
AWS
re:Invent

ENT209

Digital transformation: Attributes of a 21st-century agile organization

Phil Le-Brun

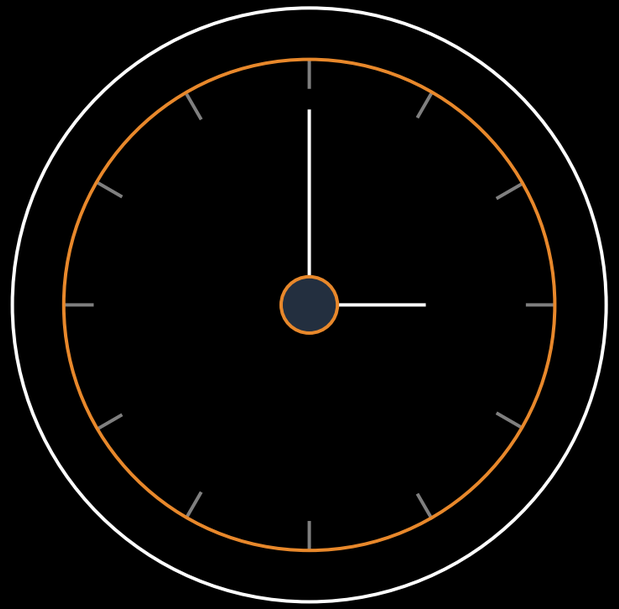
Director, AWS Enterprise Strategy

AWS

AWS re:Invent

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“On average the word
agility is mentioned every
6 minutes by leaders within our
executive briefings . . .



. . . closely followed by the phrase
digital transformation . . .

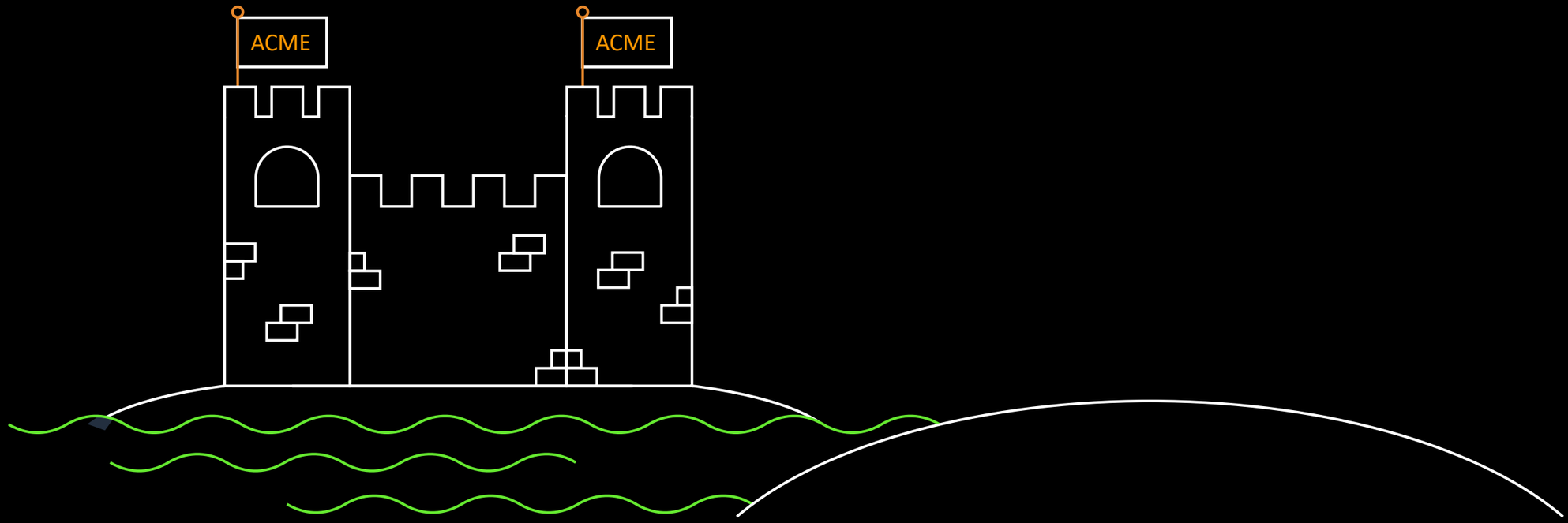
. . . which we all know is a trendy buzz phrase that’s quickly being emptied of all meaning”



Mark Schwartz

AWS Enterprise Strategist and Author

Former CIO of US Citizenship and Immigration Services


ACME
ACME


ACME
ACME

60%

of enterprises are digitally vulnerable

Source: Gartner (2020), "8 Ideas That Must Die for Digital Business to Thrive"

<20 years

average S&P company lifespan

Sources: Innosight (2018), AJ Bell (2019), Credit Suisse (2017)

“In today’s era of volatility, there is no other way but to reinvent. The only sustainable advantage you can have over others is agility. That’s it. Nothing else is sustainable; everything else you create, somebody else will replicate”



Jeff P. Bezos

Founder and CEO, Amazon.com, Inc.

Digital transformation is not a technology;
it is a way of thinking and operating

40%

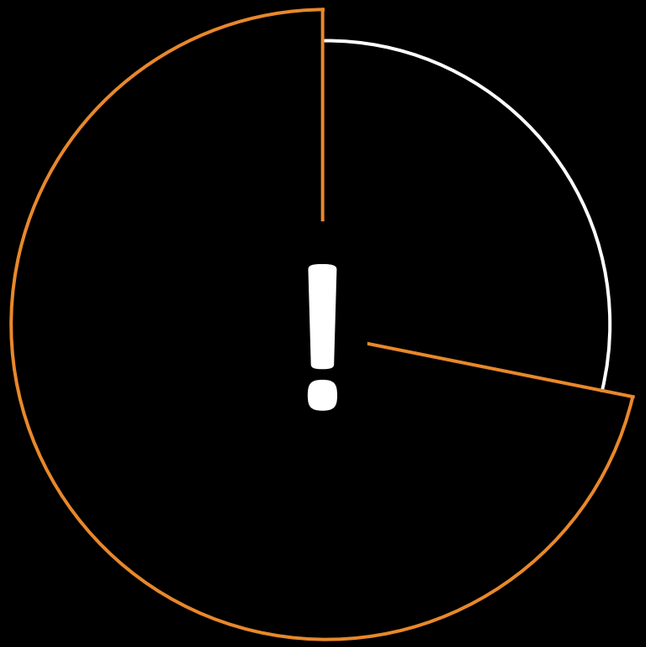
more meaningful work

Source: Puppet, “2018 State of DevOps Report”

80%

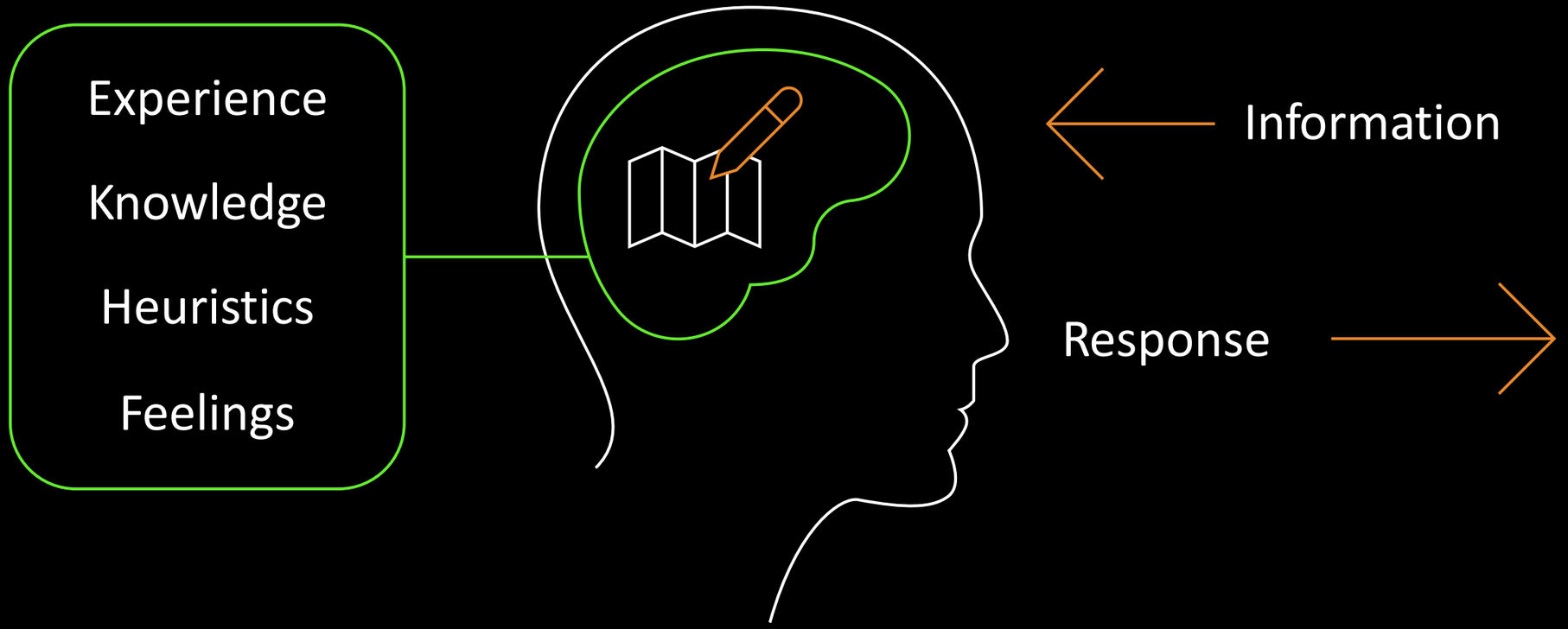
of digital revenues earned by the top 10% of an industry

