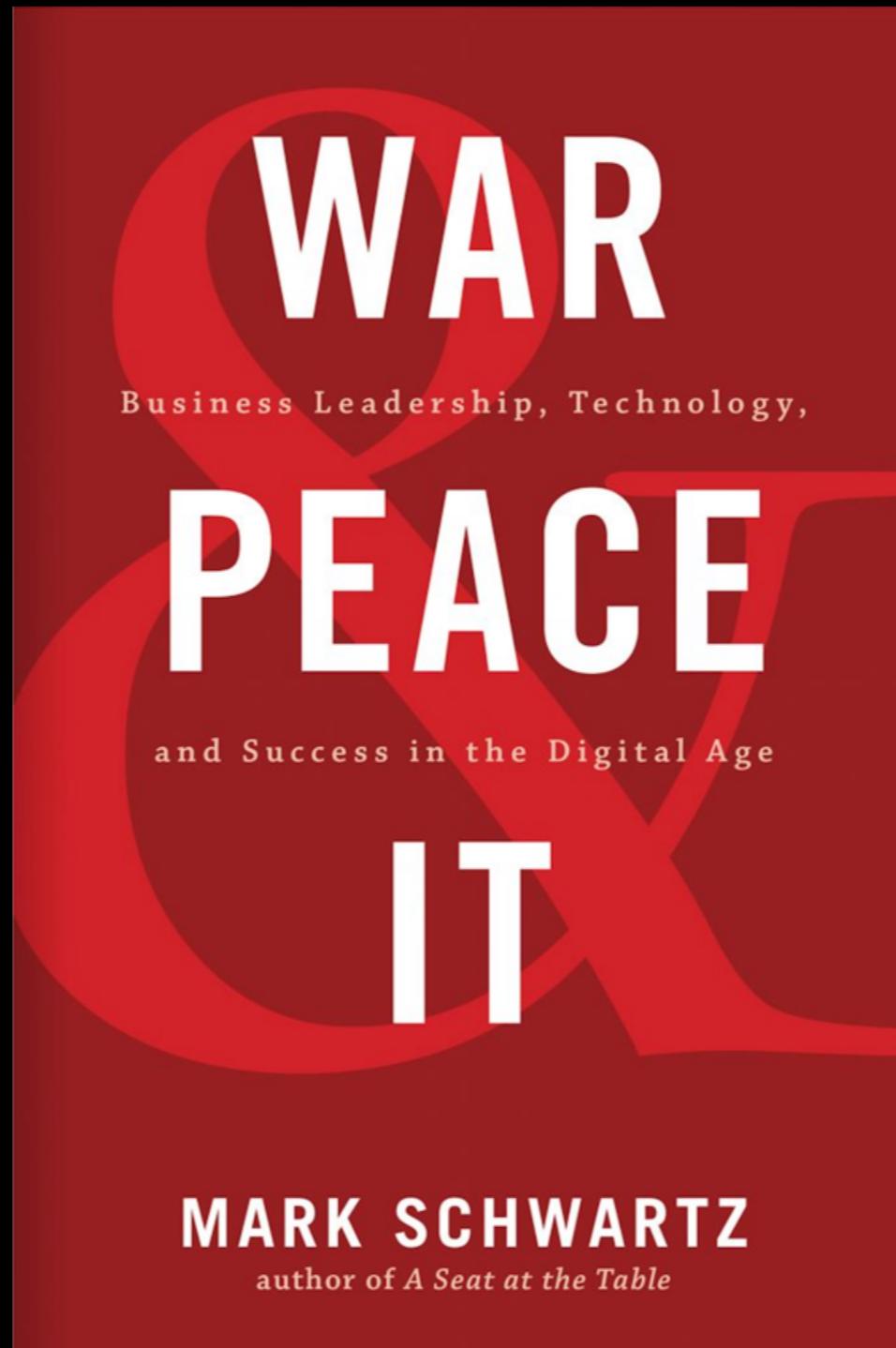
# The IT-Business Divide

## IT's Issues with LOB



# Where Do We Go From Here?

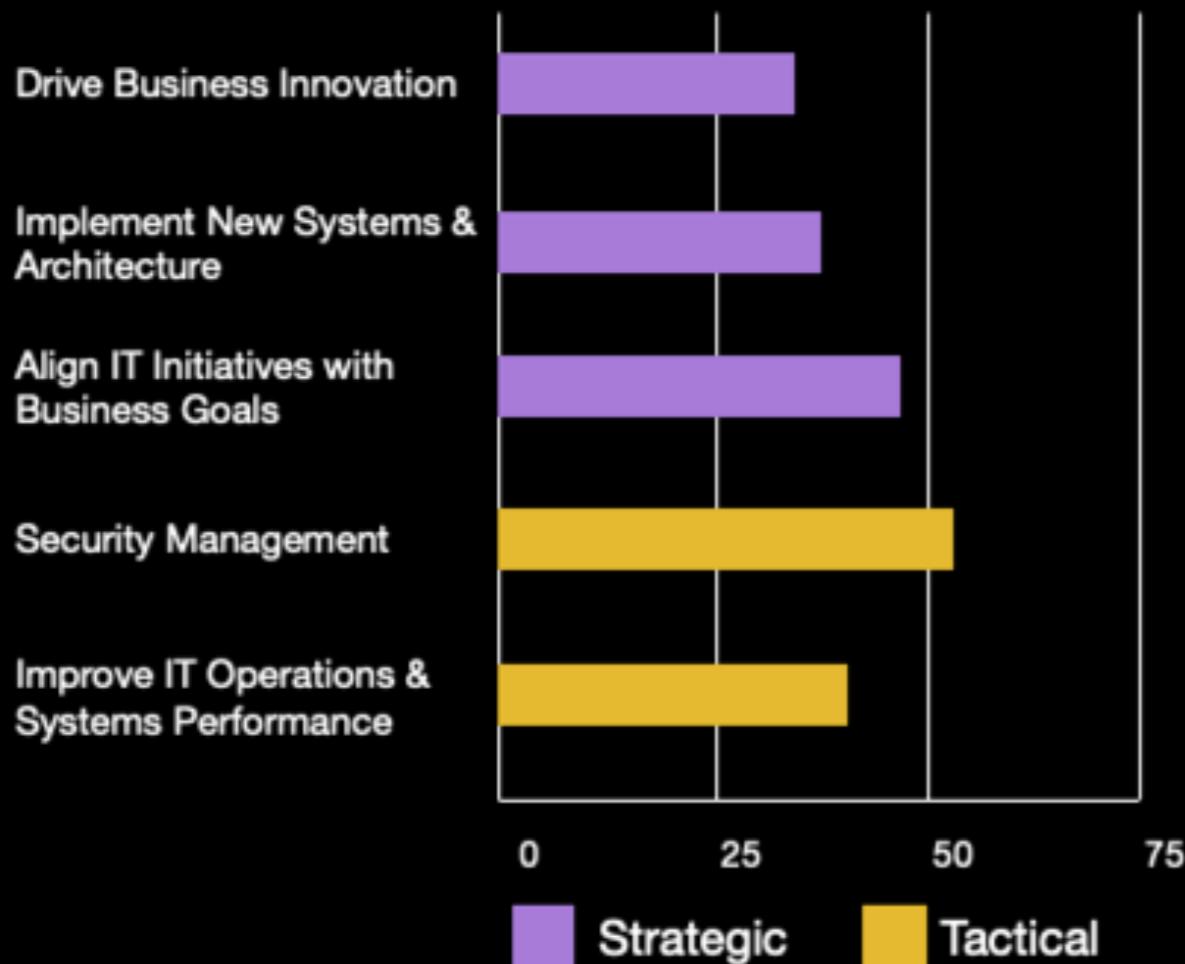
## A Shared Business & IT Strategy



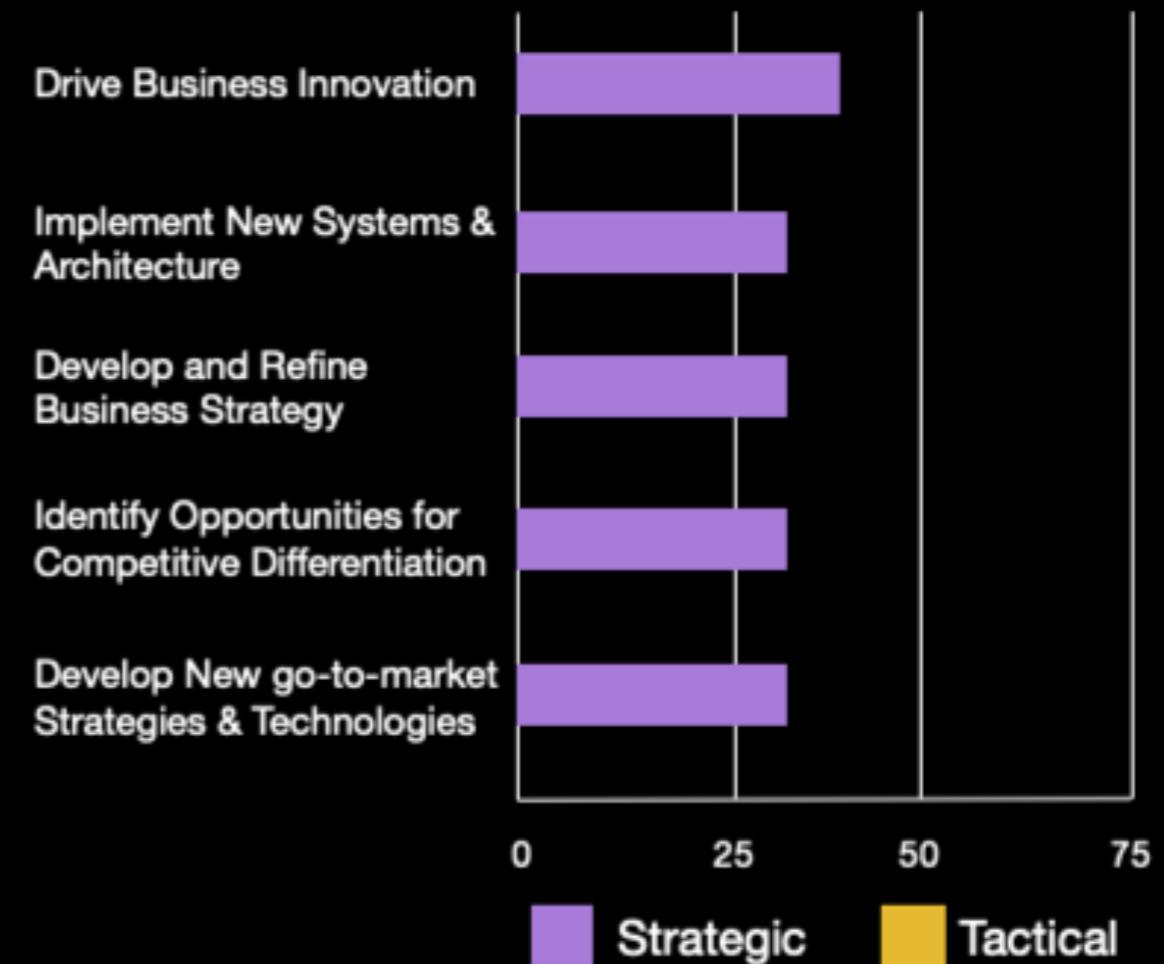
# The CIO Role Evolves

## From Tactical to Strategic

How Do you Currently Spend your Time?



What will you spend more time on in the next three years?



Source: CIOs Get Strategic, CIO Magazine, Winter 2019 - <http://idgcommunications.lookbookhq.com/ciodigitalmagazine-cradlepoint/01-ciod-winter-2019--1>

# Business Value

Start with the Business and Speak their Language



Source: CIO Magazine, Winter 2018 - <https://www.cio.com/article/3250845/digital-transformation/state-of-the-cio-2018-it-business-alignment-finally-gets-real.html>

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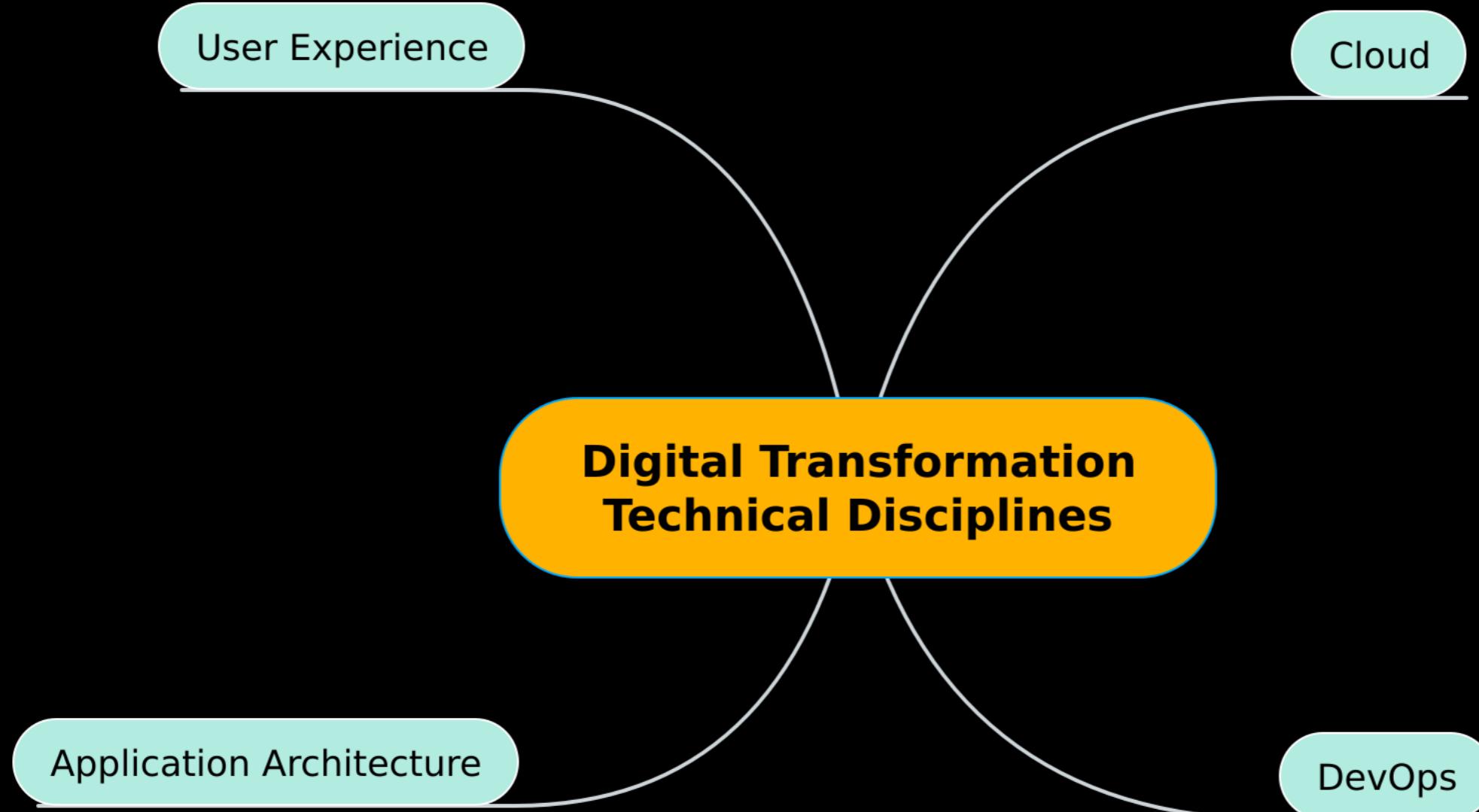
**Conclusion**