Source: McKinsey (2019), “Digital Transformation: Improving the Odds of Success”



70%

of digital transformation efforts do not reach their goal


Experience
Knowledge
Heuristics
Feelings
Information
Response

“Those who do not learn history are doomed to repeat it”

George Santayana

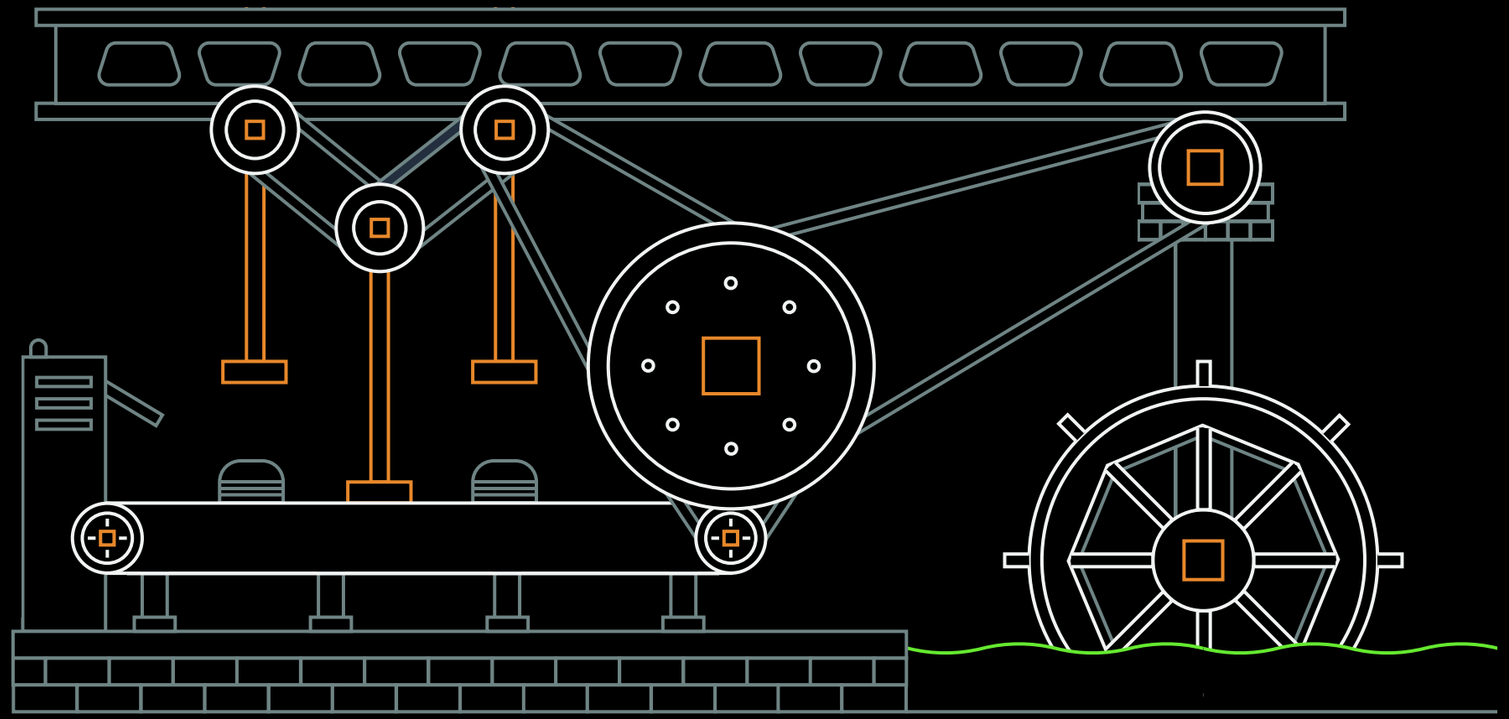
Philosopher, essayist, poet, and novelist

Stone Age | Bronze Age | Iron Age | Industrial Age | Information Age | Digital Age

General Purpose Technologies (GPTs)

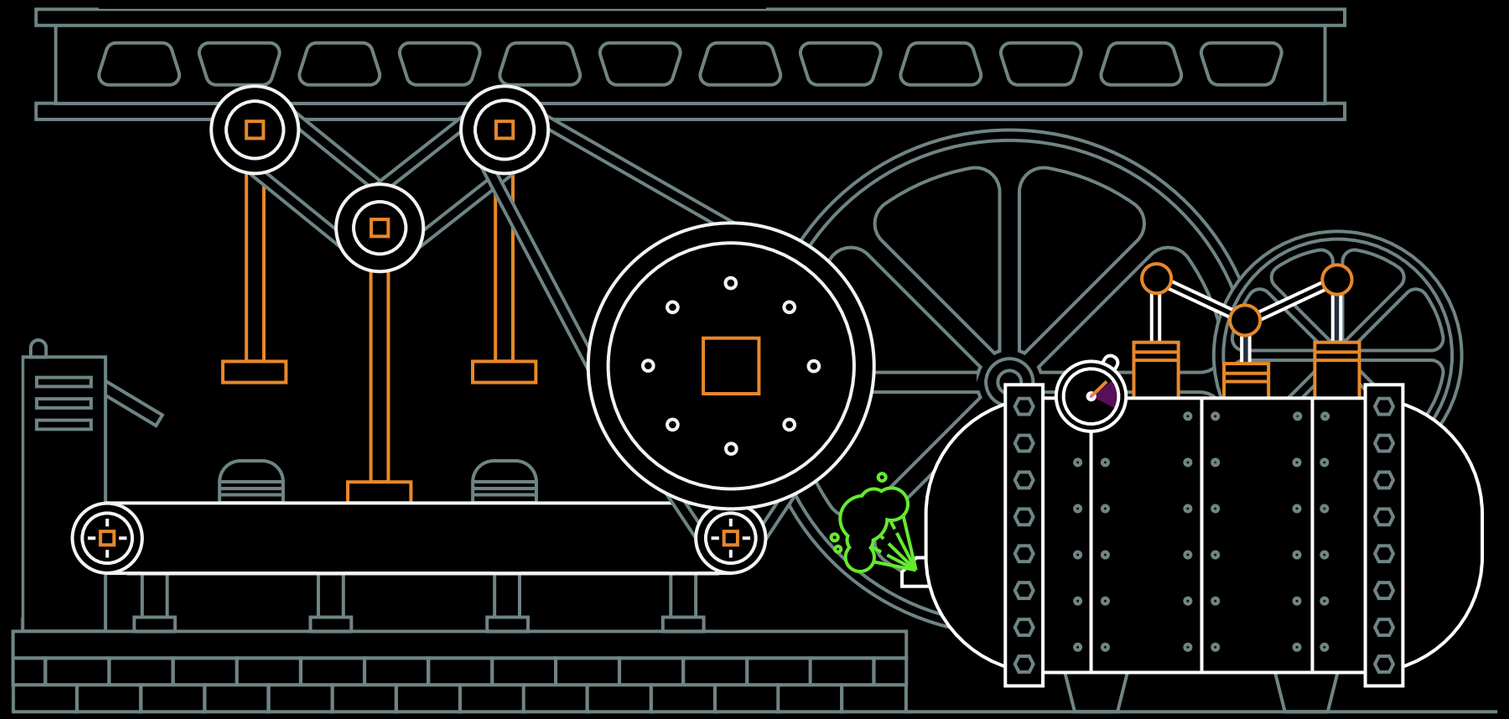
1. GPTs are pervasive
2. GPTs improve over time
3. GPTs spawn innovation

Adapted from Bresnahan and Trajtenberg (1992), "General Purpose Technologies: Engines of Growth?"



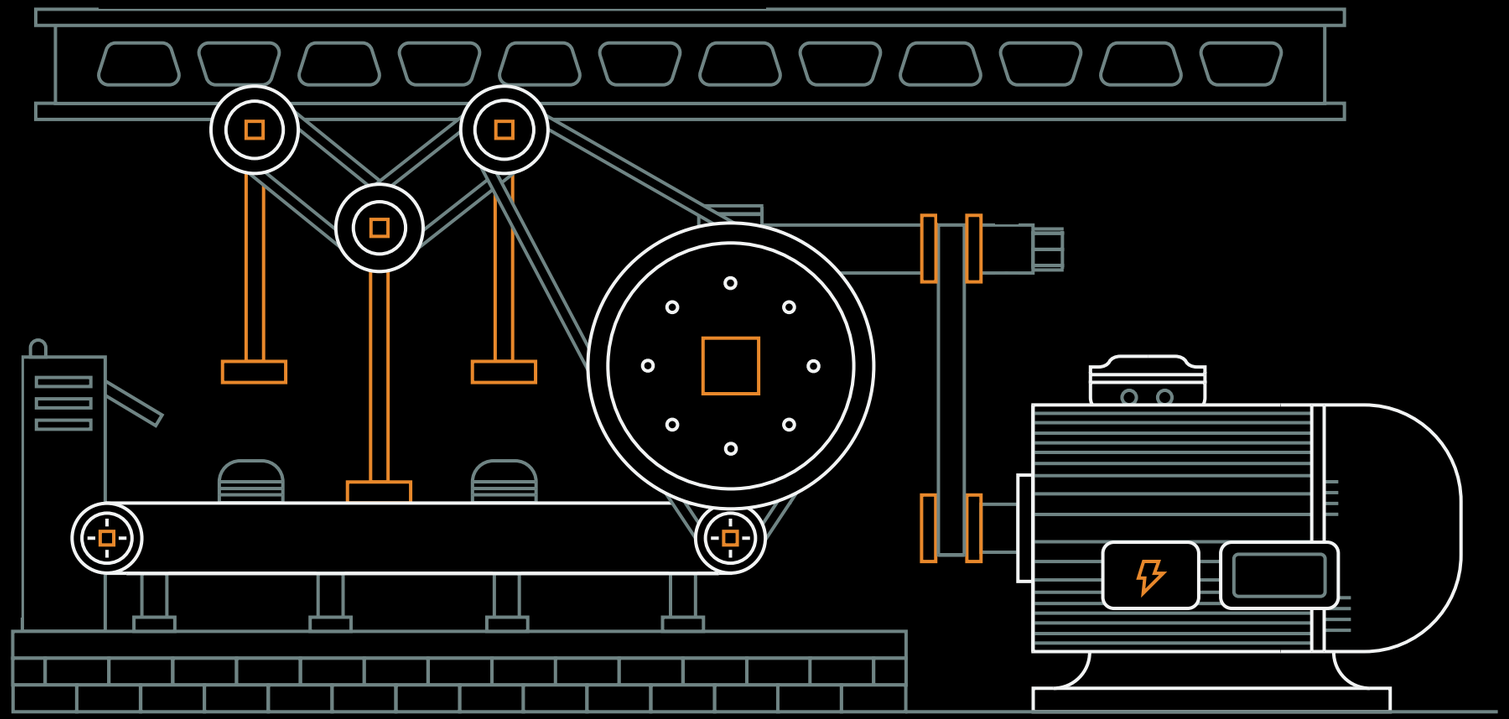
Industrial Age

Water wheels power factories



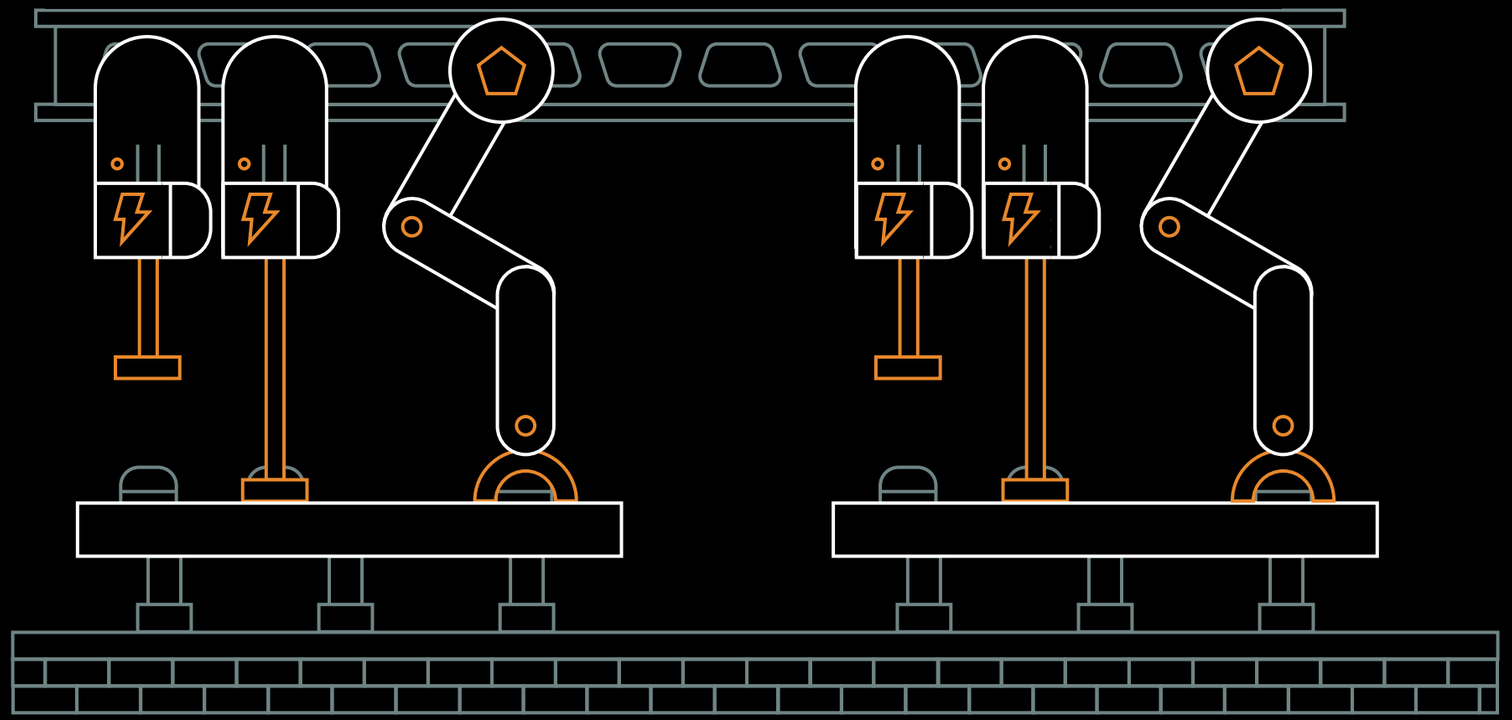
Industrial Age

Steam replaces the water wheel



Industrial Age

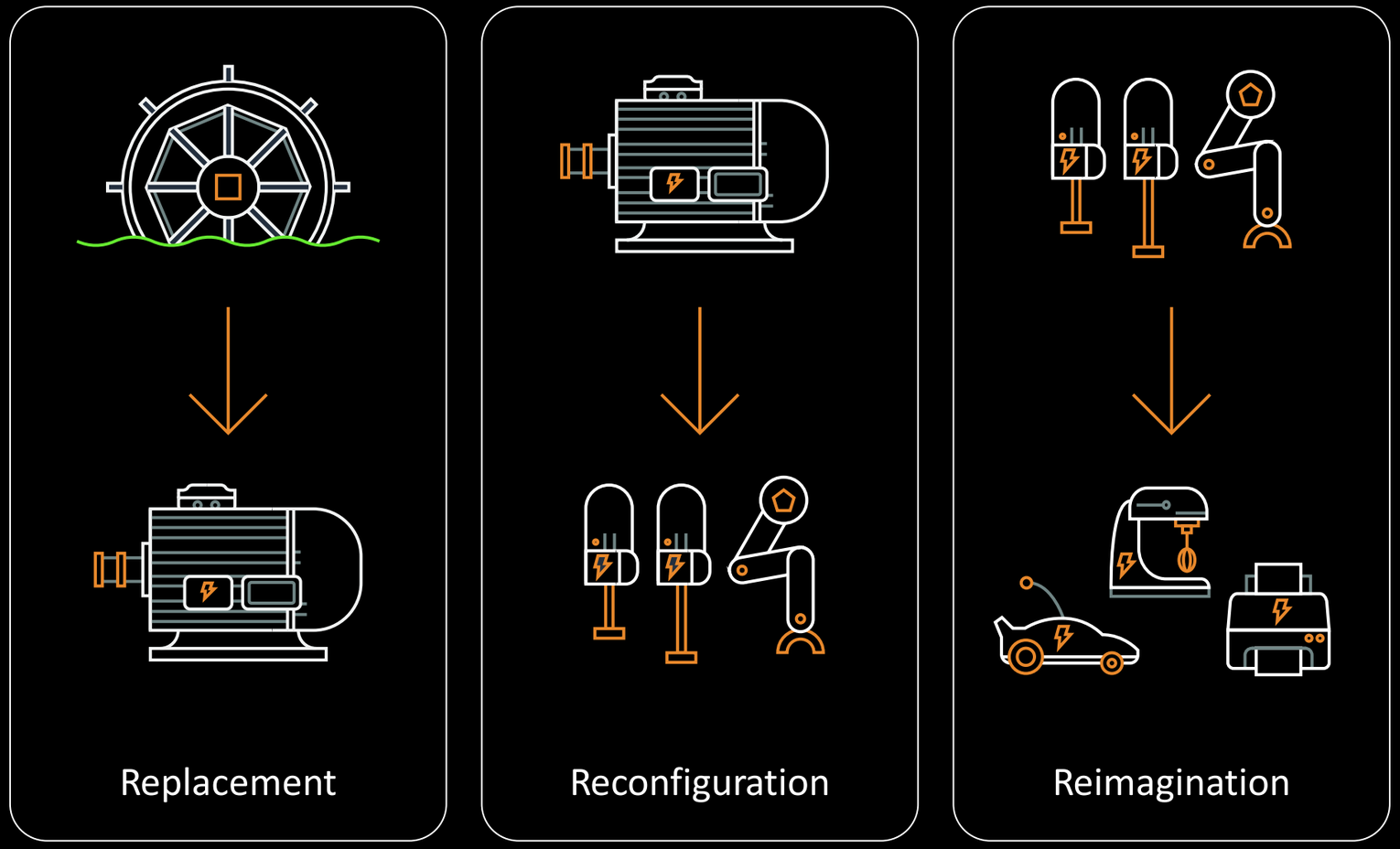
Electricity replaces steam



Industrial Age

Reconfiguration

General Purpose Technologies



1. Pervasive
2. Improve over time
3. Spawn innovation



Information Age

1876 First public telephone call

1951 First public computers



Information Age

1876 First public telephone call

1951 First public computers

1981 3Com ships first Ethernet network controller

Digital Age

1995 public internet service providers (ISPs) emerged