What Could Be? Where Do We Go From Here? Leading Change

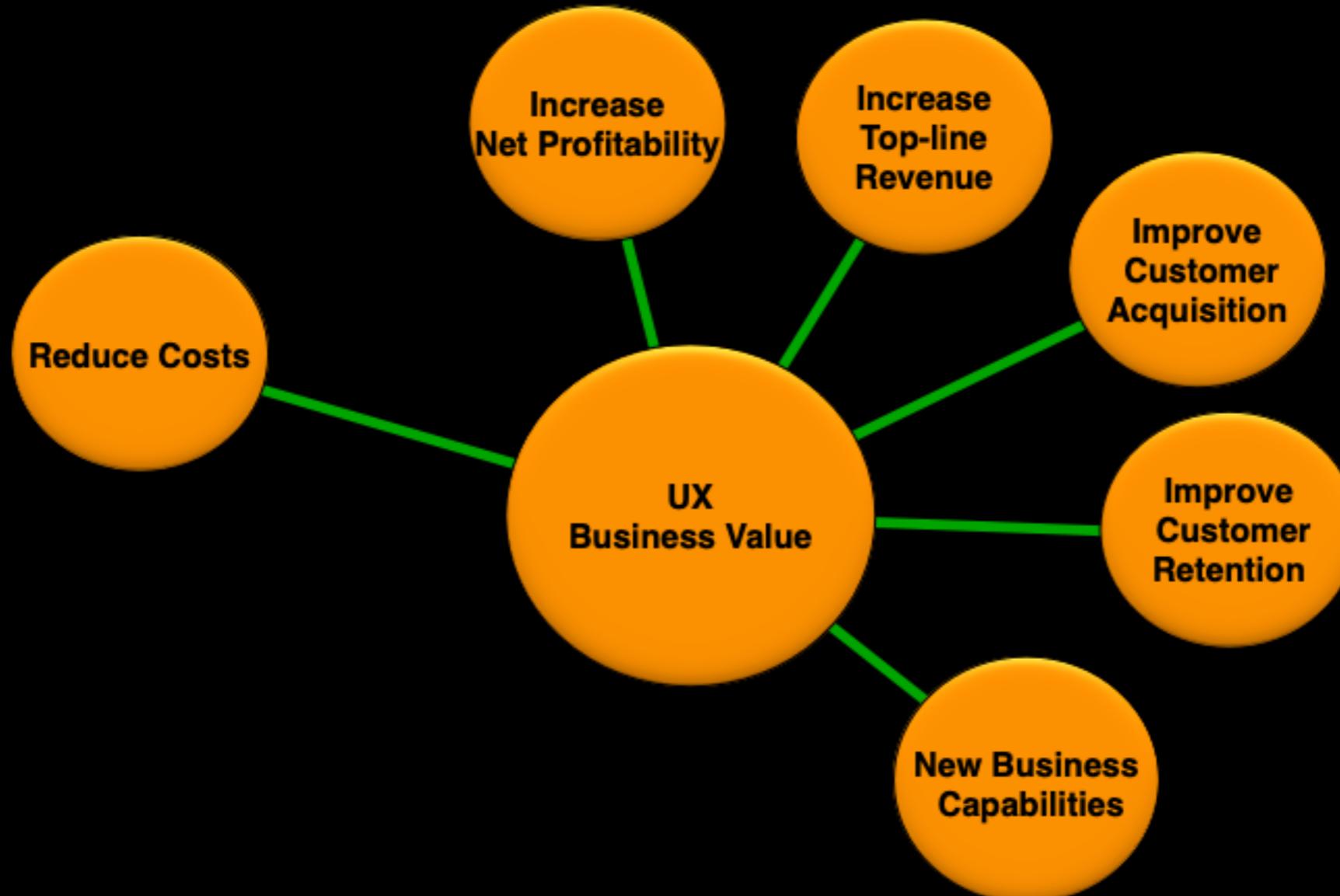
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# Digital Transformation (DX)

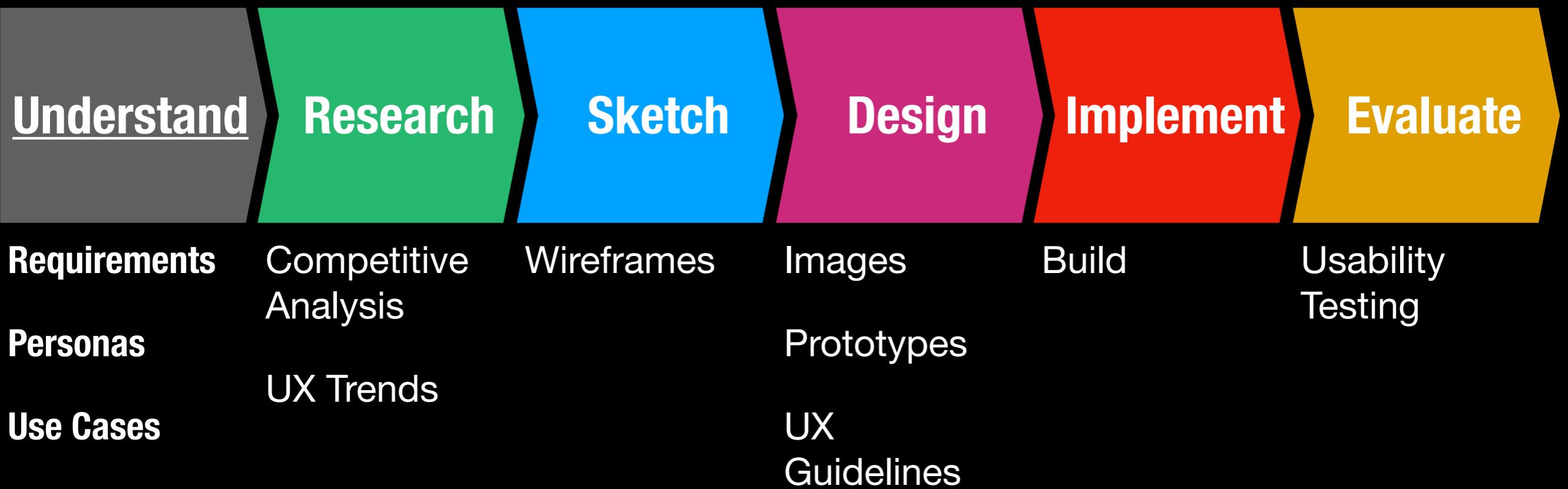
## Technical Disciplines



# UX Business Value



# Typical User Experience (UX) Process



Source: UX Planet

<https://uxplanet.org/user-experience-design-process-d91df1a45916>

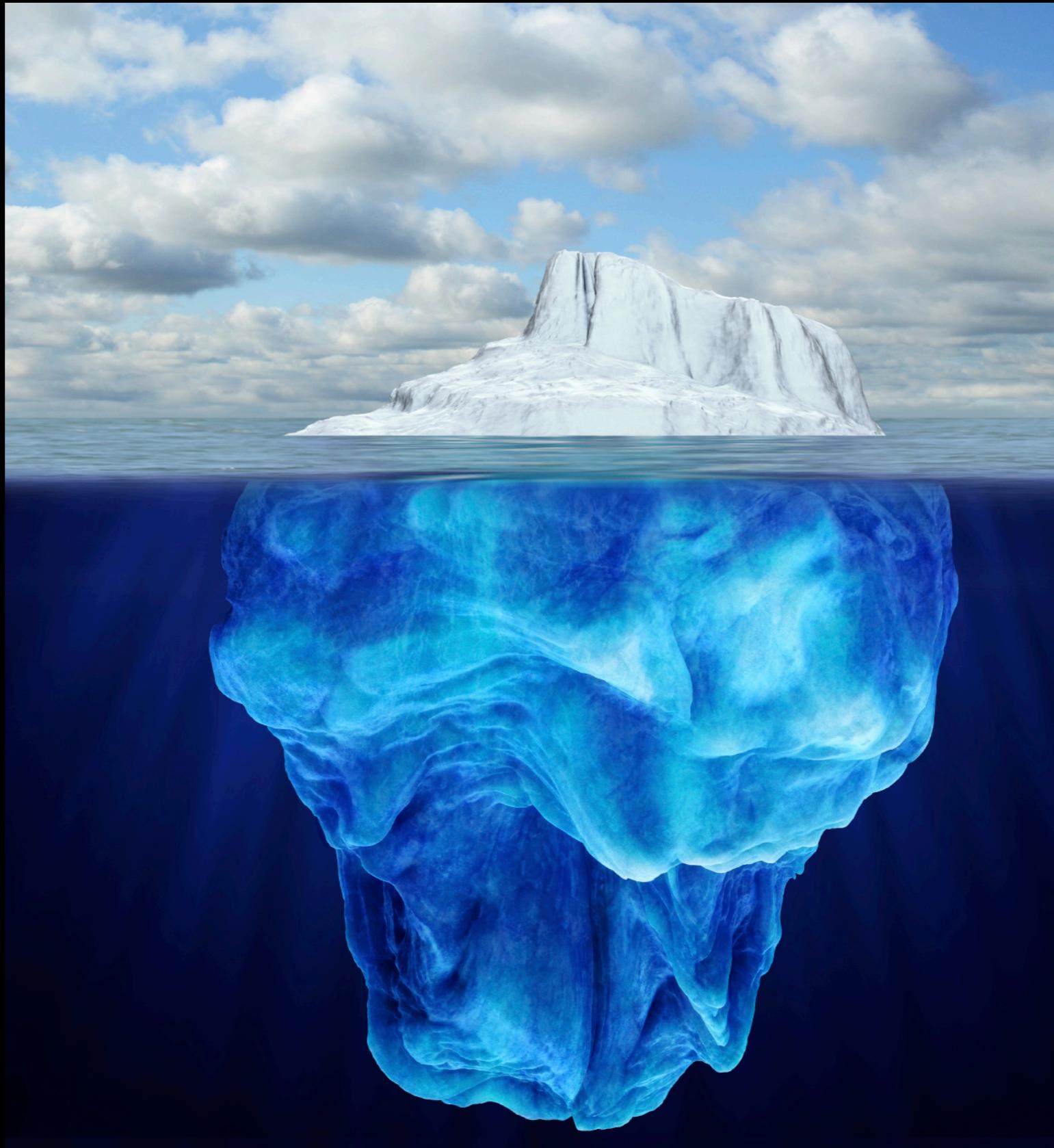
# UX Metrics

## 2 Views

Marketing	User Experience (UX)
Conversion rate	Task success rate
Cost per conversion (CPC)	Perceived success
Visits to purchase	Time on task
Net Promoter Score (NPS)	System Usability Score (SUS)
Bounce rate	Error rate

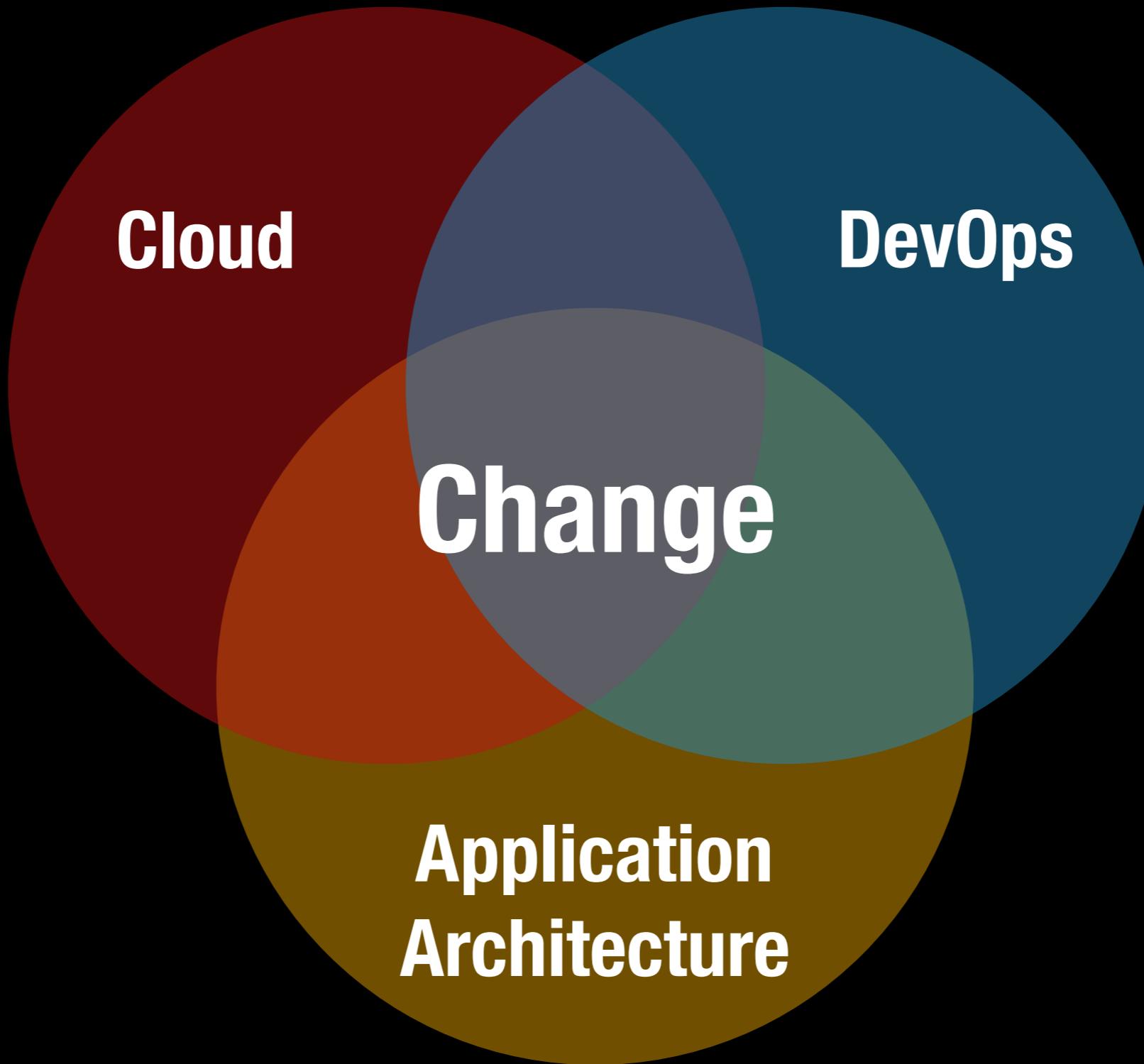
# Are We Done Yet?