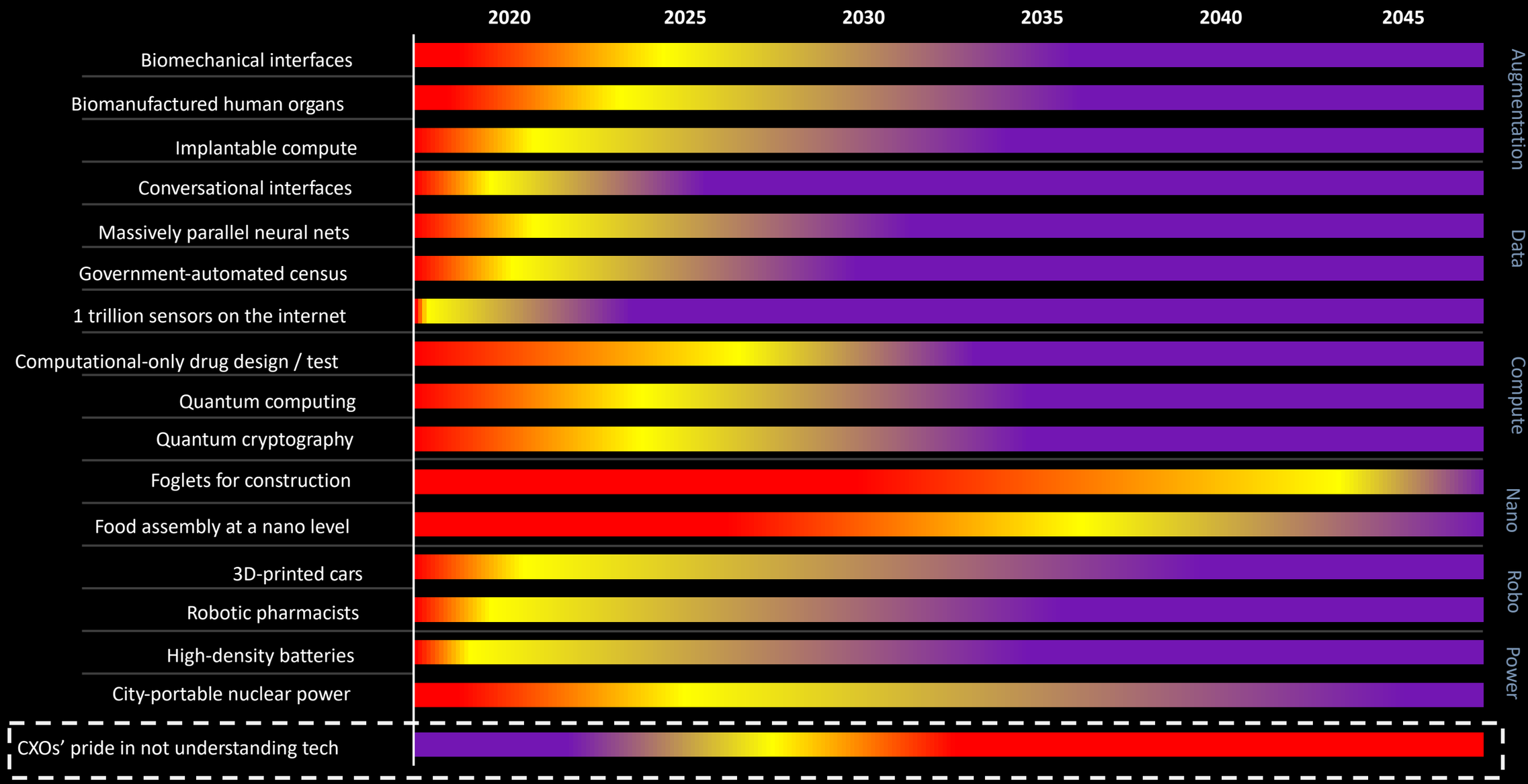
2000 first public RESTful Application Programming Interface (API)

2006 AWS Cloud launches

2007 Internet of Things

2018 AWS launches first Machine Learning as a Service with Amazon SageMaker

Transport	   
Finance	    
Hospitality	   
Media	    
Food Delivery	  



Sources: https://bit.ly/2X41OwU; https://bit.ly/2AVGQYa; https://bit.ly/3goQ0wJ; https://bit.ly/2XyGFcS; https://bit.ly/2M5rYst

“You might love your data center, but your data center doesn’t love you”



Miriam McLemore

AWS Enterprise Strategist

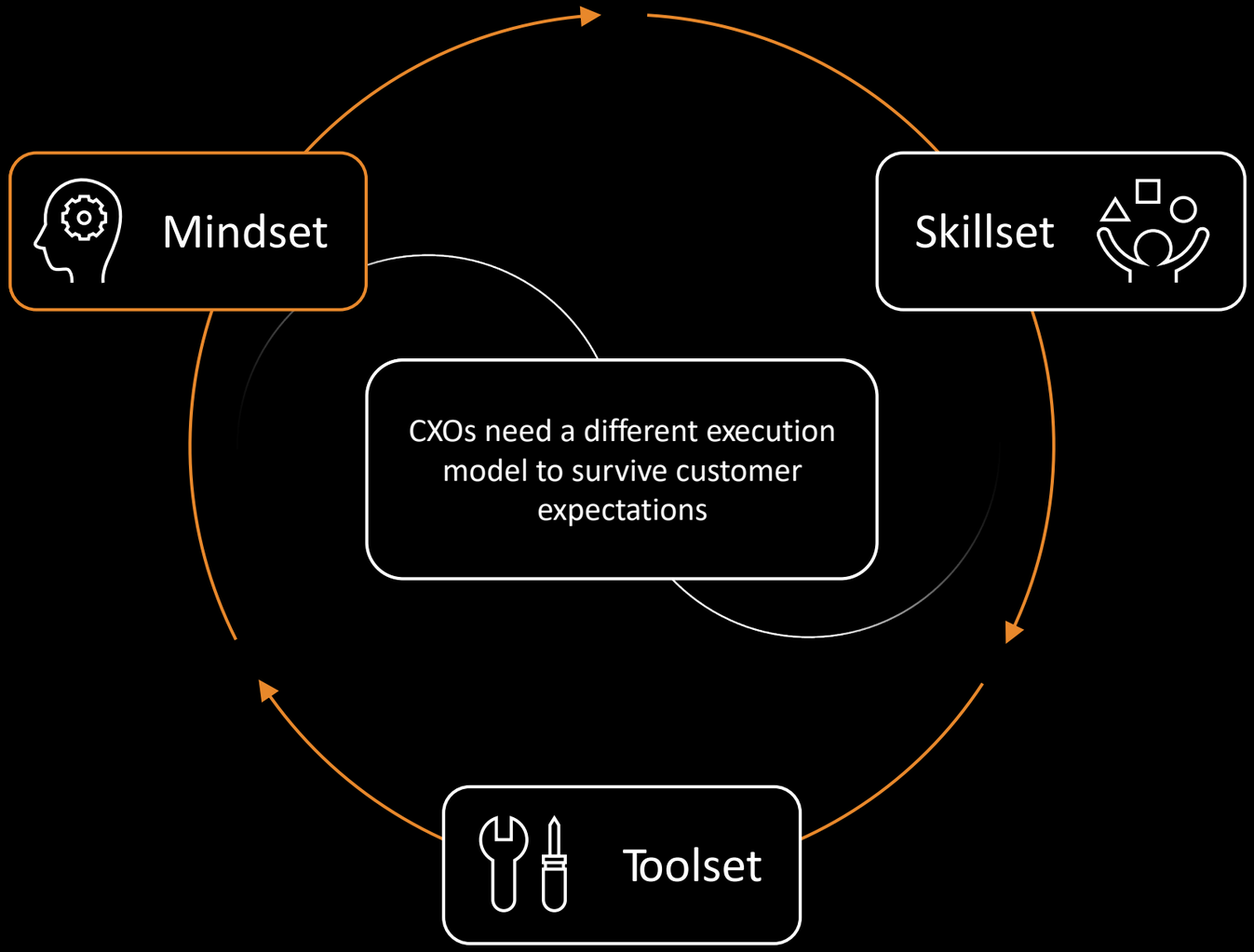
Former Corporate CIO, The Coca-Cola Company