## But We Have a Beautiful UI ...

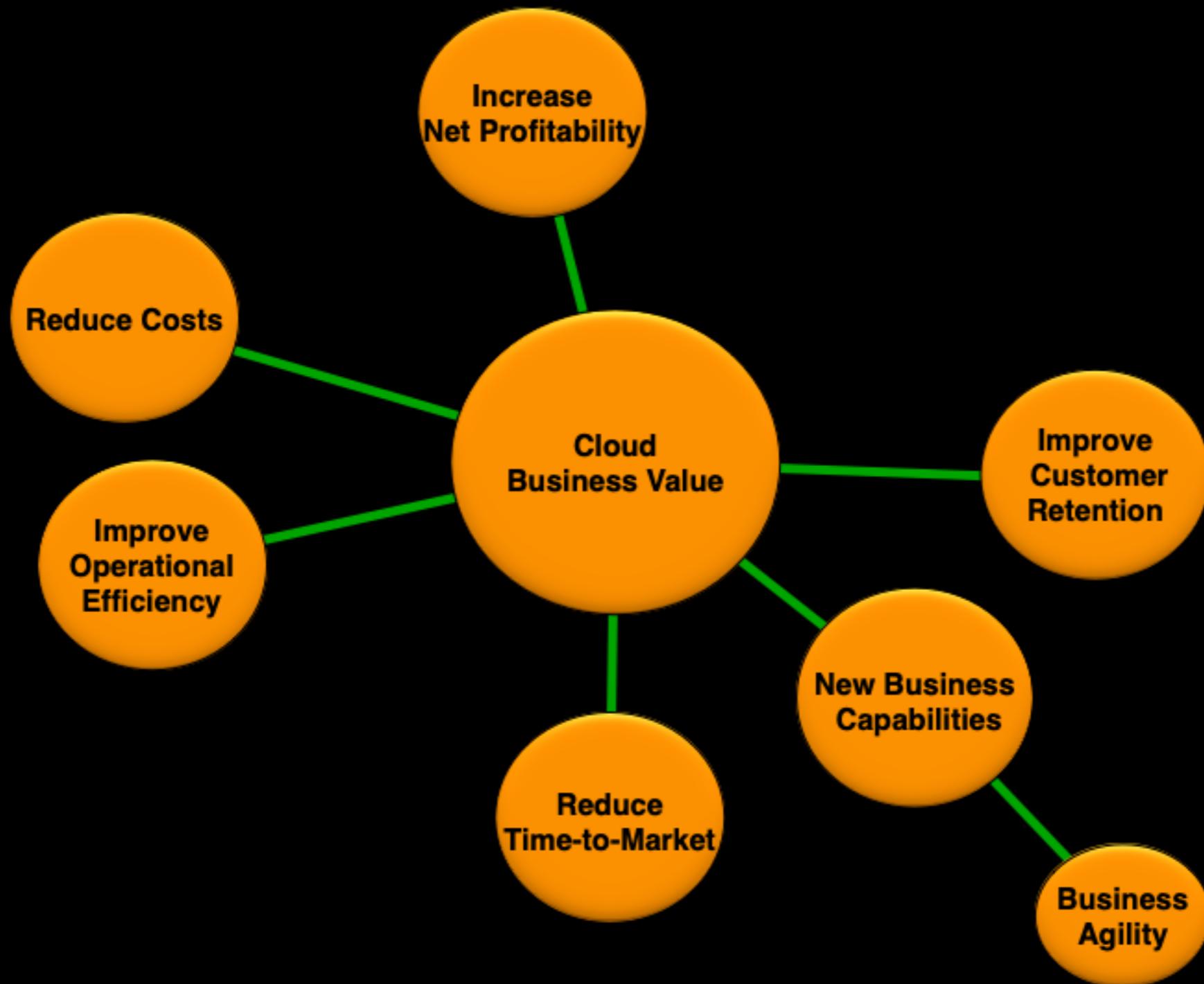


# Delivering Real Change

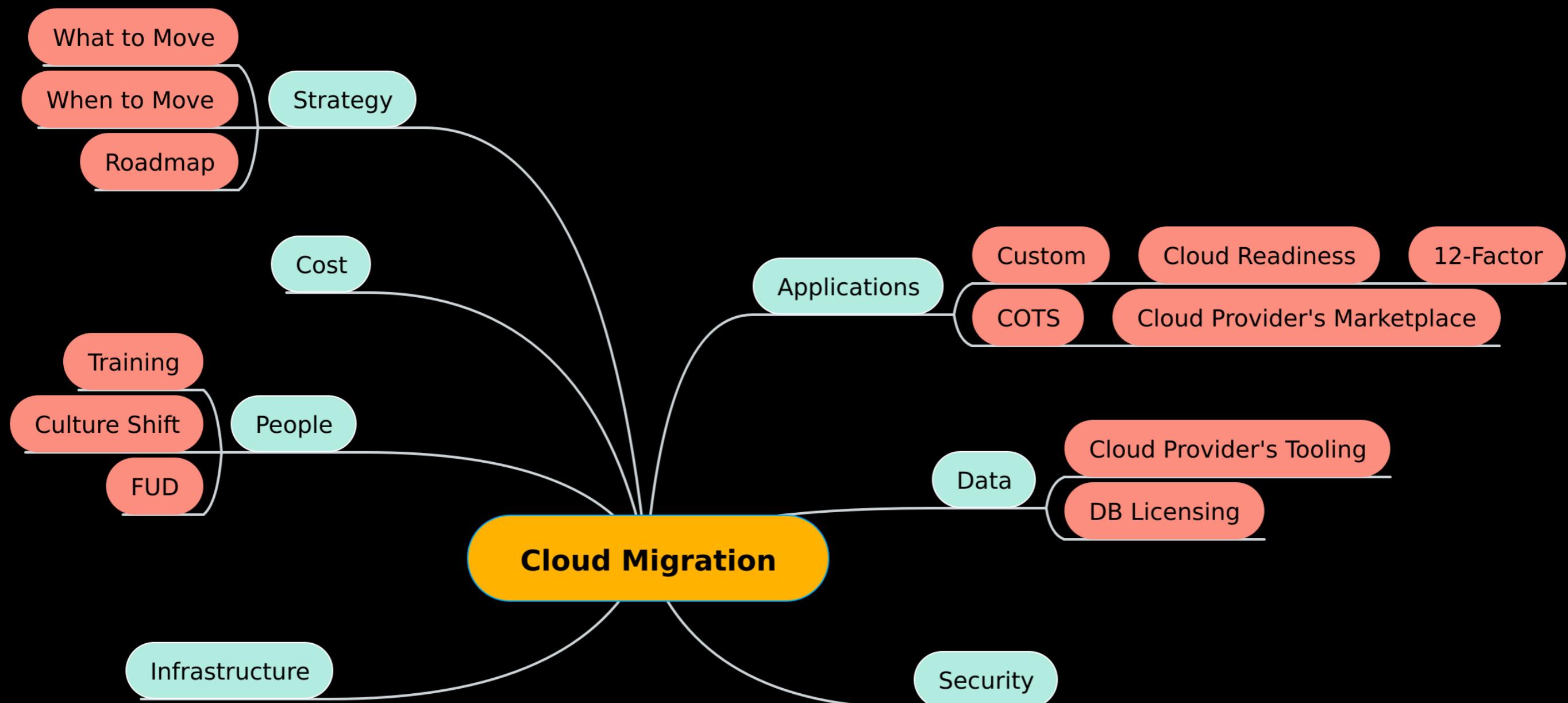
The Rest of the Story ...



# Cloud Business Value

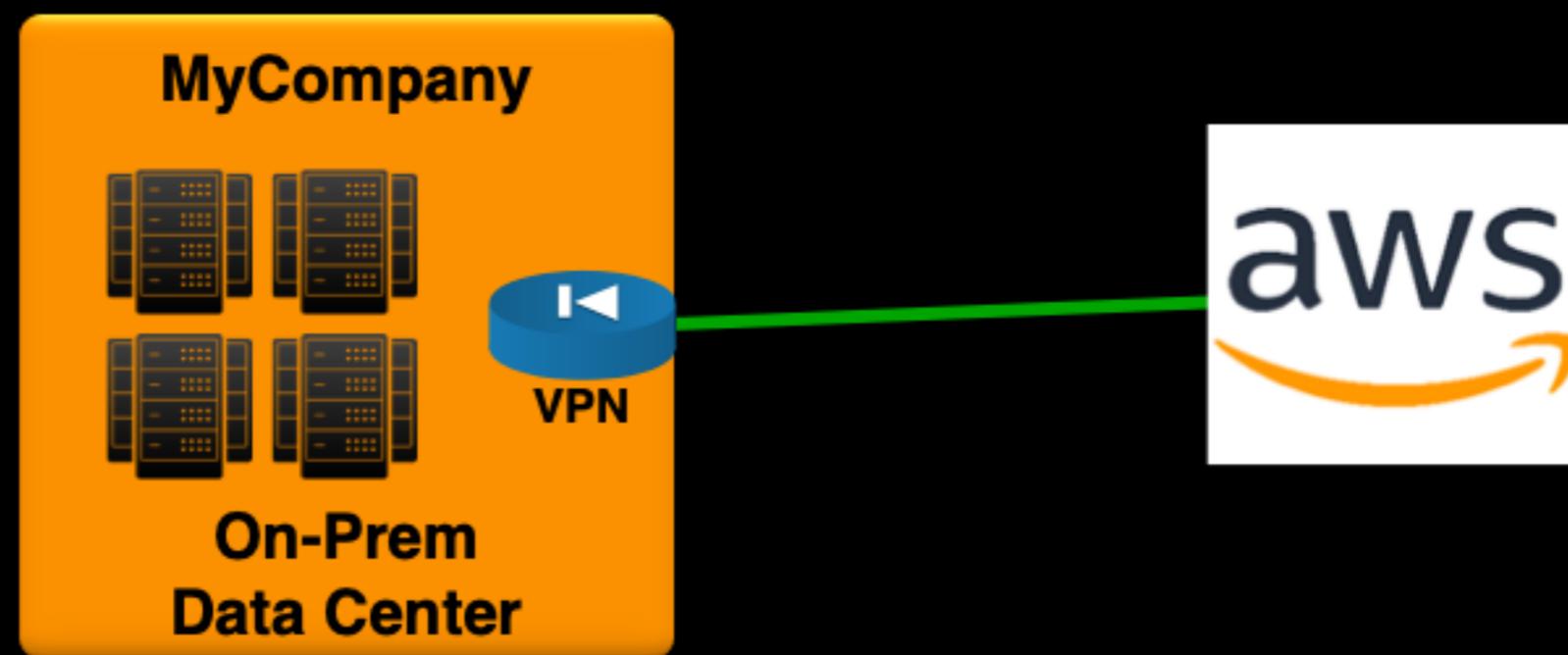


# Cloud Migration - Overview



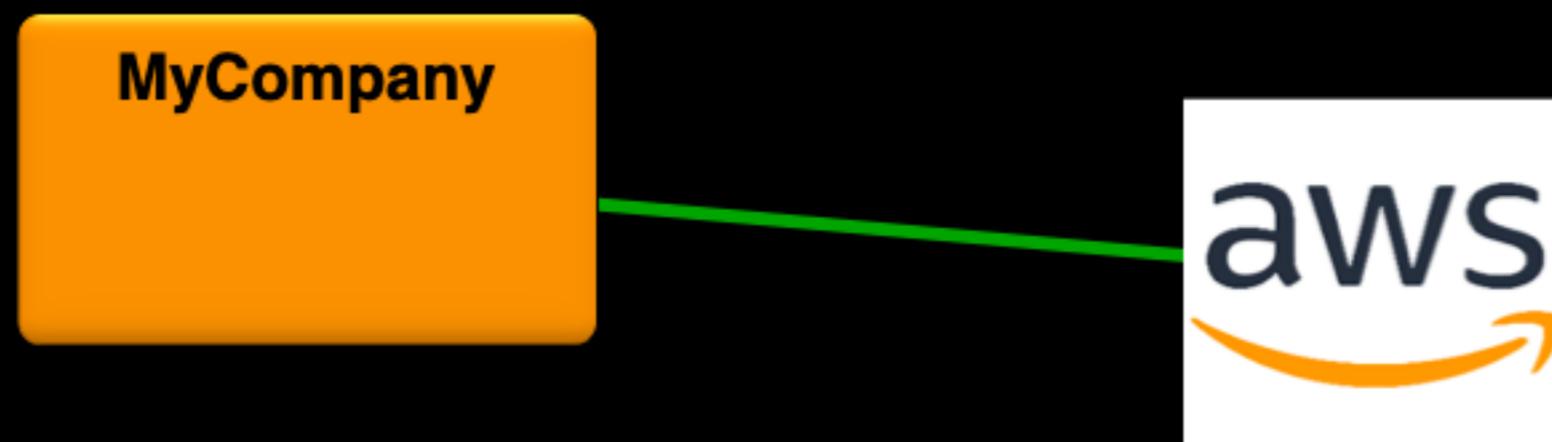
# Cloud Strategy

## Hybrid Cloud - Bridge or Final Destination?



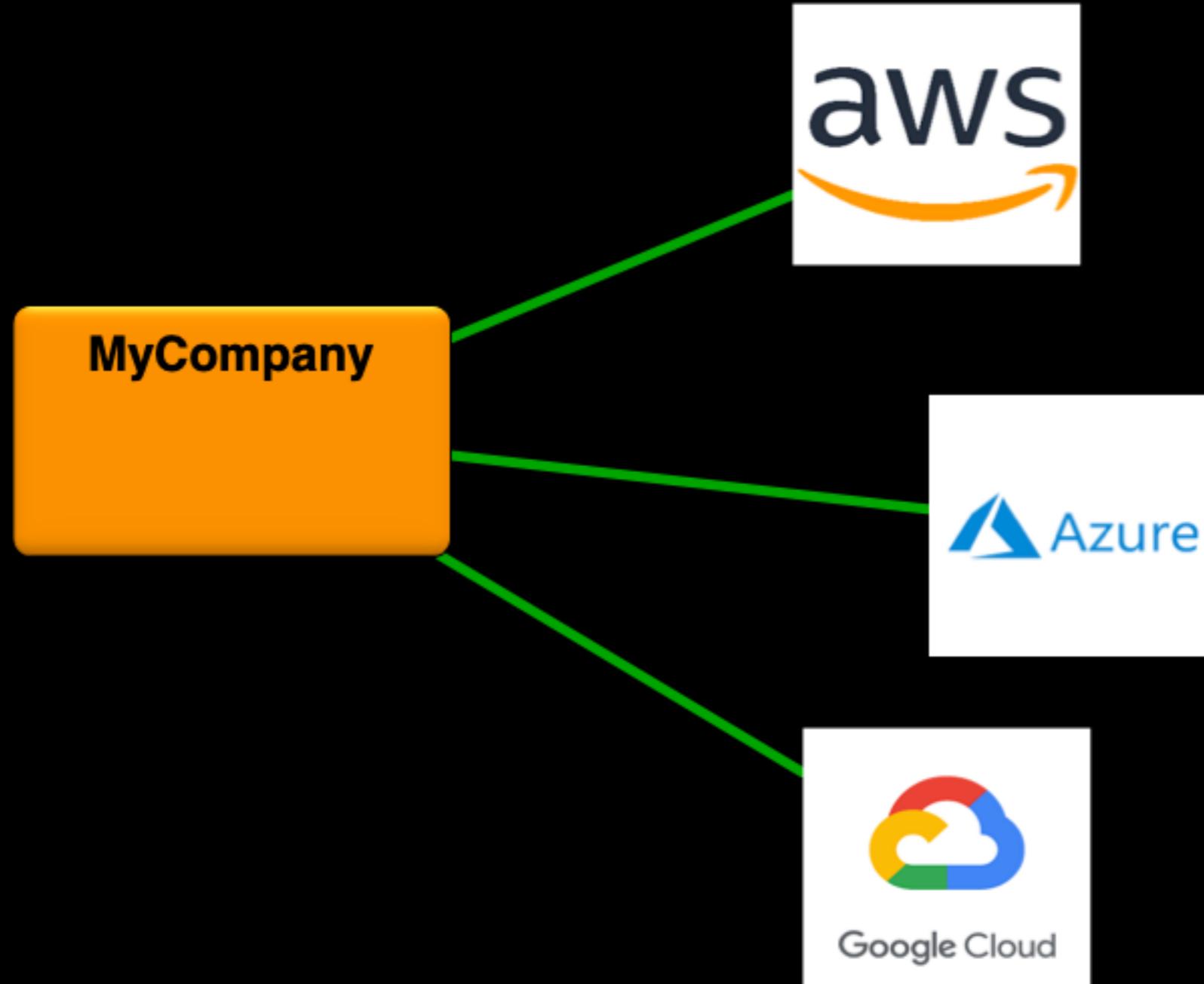
# Cloud Strategy

## Public Cloud



# Cloud Strategy

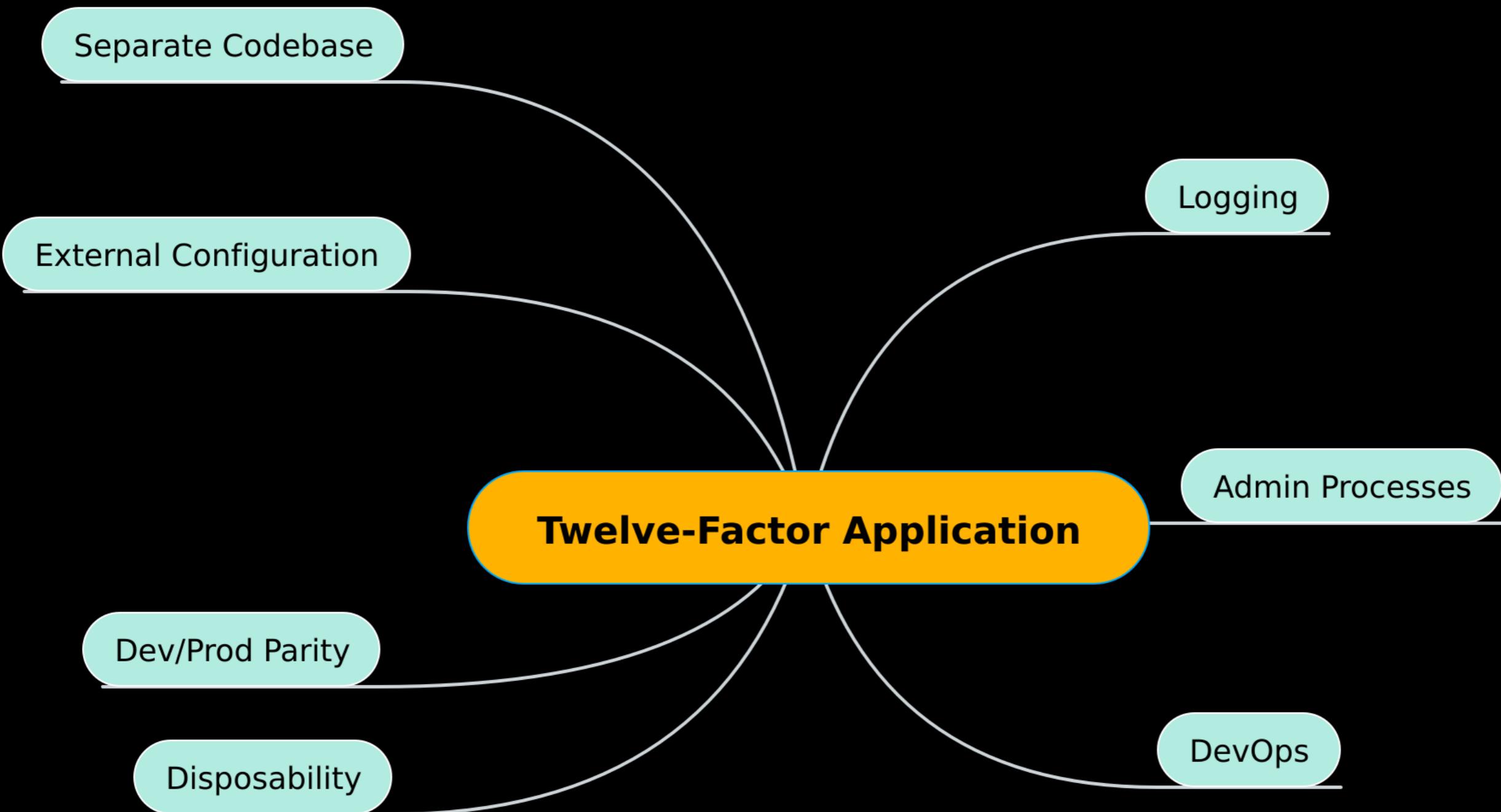
## Multi Cloud - The Preferred Cloud Strategy