“Culture eats strategy for breakfast
(and lunch and dinner)”

Attributed to Peter Drucker

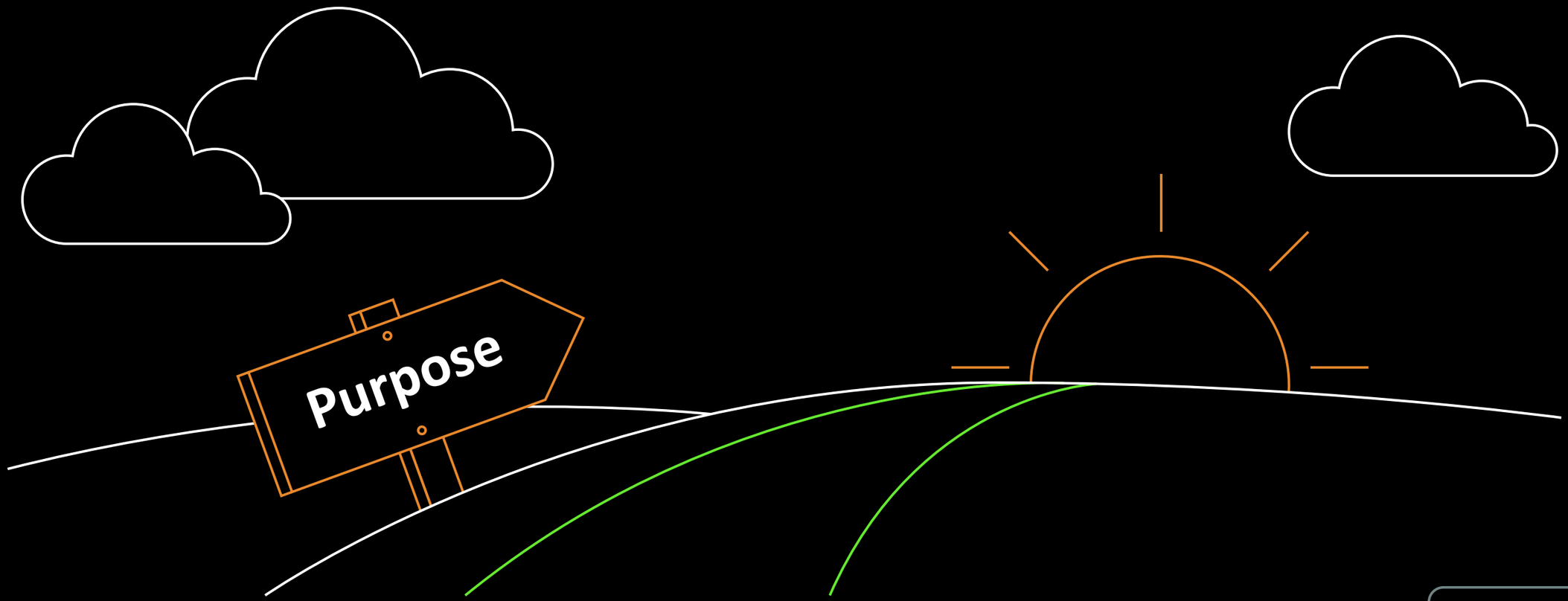
Author and management consultant

CXOs need a different execution model to
survive customer expectations


Mindset
Skillset
CXOs need a different execution model to survive customer expectations
Toolset

Clarity of purpose

1



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Health Warning

ACME

We are going to leverage our global synergies to drive a world-class contemporary customer experience

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset



To be Earth’s most customer-centric company

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset



Change Banking for Good

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Declare principles

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset



Culture

- Customer obsession
- Ownership
- Invent and simplify
- Are right, a lot
- Hire and develop the best
- Insist on the highest standards
- Think big
- Bias for action
- Frugality
- Learn and be curious
- Earn trust of others
- Dive deep
- Have backbone; disagree and commit
- Deliver results

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

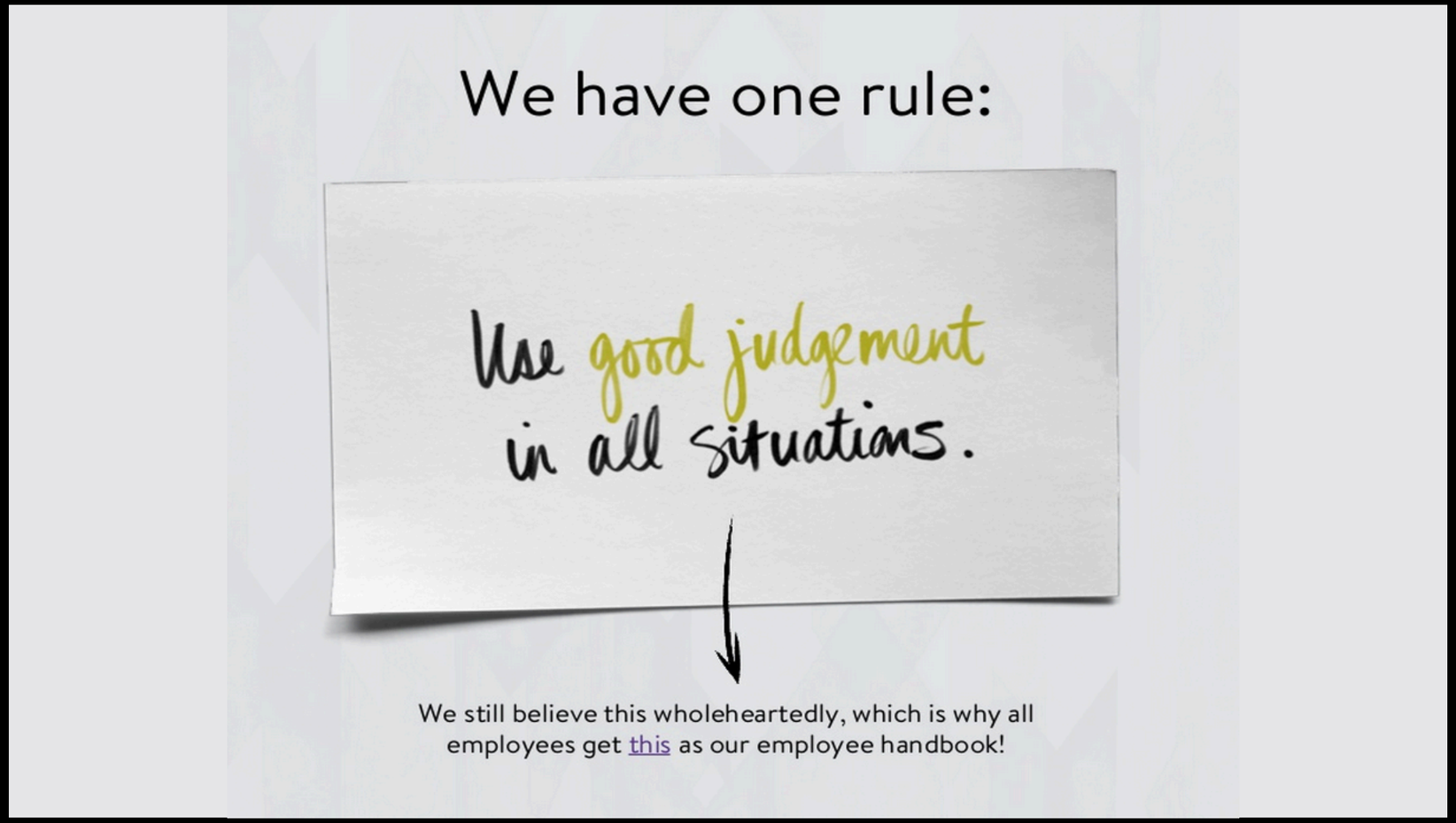
NETFLIX

Culture

1. Values are what we value
2. High performance
3. Freedom and responsibility
4. Context, not control
5. Highly aligned, loosely coupled
6. Pay top of market
7. Promotions and development