Source: <https://www.rightscale.com/blog/cloud-industry-insights/cloud-computing-trends-2019-state-cloud-survey>

# Cloud Migration - Applications

## Cloud-Ready/Cloud-Native - The Twelve-Factor Application



# Cloud Challenges

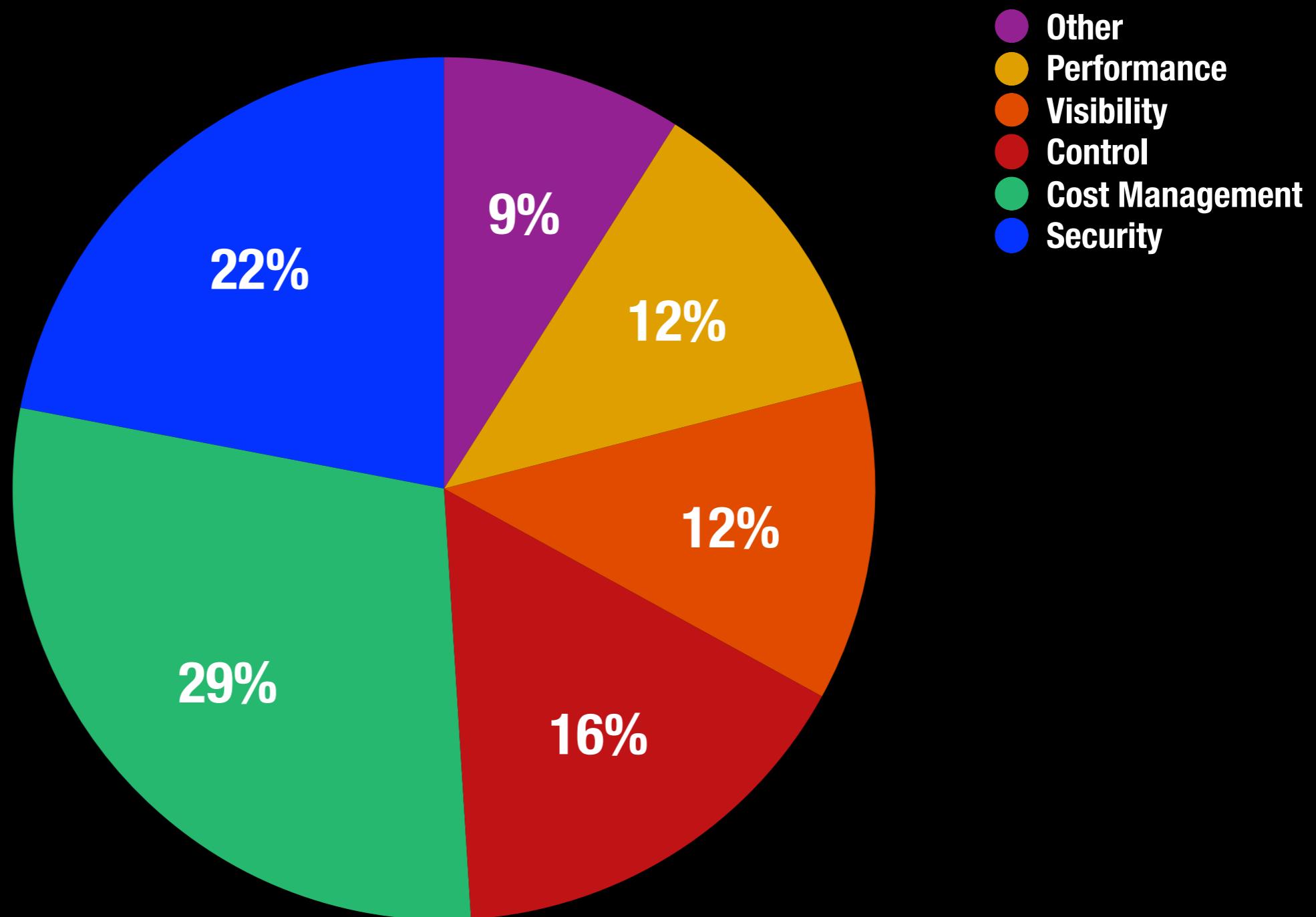
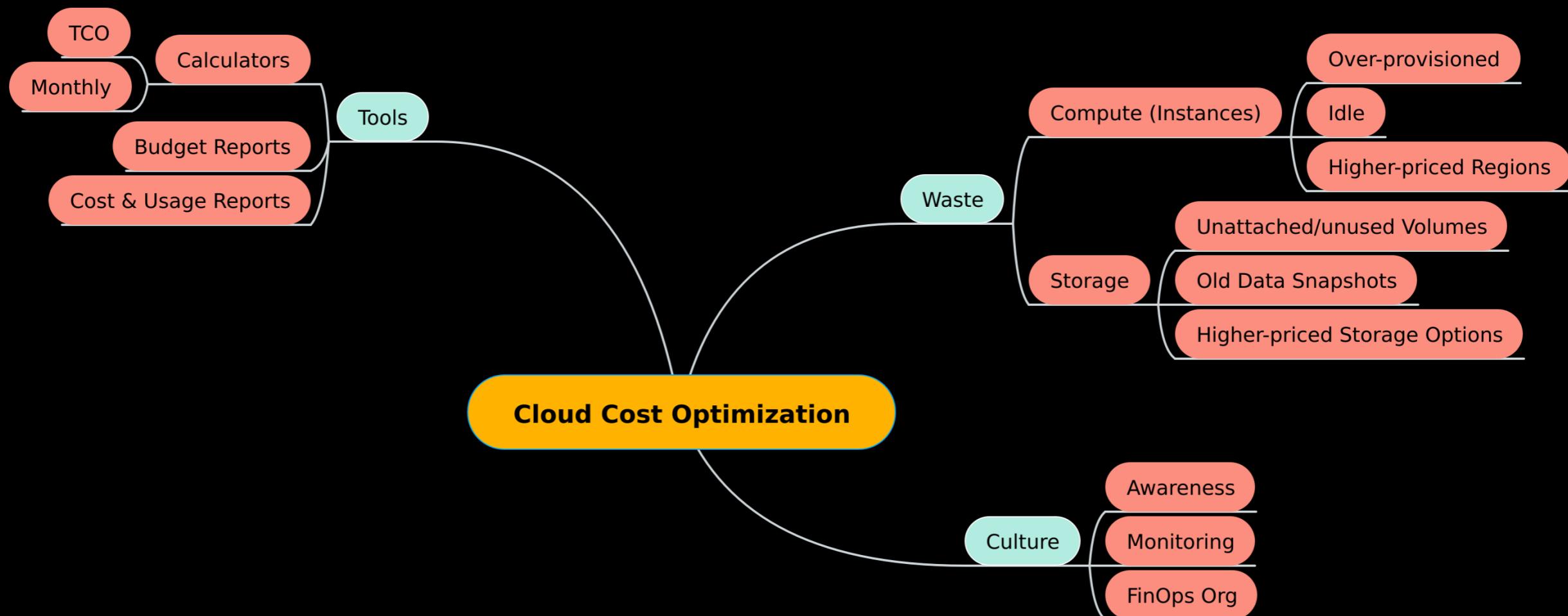


Image: Kentik

Source: <https://www.zdnet.com/article/top-cloud-providers-2019-aws-microsoft-azure-google-cloud-ibm-makes-hybrid-move-salesforce-dominates-saas/>

# Cloud Cost Optimization

## Addressing the #1 Concern

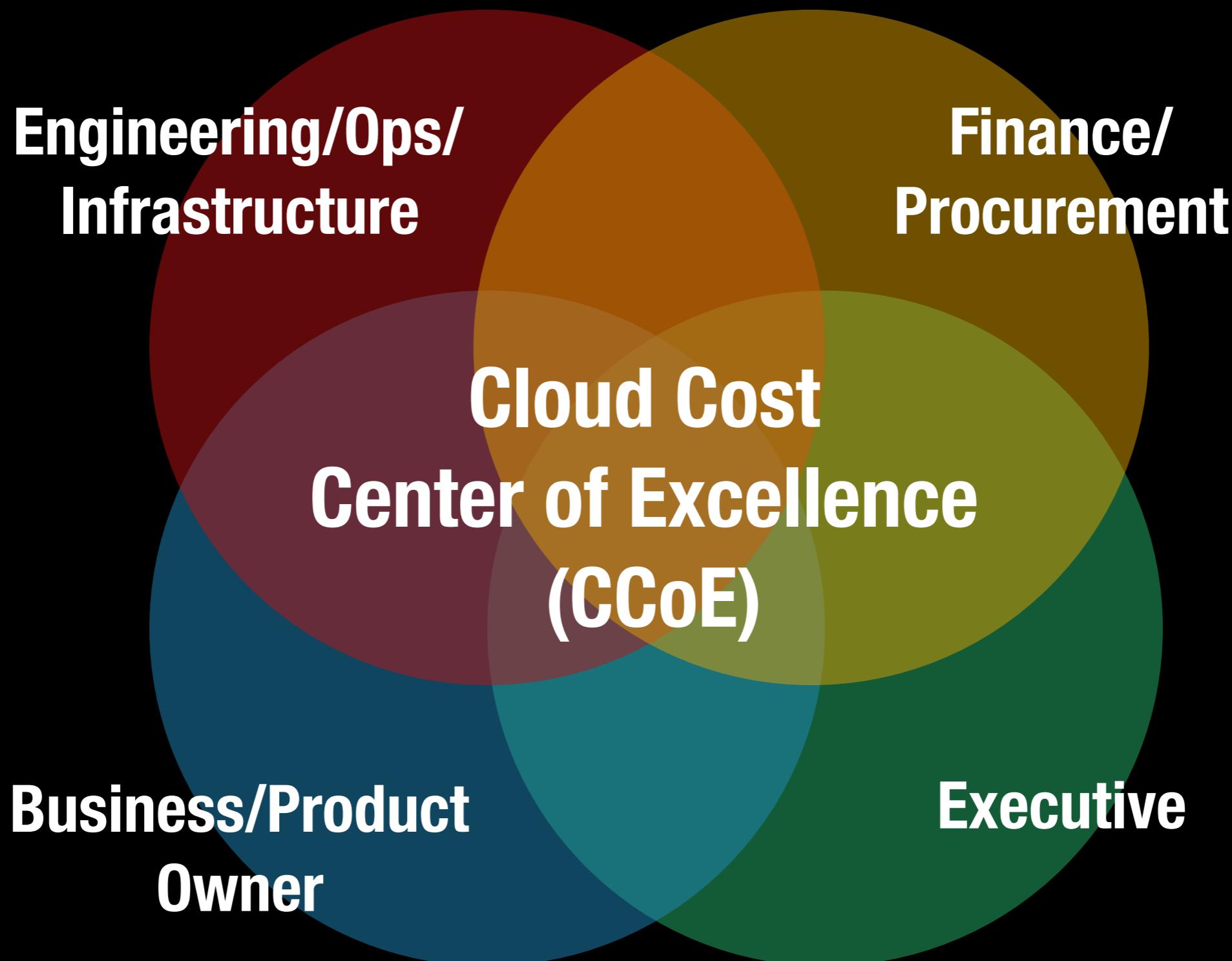


Source: <https://www.rightscale.com/blog/cloud-industry-insights/cloud-computing-trends-2019-state-cloud-survey>

<https://docs.aws.amazon.com/aws-technical-content/latest/cost-management/cost-management.pdf>

# FinOps

## A Culture Shift



# The 3 Phases of FinOps

## Inform

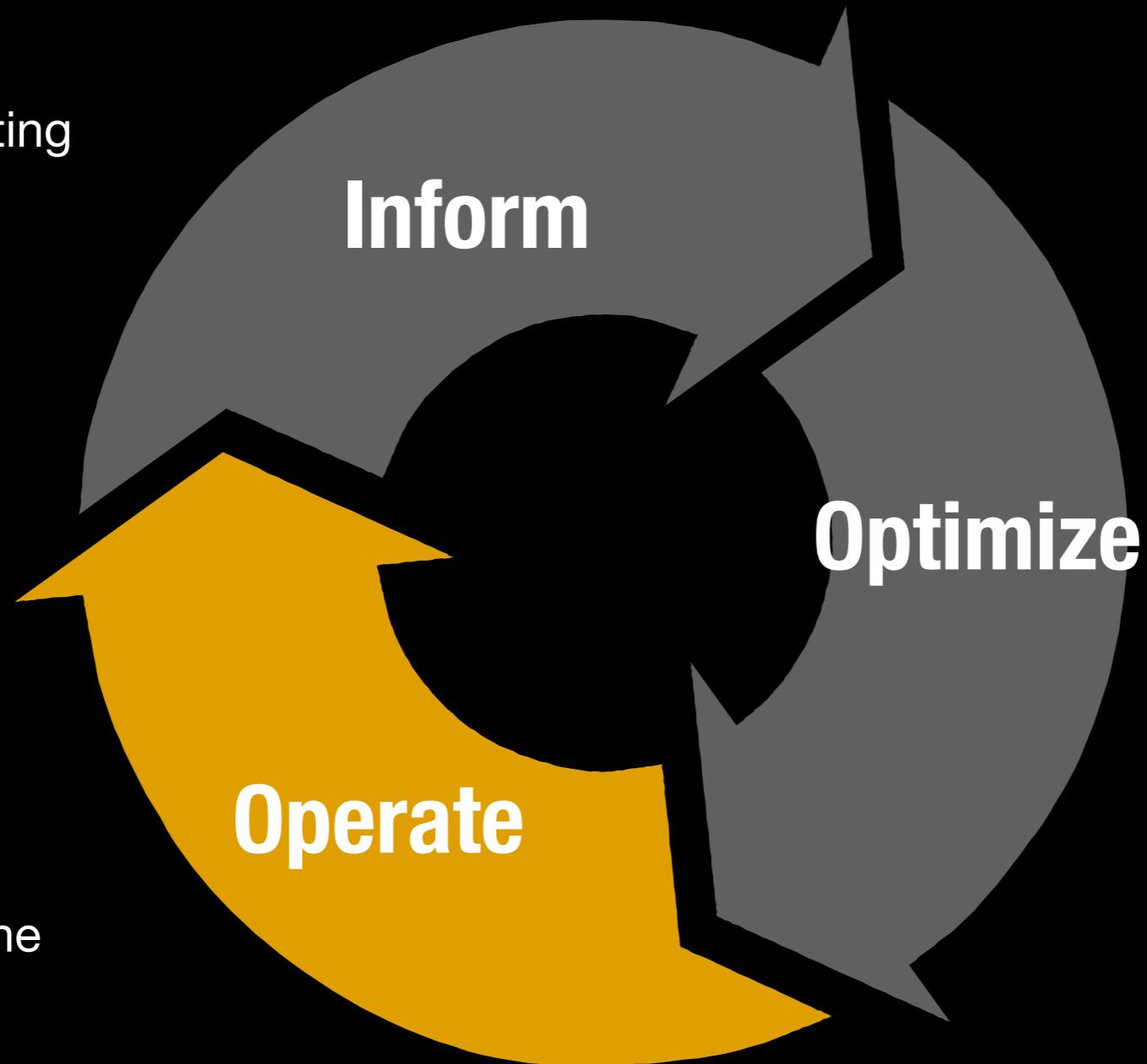
Visibility, Allocation,  
Benchmarking, Budgeting  
and Forecasting