NORDSTROM

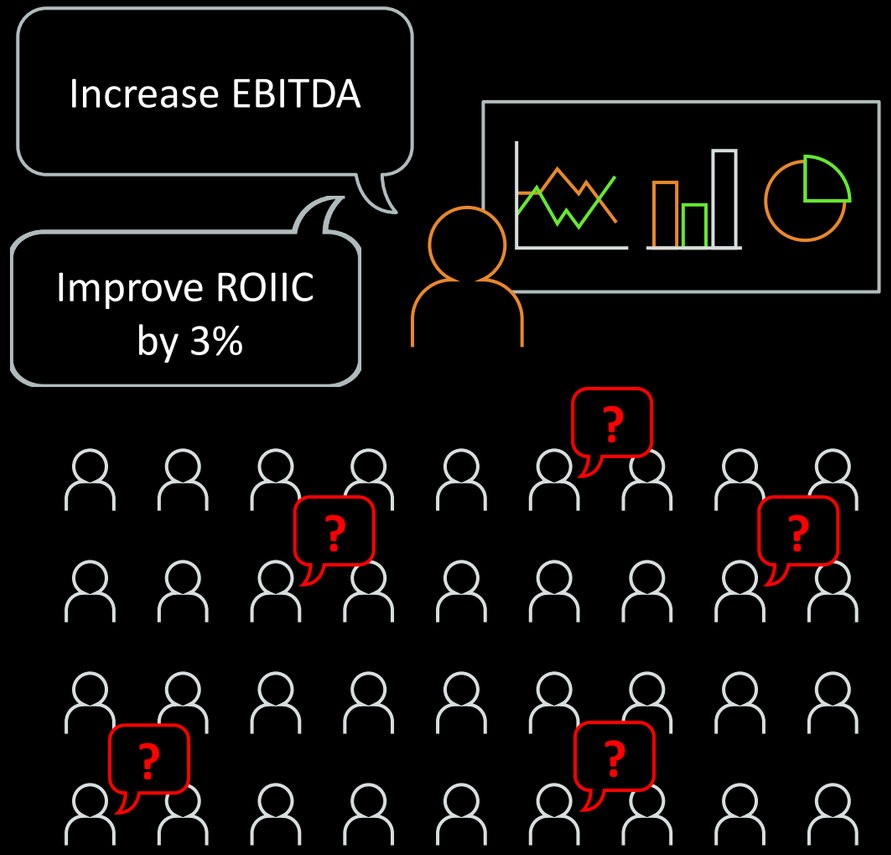
Culture

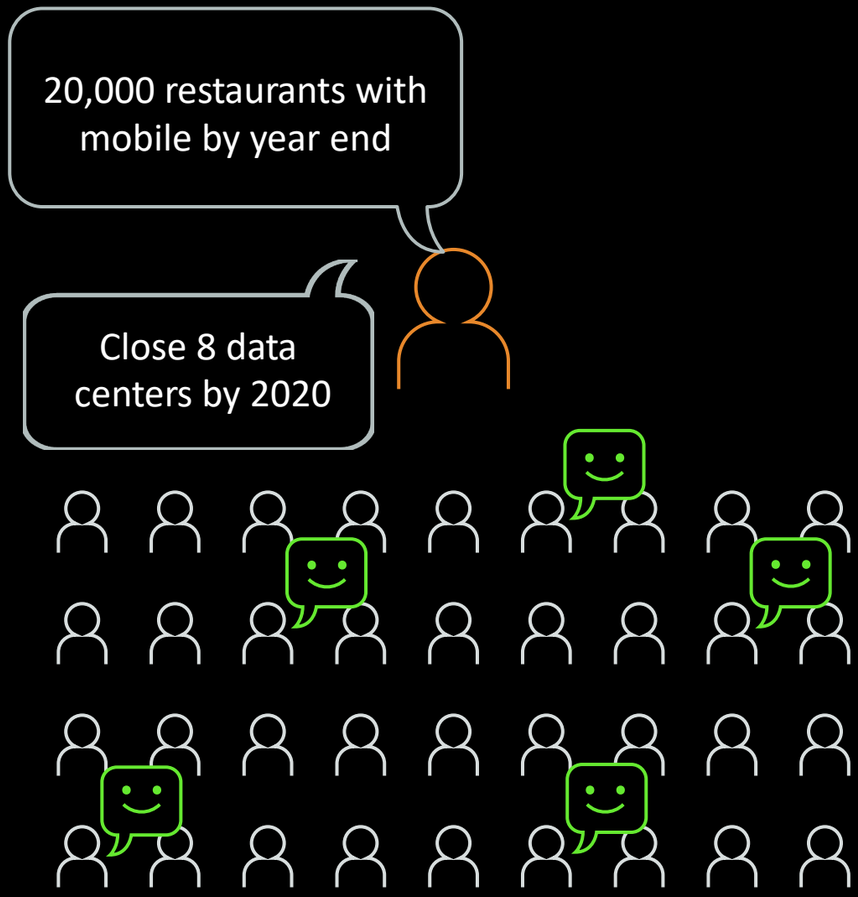


CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Outcome measures

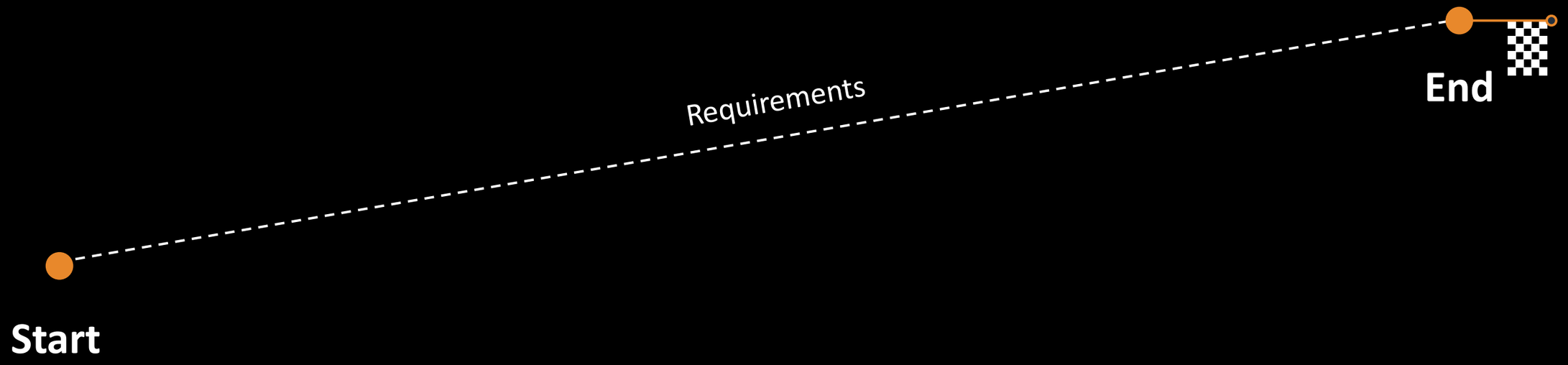




CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

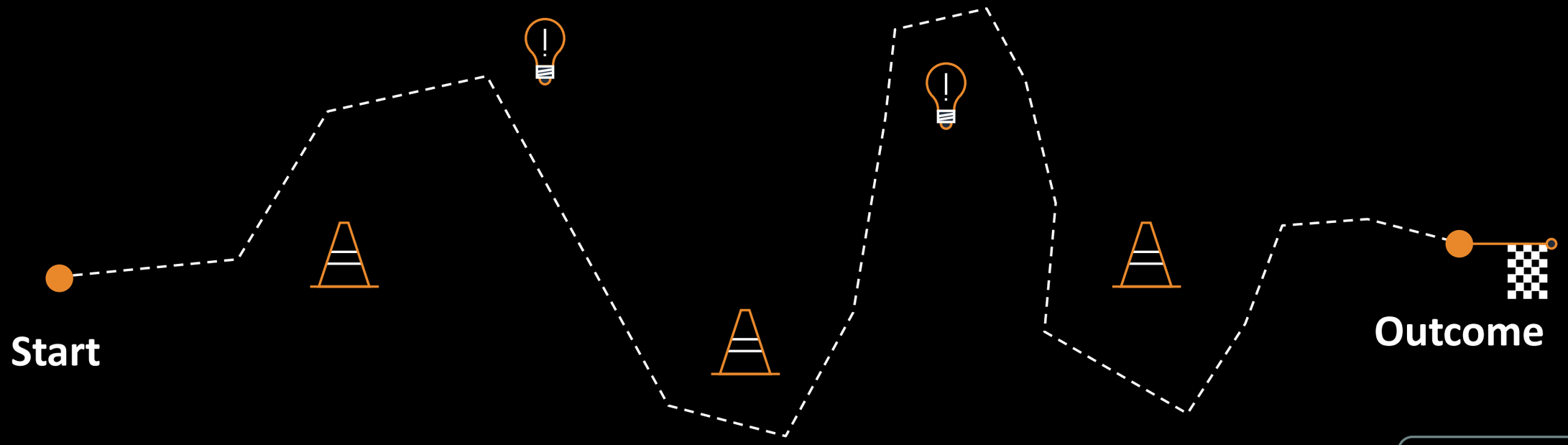
The false comfort of linear planning . . .