## Operate

Gather Metrics and Tune

## Optimize

Trim the Waste

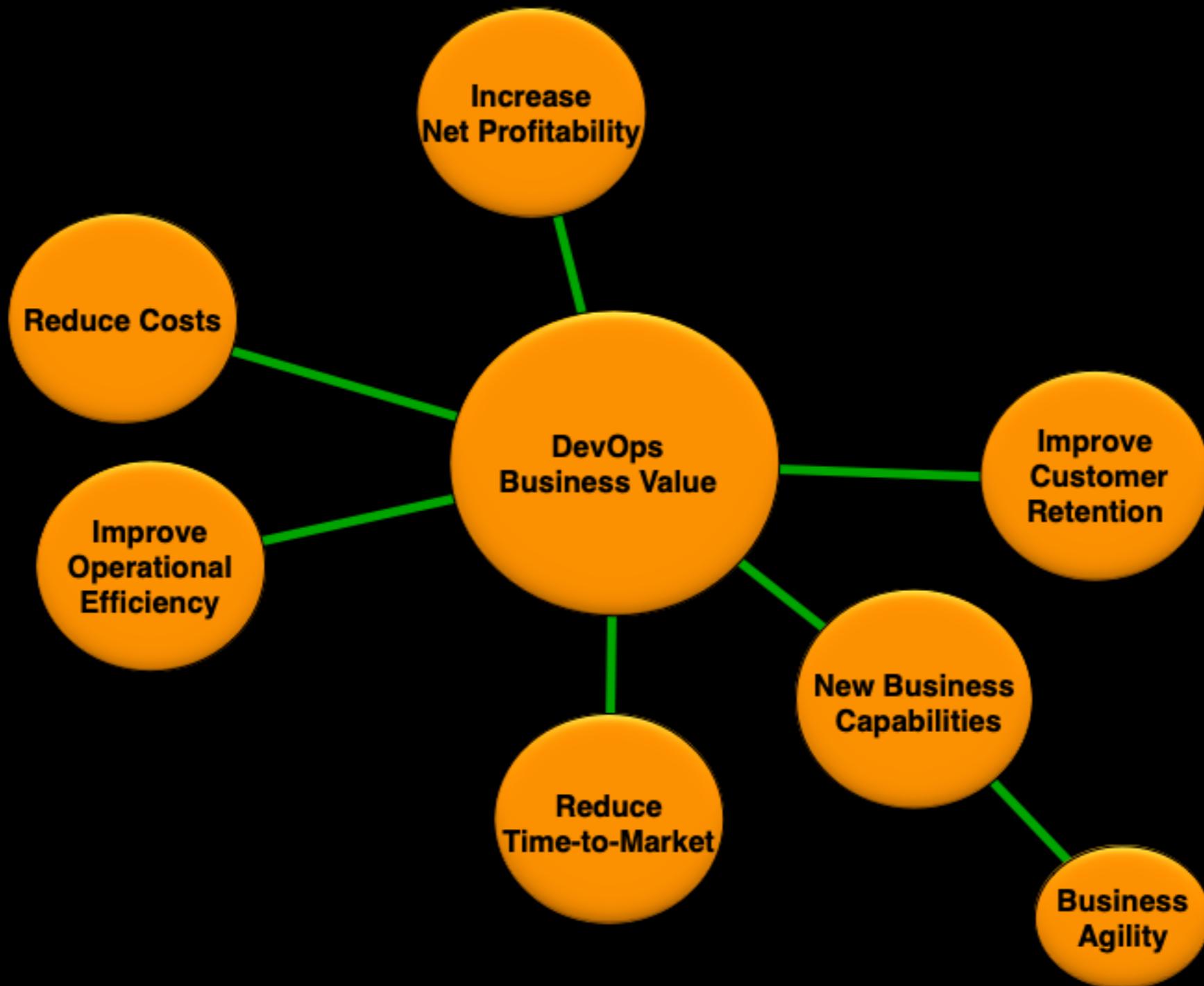


# DevOps Defined

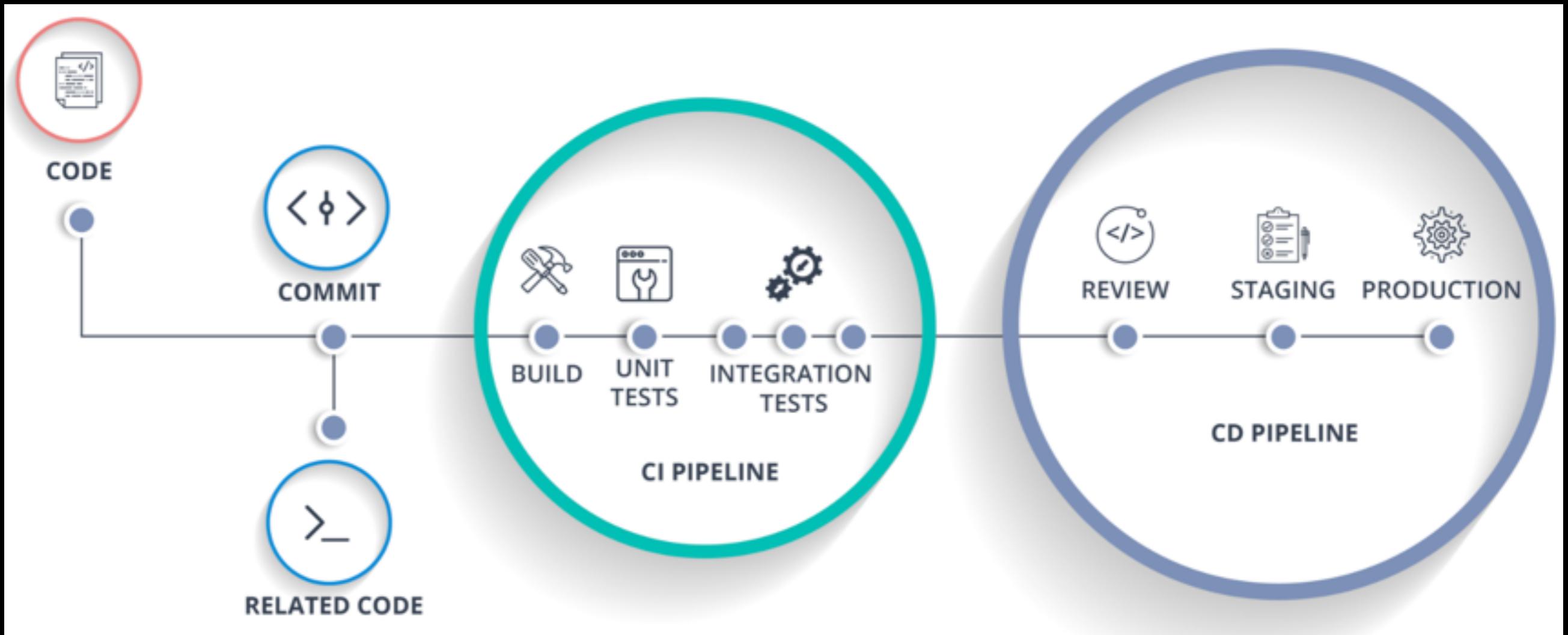
**DevOps is a set of software development practices that combines software development (Dev) and IT operations (Ops) to shorten the systems development life cycle while delivering features, fixes, and updates frequently in close alignment with business objectives.**

- Wikipedia

# DevOps Business Value



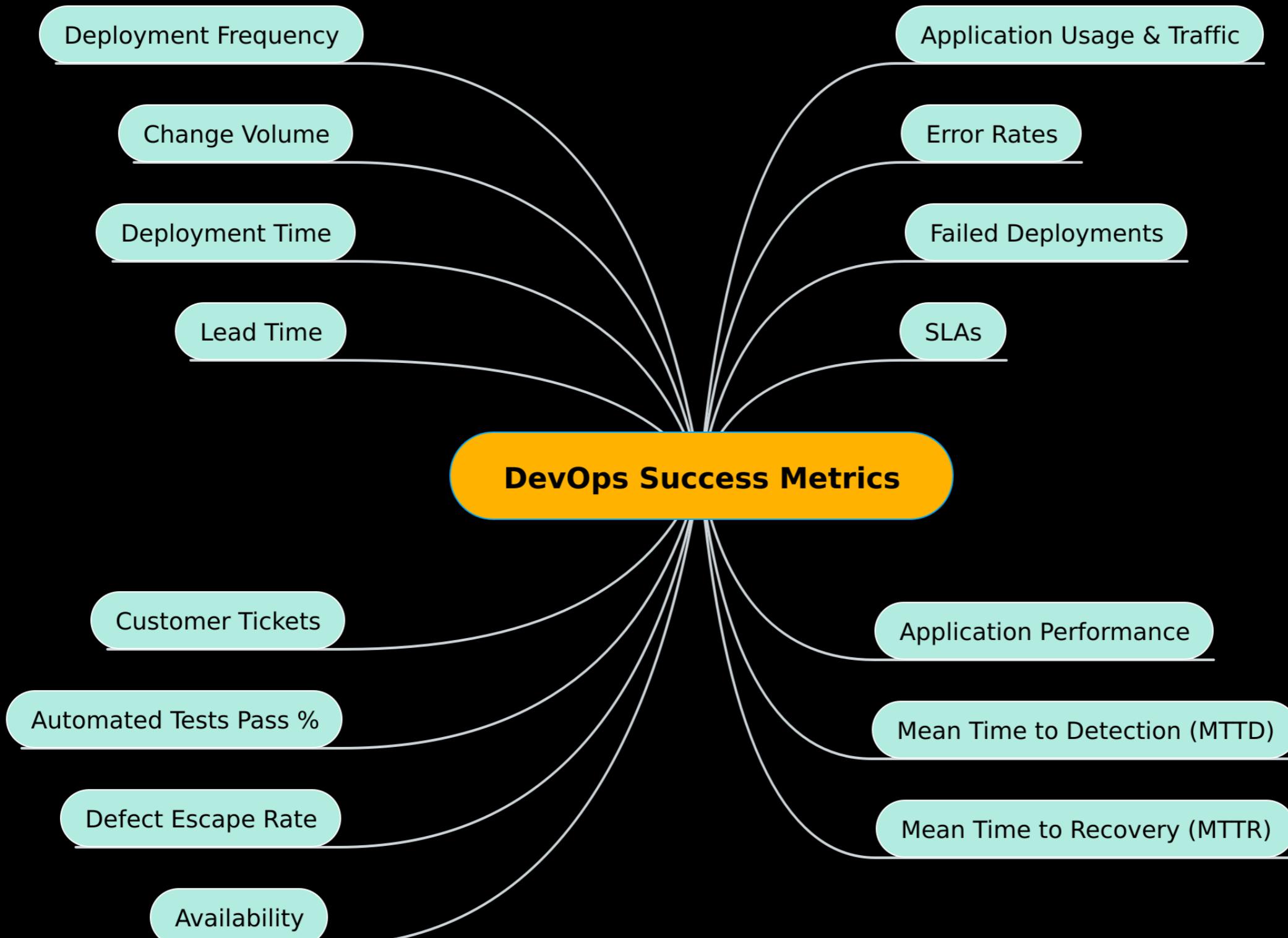
# Typical CI / CD Pipeline



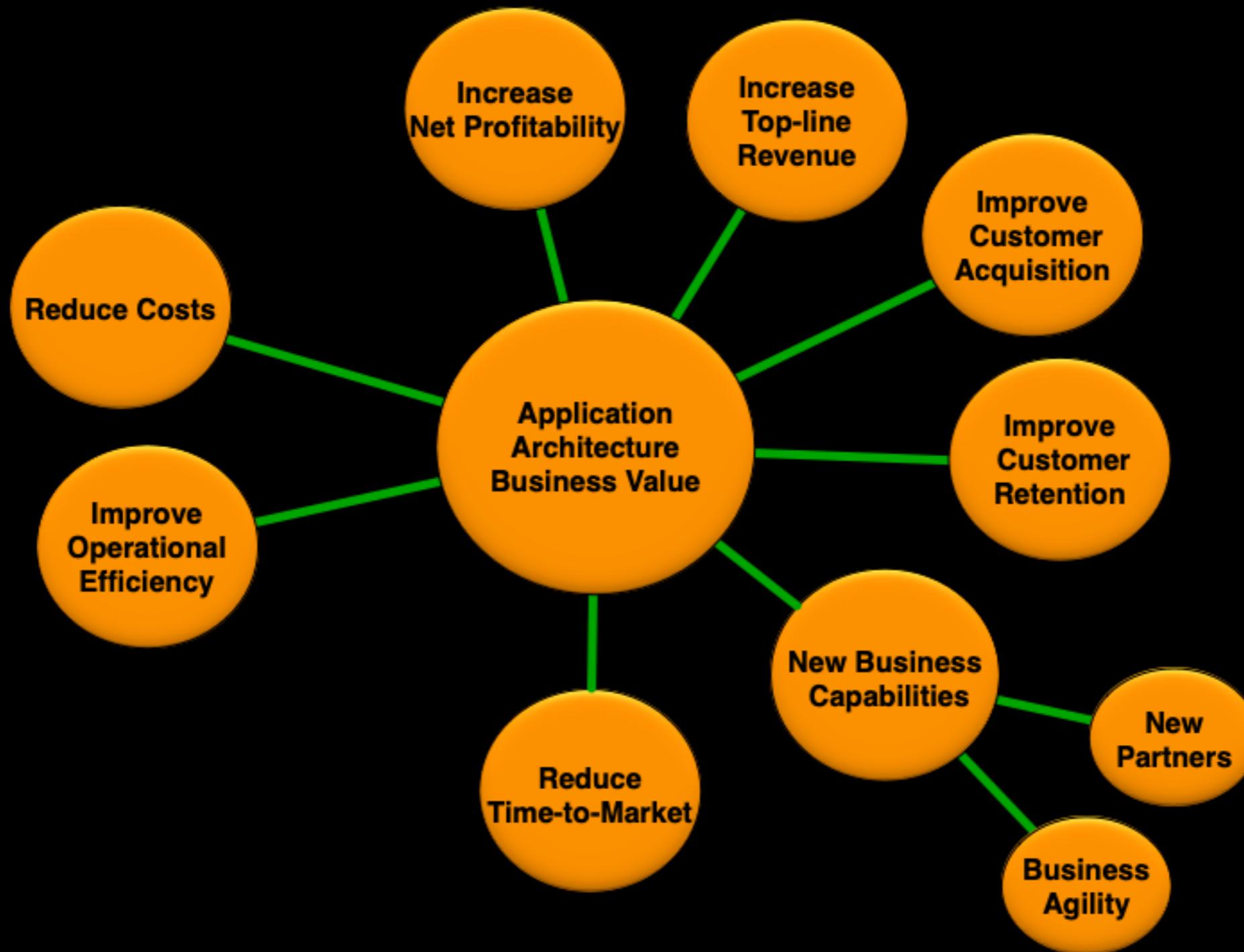
Source: Learn How to Set Up a CI/CD Pipeline From Scratch,  
<https://dzone.com/articles/learn-how-to-setup-a-cicd-pipeline-from-scratch>