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

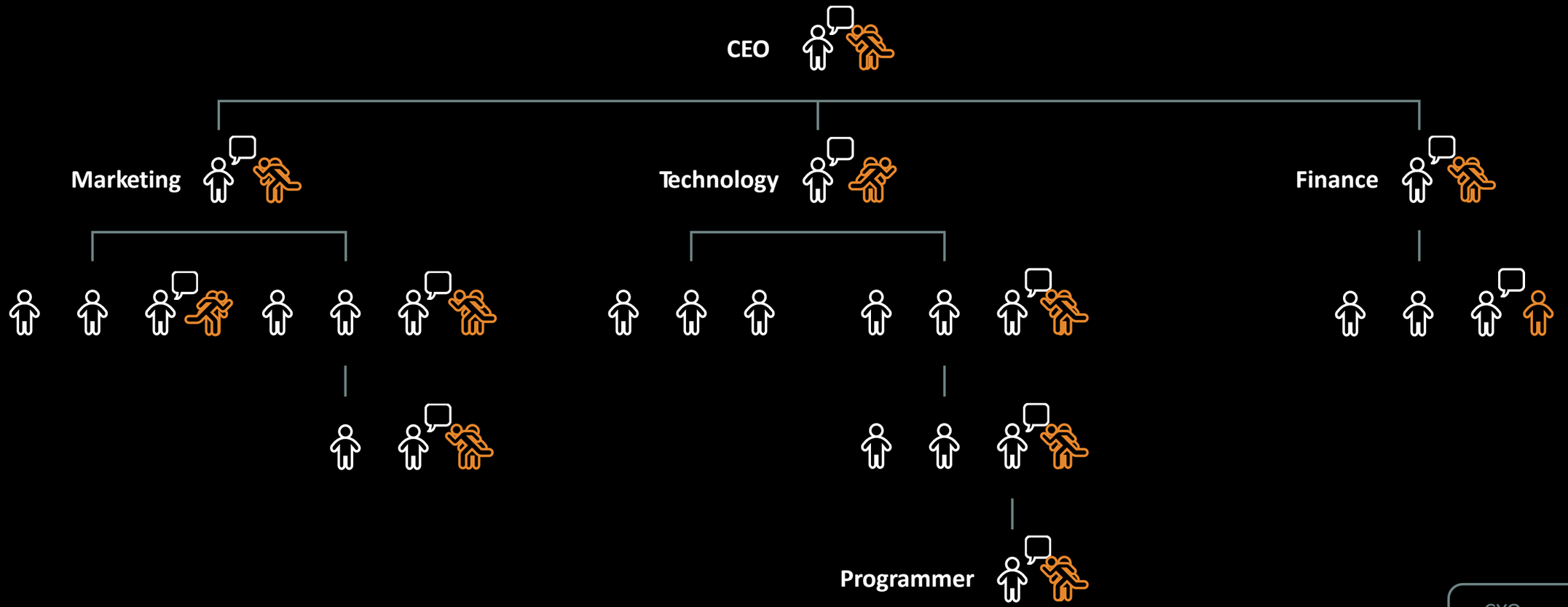
. . . or agilely experimenting and adapting against an outcome?



CXOs need a different execution model to survive customer expectations

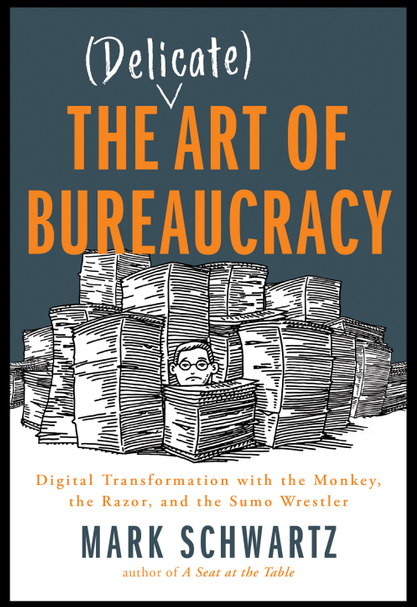
Mindset | Skillset | Toolset

Autonomy and speed of decision making



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset



"... the bureaucracies we encounter every day are, in fact, frustrating [and] soul-destroying. That's because they aren't lean, learning, and enabling, the three characteristics of good, not evil, bureaucracy."