# DevOps Metrics

## How Do We Measure Success?

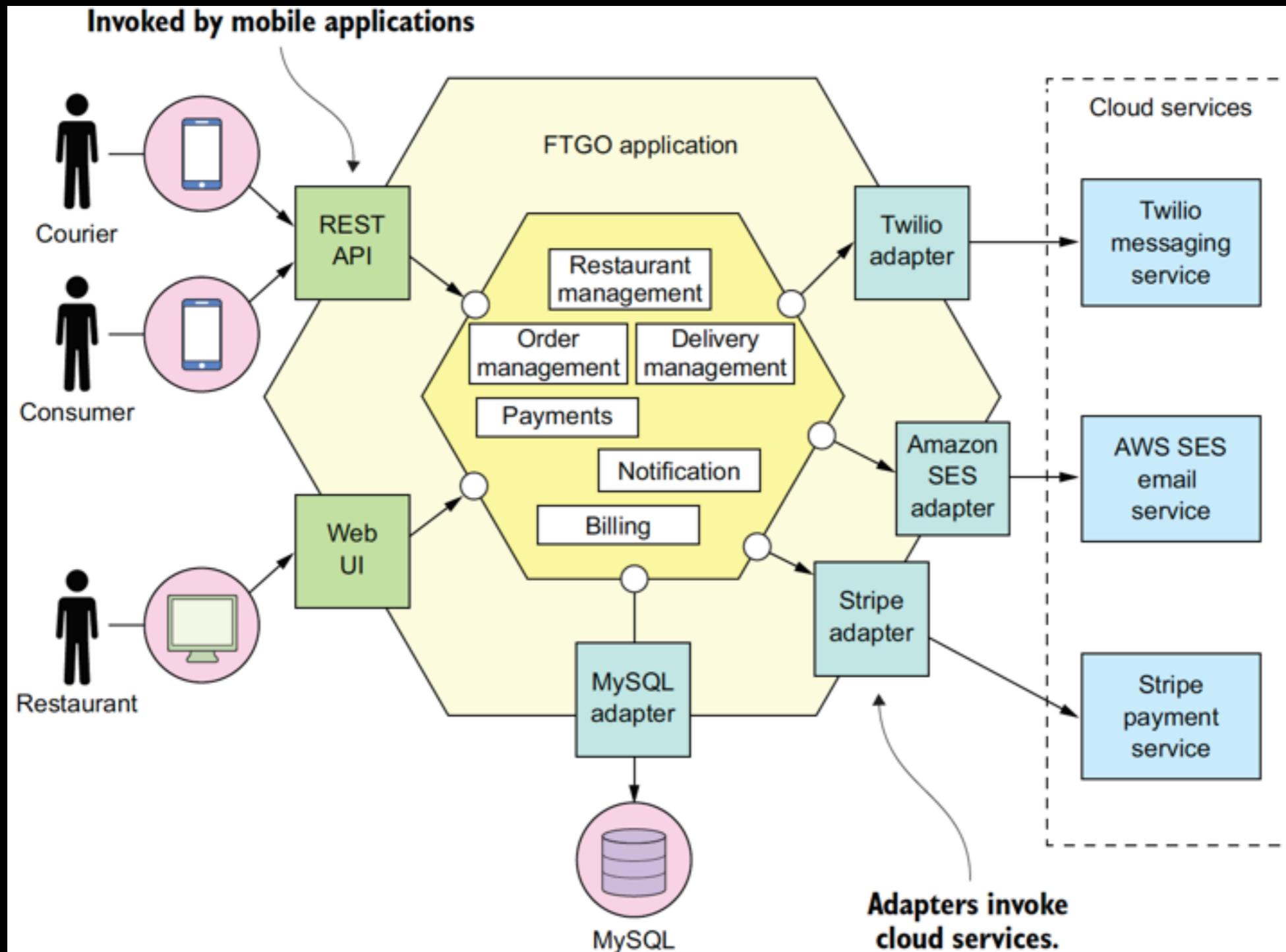


# Application Architecture Business Value



# Introducing ... The Monolith

## What's the Problem?



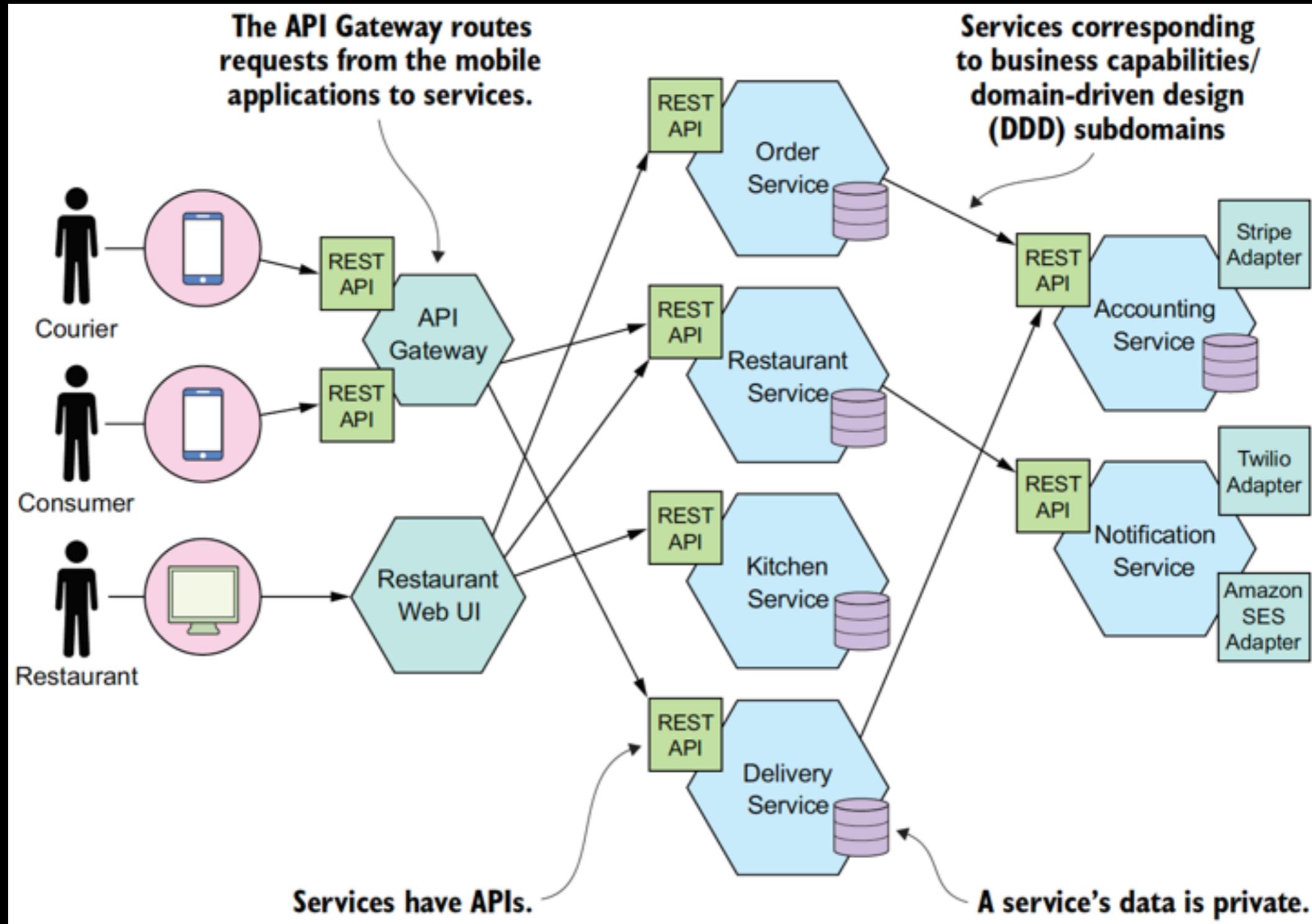
Source: [Microservices Patterns](#), Chris Richardson, Manning.

<https://microservices.io/patterns/monolithic.html>

[https://en.wikipedia.org/wiki/Monolithic\\_application](https://en.wikipedia.org/wiki/Monolithic_application)

# Micro Components - Microservices

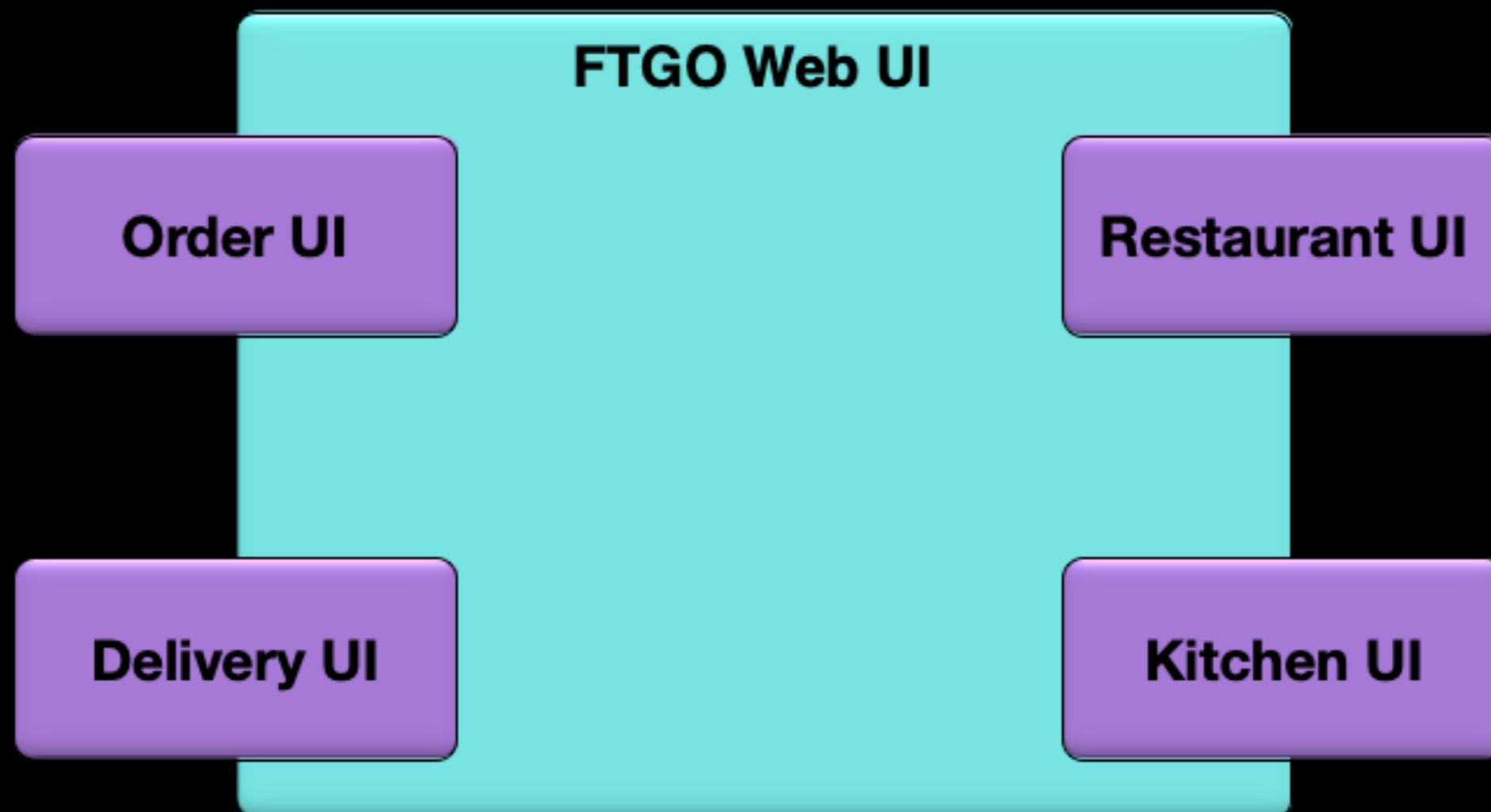
## What's Different Here?



Source: [Microservices Patterns](#), Chris Richardson, Manning.  
<https://microservices.io/patterns/microservices.html>

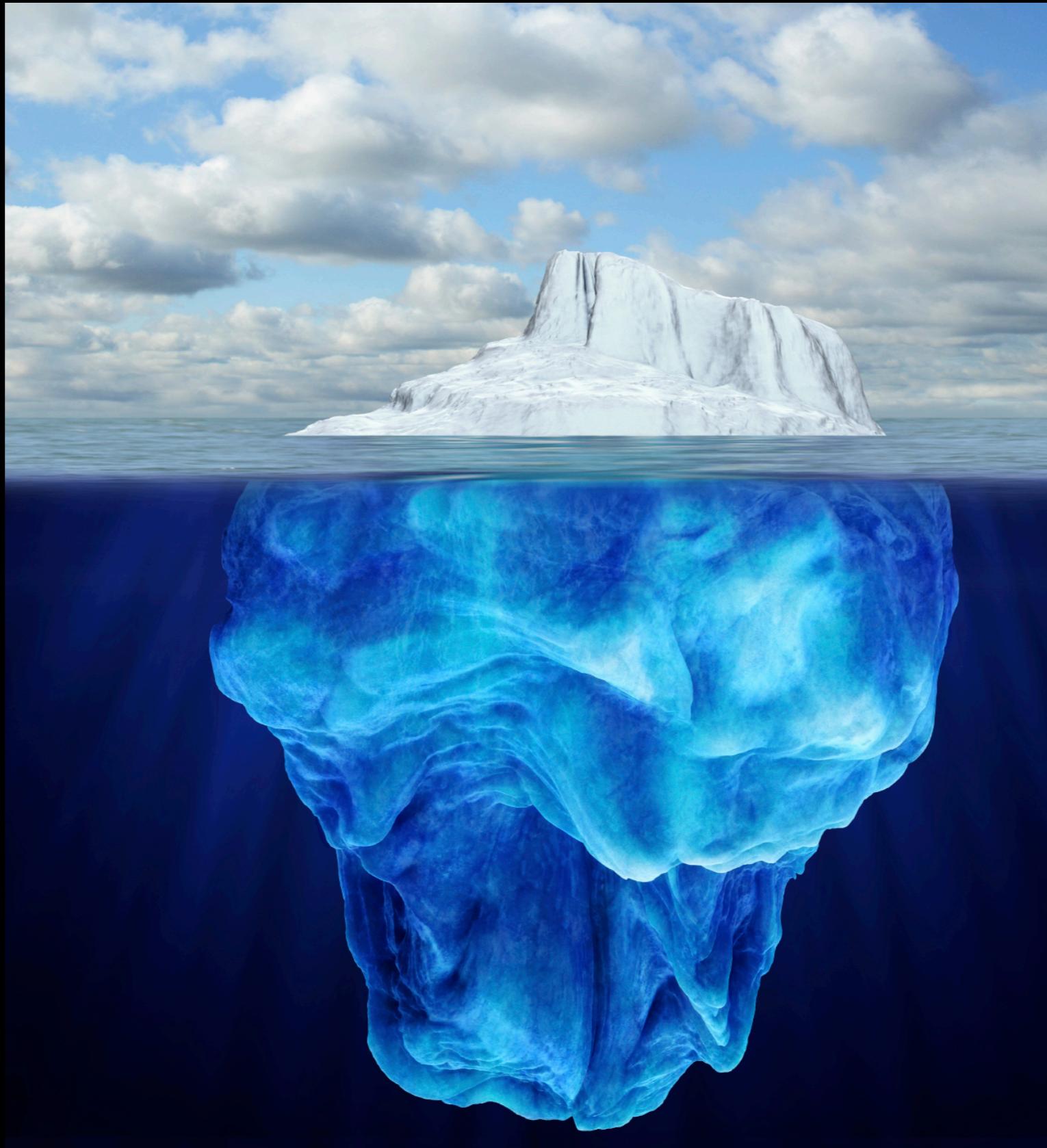
# Micro Components - Micro-Frontends

The Web UI is No Longer a Monolith



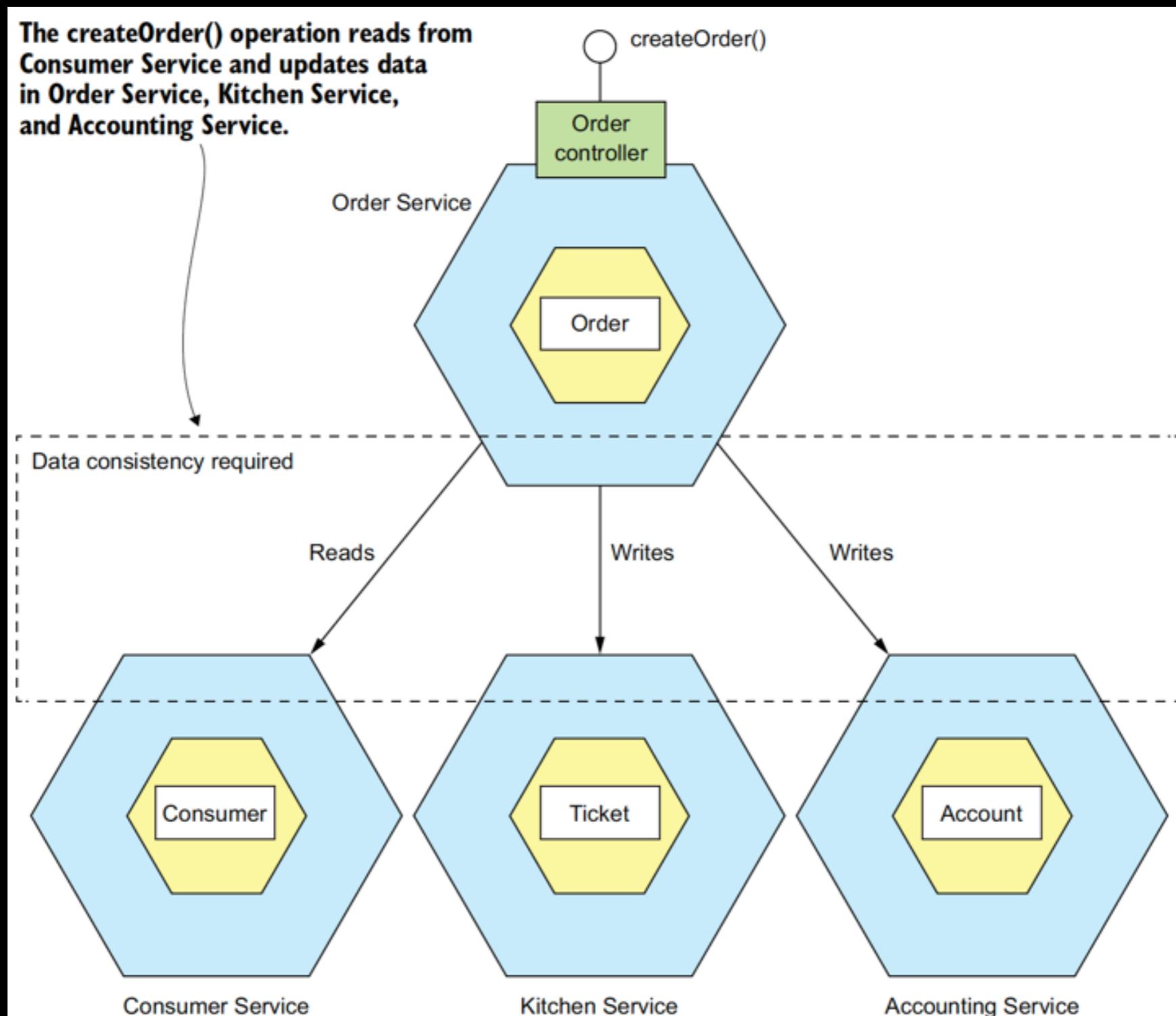
# Are We Done Yet?

But We Have a Beautiful Architecture ...



# Micro Components - Microservices

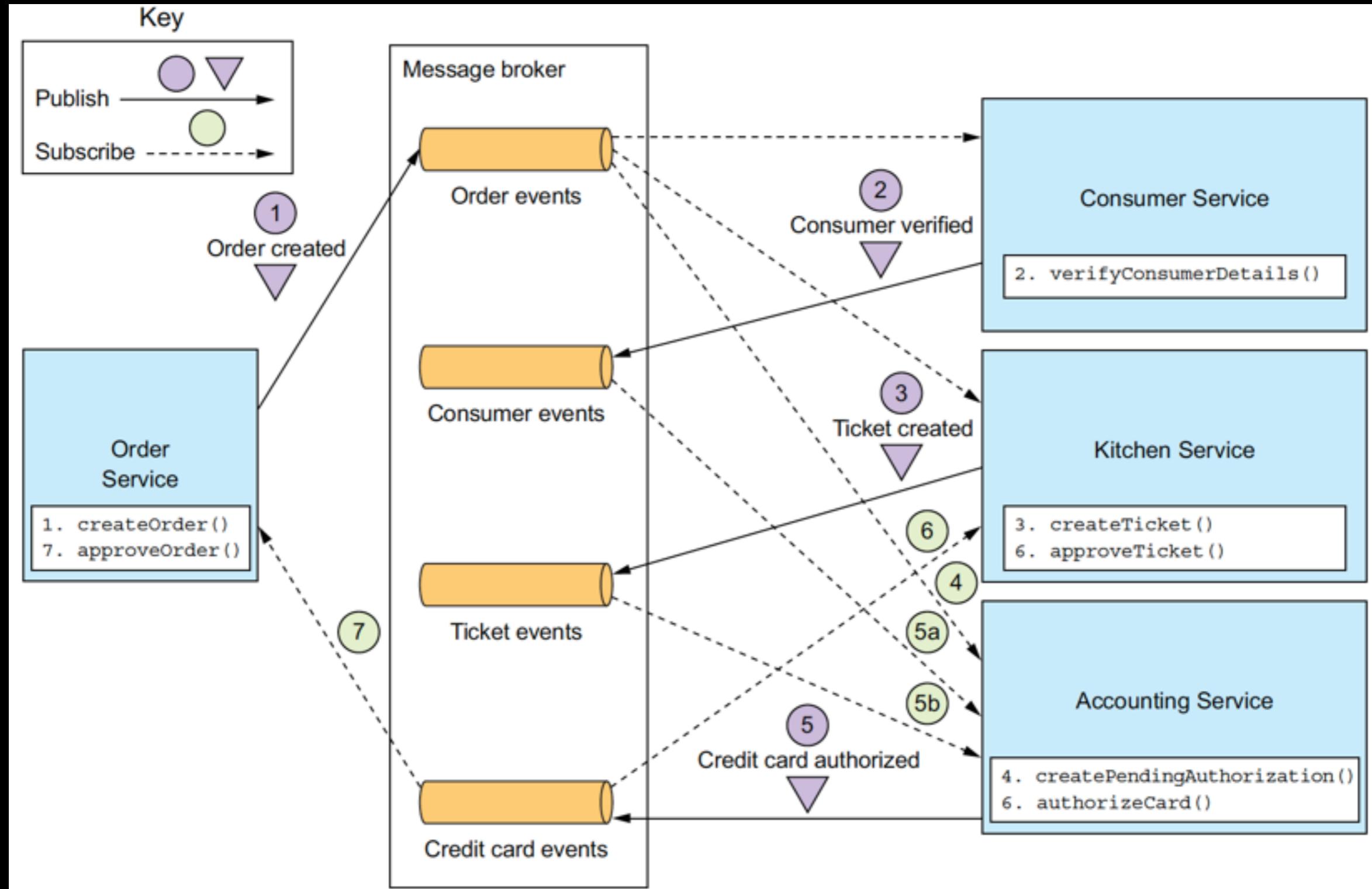
## Create Order Still Has Issues ...



Source: [Microservices Patterns](#), Chris Richardson, Manning.  
<https://microservices.io/patterns/saga.html>

# Event-Driven Architecture (EDA)

## Reduce the Dependencies with a Saga



Source: [Microservices Patterns](#), Chris Richardson, Manning.  
<https://microservices.io/patterns/saga.html>

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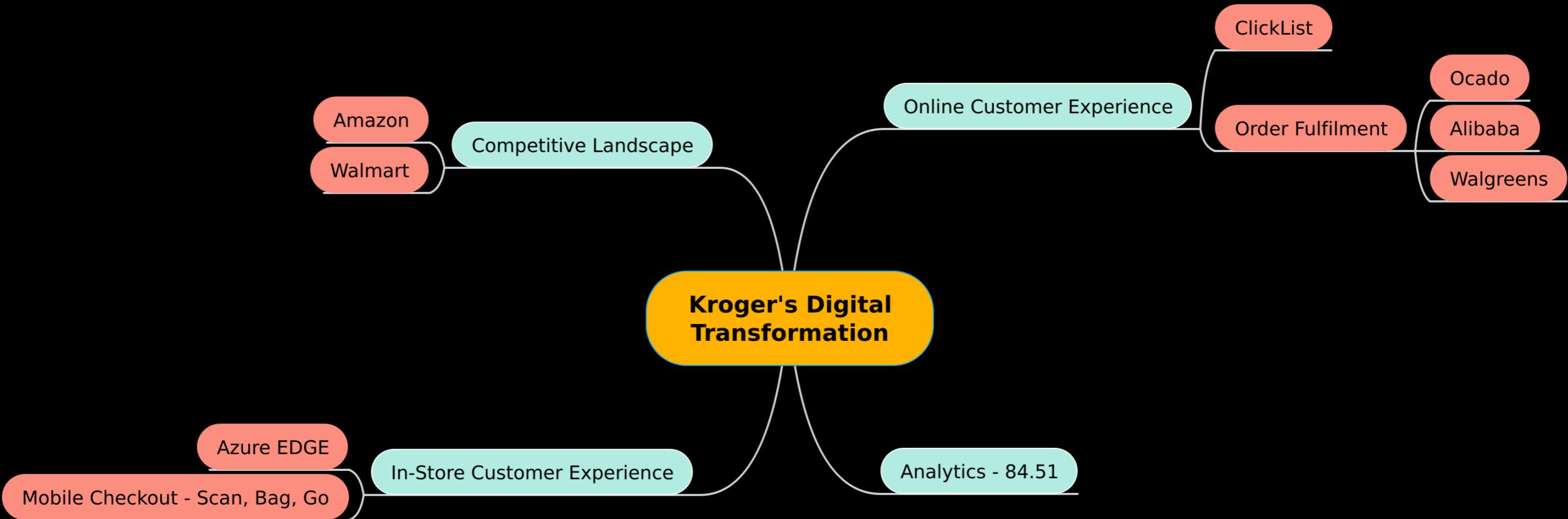
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# Kroger's Digital Transformation

## Responding to Change



**“We’re a technology company that *happens* to sell groceries”**  
- Chris Hjelm, Kroger CIO

Source:

<https://www.grocerydive.com/news/kroger-and-walmart-outline-digital-transformations/545947/>

<https://www.edgeshelf.com/lang/en/index.html>

<https://www.cio.com/article/3274544/how-kroger-transforms-it-innovation-to-revenue-generation.html>

# Kroger

## Living on the EDGE (Powered by Azure)



### Improved effectiveness of at-the-shelf marketing and merchandising

- Generate advertising revenue by advertising specials, competitive, and complementary brands at the shelf.
- Display messages for missing product, alternatives and expected replenishment dates.
- Use videos to enhance product information.

### Delivering an enhanced shopping experience to consumers

- Implement price updates instantly across one or multiple stores, making execution of promotions a snap.
- Deliver relevant messaging to consumers at the shelf for a more satisfying shopping experience.
- Deliver coupons at-the-shelf to make the most of promotions.

### Improved operational efficiency

- Streamlined restocking activities with visual indications of which products belong on which shelves.
- Dynamically adjust pricing to accommodate special promotions, in-store marketing tests and limited-time-only deals.

### Source:

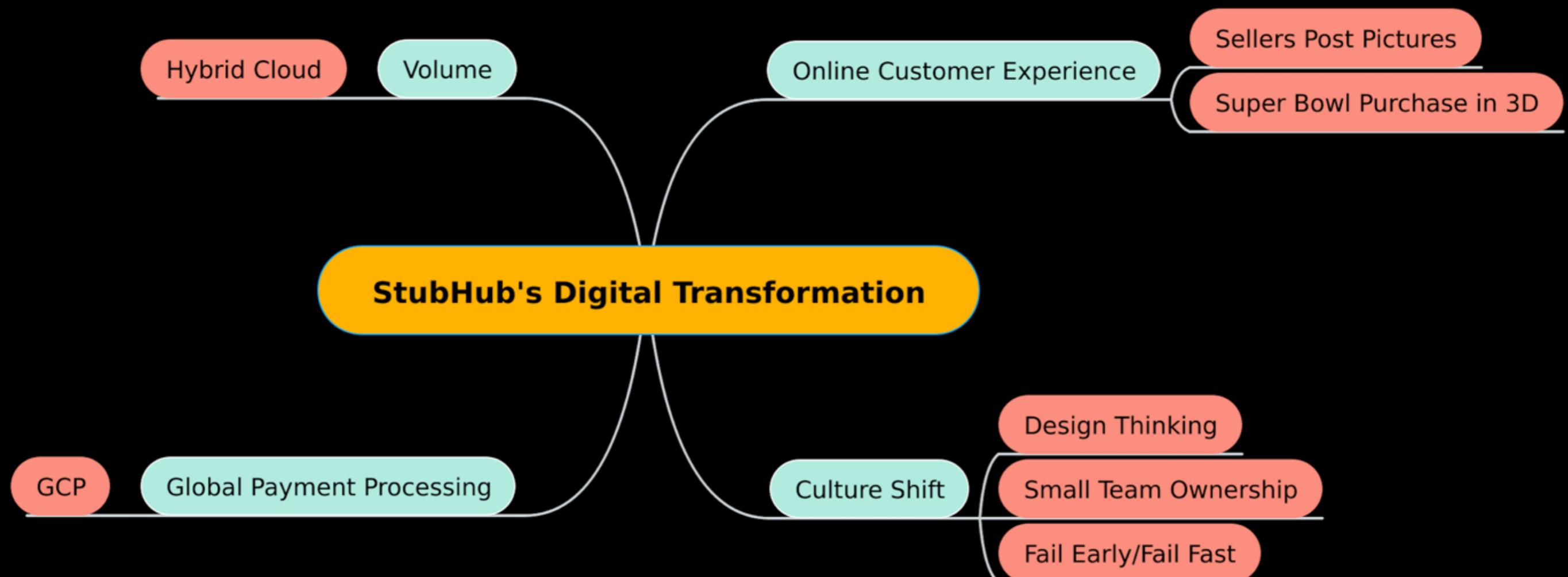
<https://www.grocerydive.com/news/kroger-and-walmart-outline-digital-transformations/545947/>

<https://www.edgeshelf.com/lang/en/index.html>

<https://www.cio.com/article/3274544/how-kroger-transforms-it-innovation-to-revenue-generation.html>

# StubHub's Digital Transformation

## Volume and Mobile



Source:

<https://www.cio.com/article/3149977/digital-transformation-examples.html>

<https://medium.com/stubhub-product-tech-blog/https-medium-com-stubhubtech-event-nerds-revolutionize-the-way-you-buy-super-bowl-tickets-f000b0f3a5ff>

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# Strategic DX Frameworks

## Leading Change

### Initiating Digital Transformation: The Journey

A Roadmap for the Board of Directors, CEO, COO, CFO, CIO, CMO, and CDO  
and the Communities that Will Realize and Sustain the Change and Adaptation

#### Before Start

one quarter before

#### Define the Vision and Frame Possibilities

- Analyze the organization's situation
- Explore initial possibilities with internal and external stakeholders
- Honestly assess the external obstacles and internal barriers to change
- Develop hypothesis of ground rules, key opportunities, and acceptable parameters of digital innovation and change
- Create short list of initial new digital markets, channels with matching products and services
- Articulate mandate and assign decentralized leadership
- Allocate resources to start

#### Start

one quarter after

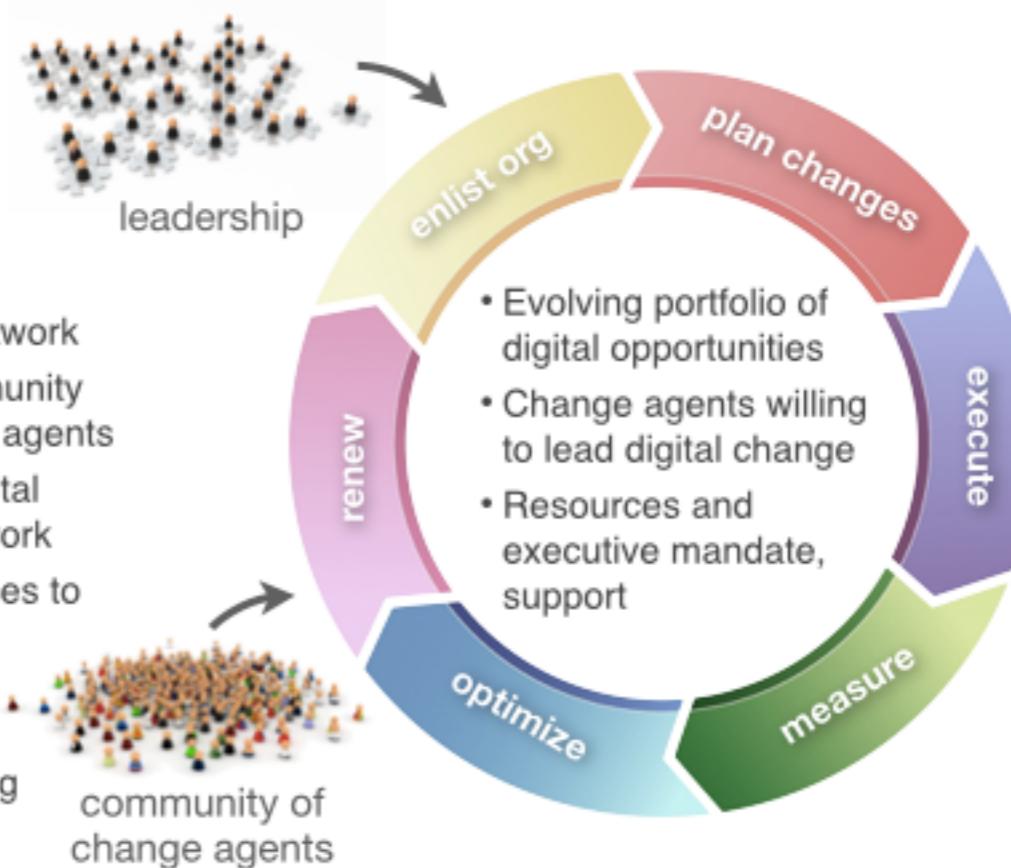
#### Engage and Enlist the Organization

- Openly discuss the digital mandate
- Outline change process, encourage participation
- Identify and engage change champions
- Align leadership with network
- Establish an open community of decentralized change agents
- Curate and evaluate digital opportunities in the network
- Establish gating processes to activate on and capture high value digital business opportunities
- Capturing and storytelling of change trajectory

#### Going Forward

in perpetuity

#### Sustain Decentralized Transformation



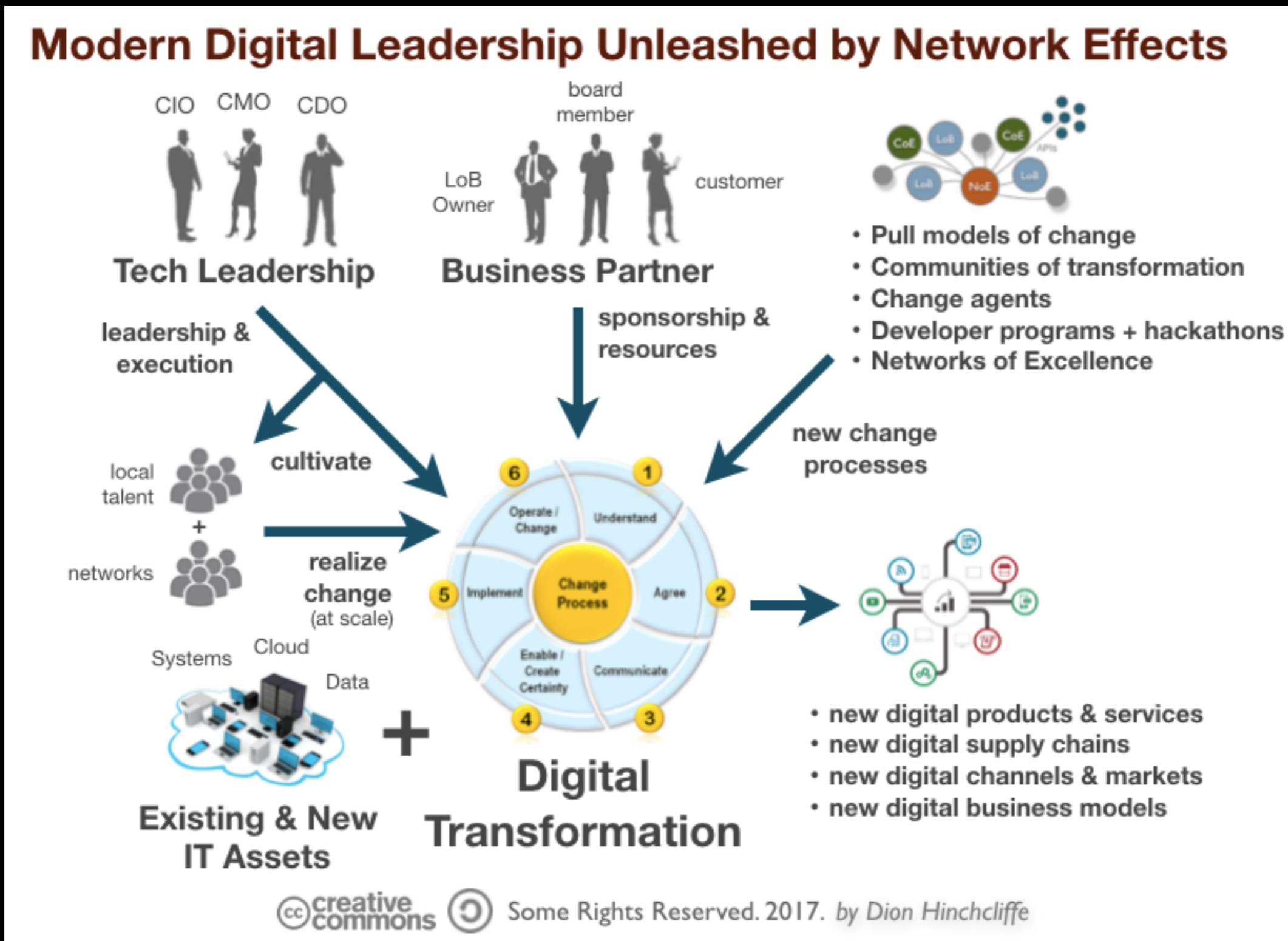
Some Rights Reserved. 2015. by Dion Hinchcliffe

Source:

<https://dionhinchcliffe.com/2018/10/18/four-strategic-frameworks-for-digital-transformation/>

# Strategic DX Frameworks

## Leading Change



Source:

<https://dionhinchcliffe.com/2018/10/18/four-strategic-frameworks-for-digital-transformation/>

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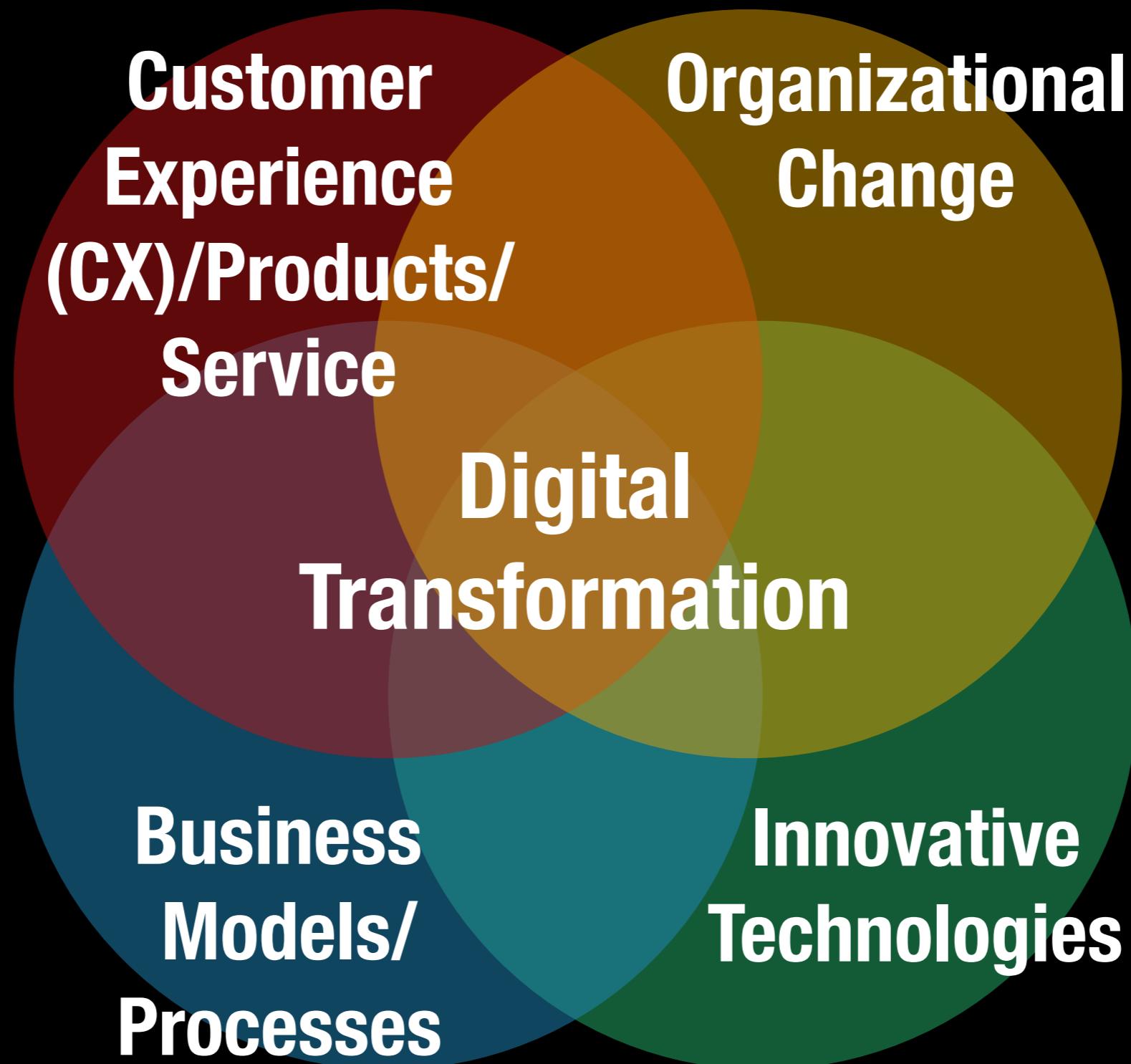
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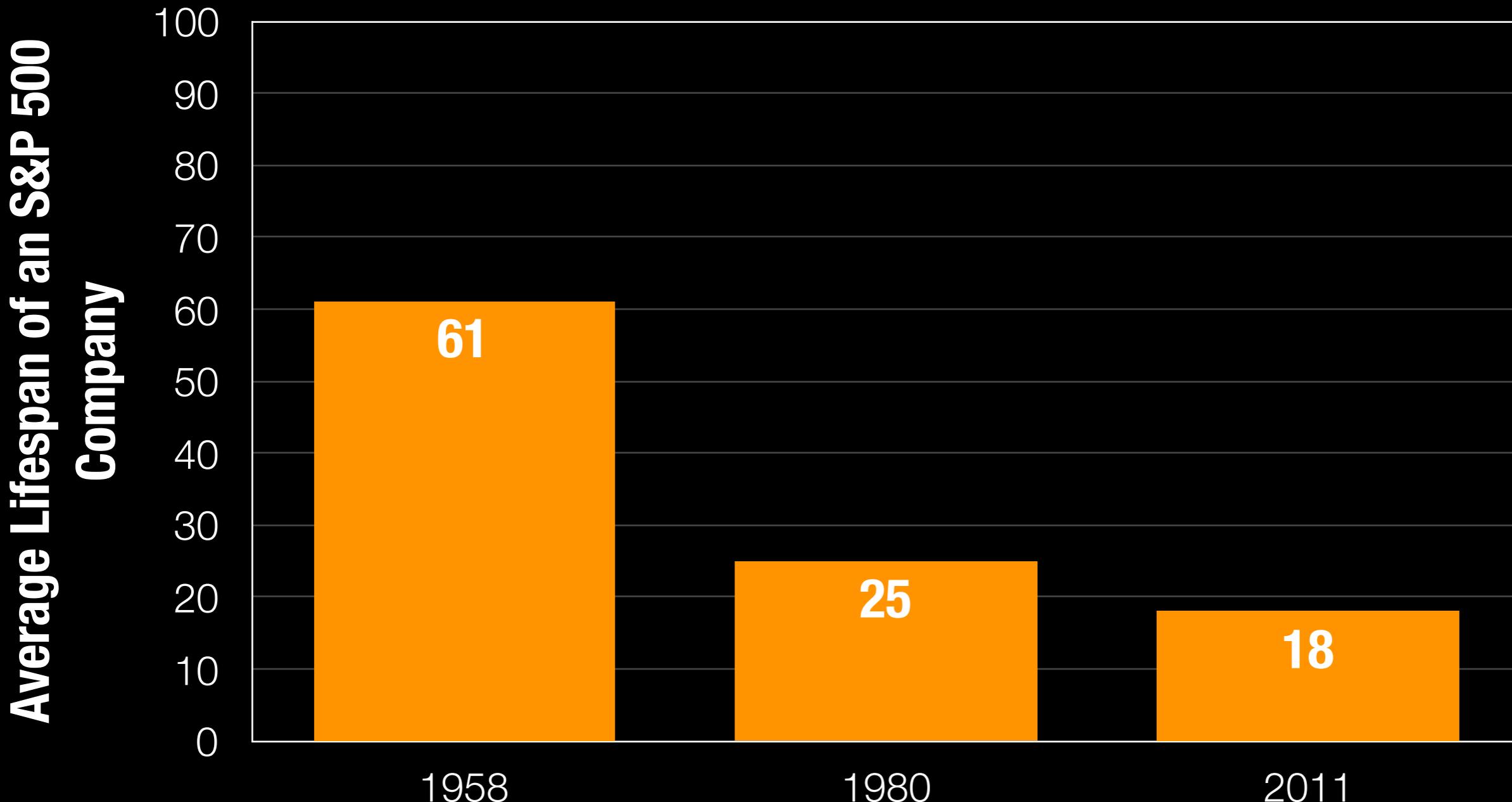
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Source: The Enterprisers Project - <https://enterprisersproject.com/what-is-digital-transformation>

CNBC - <https://www.cnbc.com/2017/08/24/technology-killing-off-corporations-average-lifespan-of-company-under-20-years.html>

# What's The Point?

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is not just a technical exercise  
— it's about transforming your  
business

# Your Takeaway

**How to Drive Business Value  
with Digital Transformation  
and Improve  
The Bottom Line**

# Questions?



**Tom Marrs**  
**Enterprise Architect**  
[thomasamarrs@comcast.net](mailto:thomasamarrs@comcast.net)



# Resources

CIO.com

The Digital Transformation People

The Enterprisers Project

Digital Transformation – Build Your Organization's Future for the Innovation Age, Lindsay Herbert

The DevOps Handbook, Gene Kim, Jez Humble, Patrick Debois, & John Willis

<https://www.michielrook.nl/2018/01/typical-ci-cd-pipeline-explained/>

# Resources

<https://nrf.com/blog/walmarts-cto-digital-transformation>

<https://digit.hbs.org/submission/walmart-blurring-the-lines-between-digital-and-physical/>

<https://www.cio.com/article/3292663/how-the-walmart-microsoft-partnership-builds-on-the-four-strategic-themes-for-digital-transformatio.html>

<https://www.cio.com/article/3149977/digital-transformation-examples.html>

# Resources

[\*\*https://www.cio.com/article/3211428/what-is-digital-transformation-necessary-disruption.html?nsdr=true\*\*](https://www.cio.com/article/3211428/what-is-digital-transformation-necessary-disruption.html?nsdr=true)

[\*\*https://www.forbes.com/sites/gilpress/2015/03/09/5-things-to-do-when-you-lead-a-digital-transformation/#52da00416782\*\*](https://www.forbes.com/sites/gilpress/2015/03/09/5-things-to-do-when-you-lead-a-digital-transformation/#52da00416782)

[\*\*https://dionhinchcliffe.com/2018/10/18/four-strategic-frameworks-for-digital-transformation/\*\*](https://dionhinchcliffe.com/2018/10/18/four-strategic-frameworks-for-digital-transformation/)

[\*\*https://martinfowler.com/articles/break-monolith-into-microservices.html\*\*](https://martinfowler.com/articles/break-monolith-into-microservices.html)

[\*\*https://microservices.io/patterns/apigateway.html\*\*](https://microservices.io/patterns/apigateway.html)

# Resources

**<https://microservices.io/patterns/ui/client-side-ui-composition.html>**

**<https://microservices.io/patterns/ui/server-side-page-fragment-composition.html>**

**Microservice Patterns, Chris Richardson, Manning.**

**Microservice Architecture - <https://microservices.io/>**