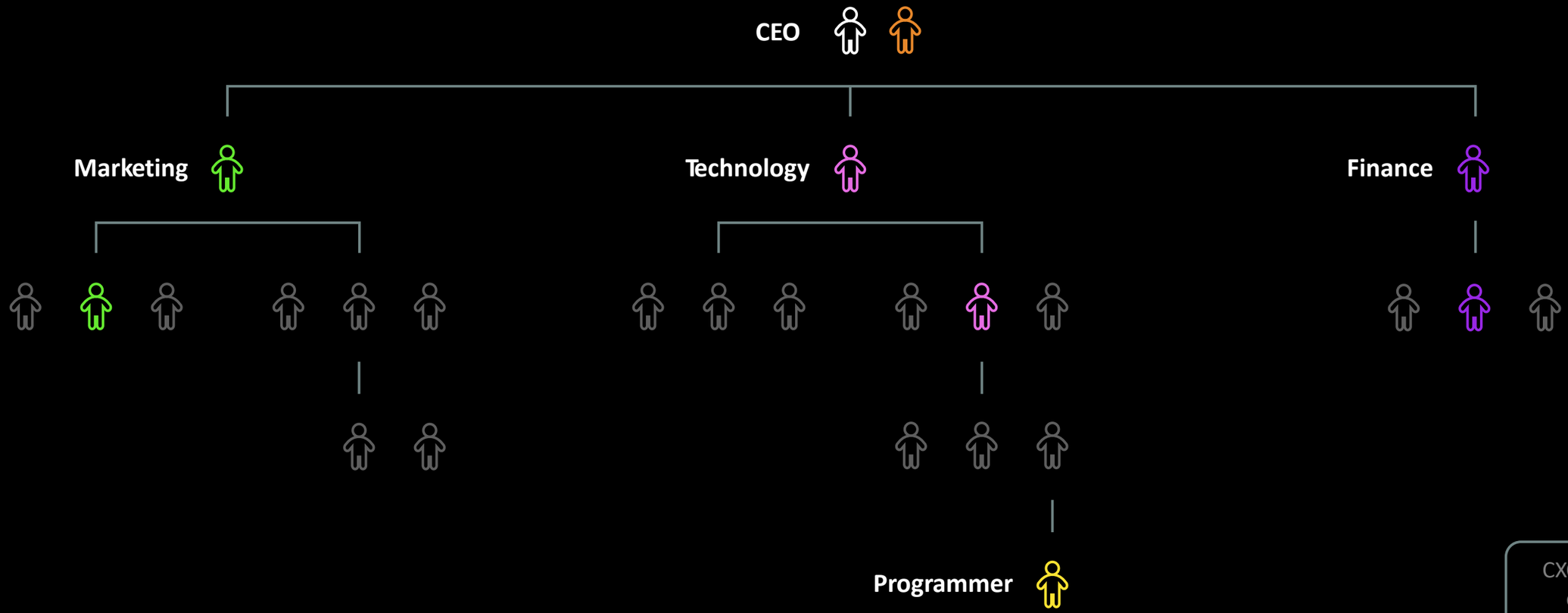


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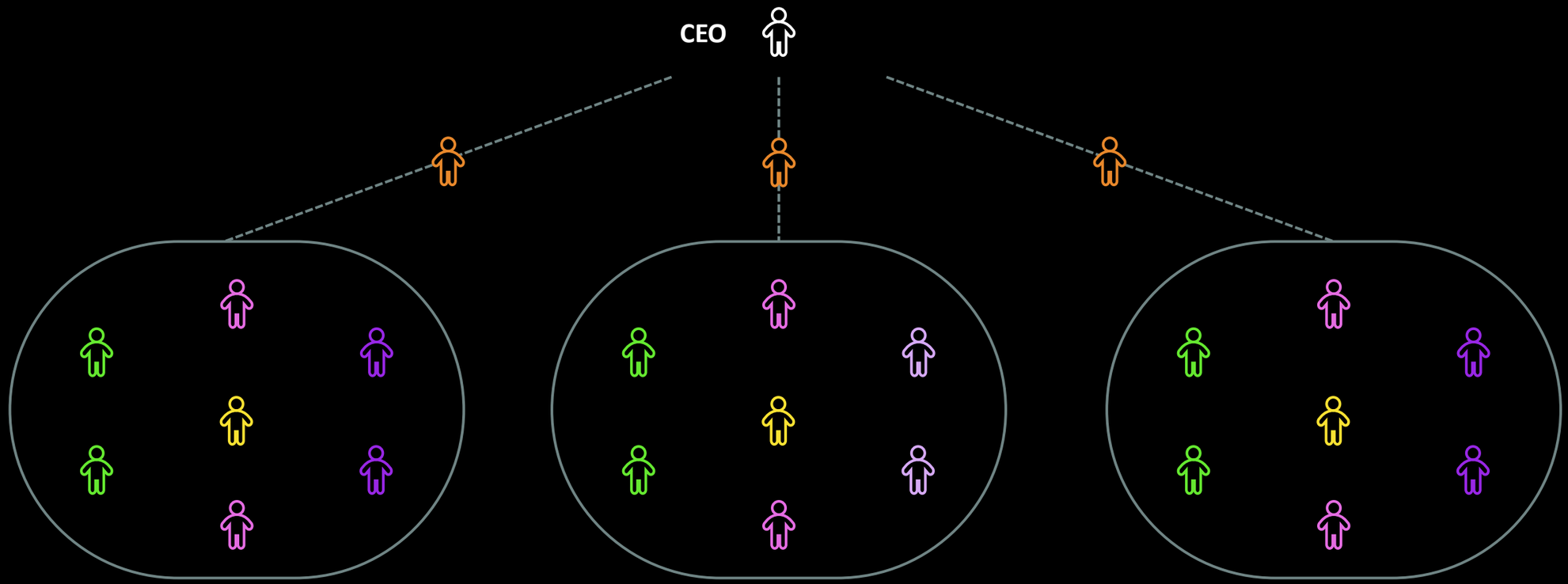
Autonomy and speed of decision making



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

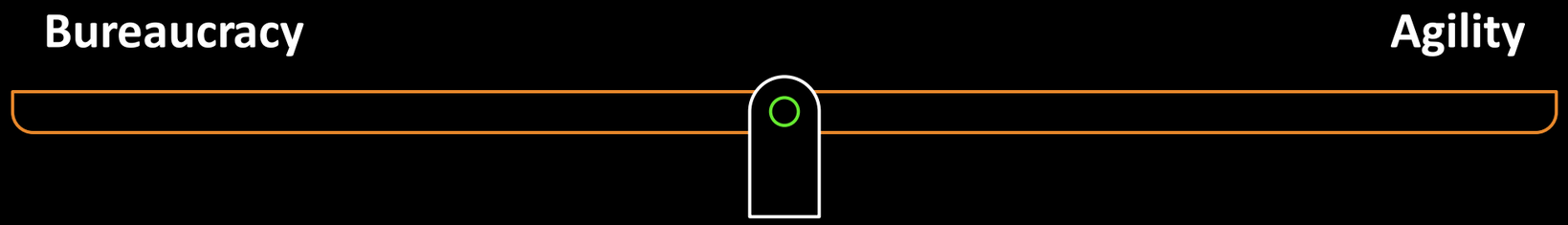
Autonomy and speed of decision making



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

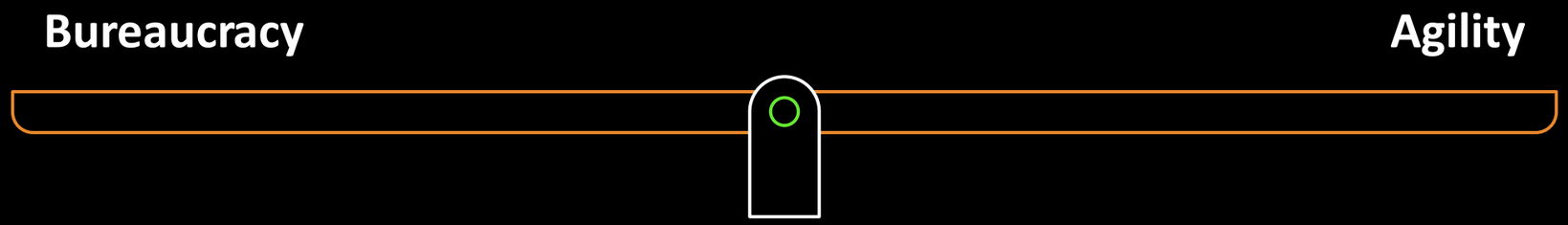
Implement guardrails



CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Implement guardrails



Organizational guardrails

Your principles

One- / two-way-door decisions

Innovation mechanisms

Planning process

Key Performance Indicators / R&R

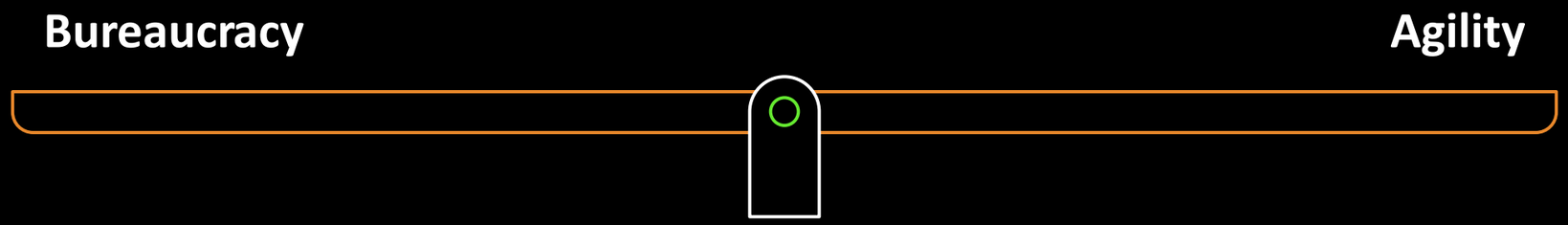
Financial controls

Single-threaded leader

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Implement guardrails



Organizational guardrails

Your principles

One- /two-way-door decisions

Innovation mechanisms

Planning process

Key Performance Indicators / R&R

Financial controls

Single-threaded leader

Technical guardrails

APIs

Services

Balanced preventative and detective controls

Run less software

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

“Without data you’re just another person with an opinion”

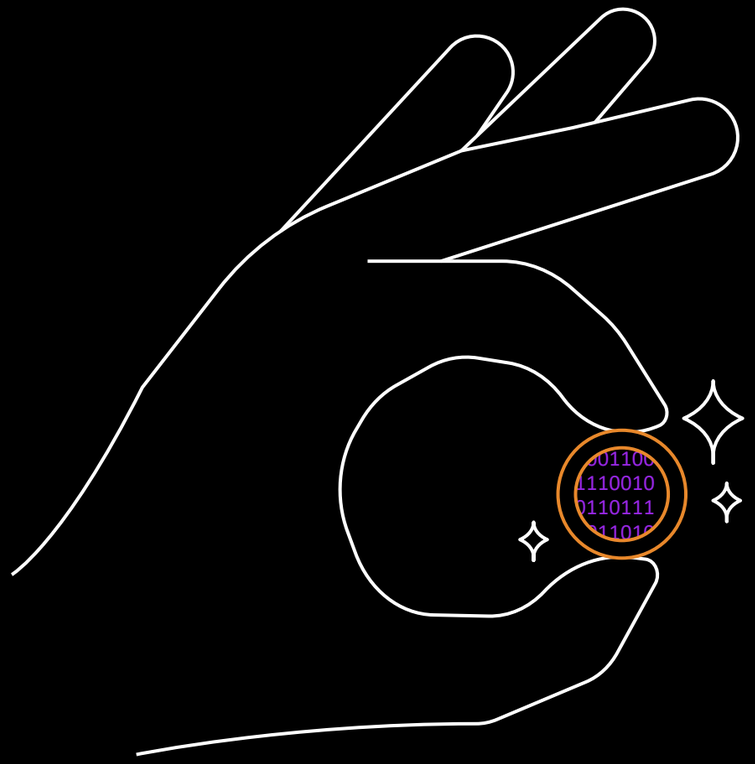
W. Edwards Deming

Academic and Management Consultant



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Information transparency

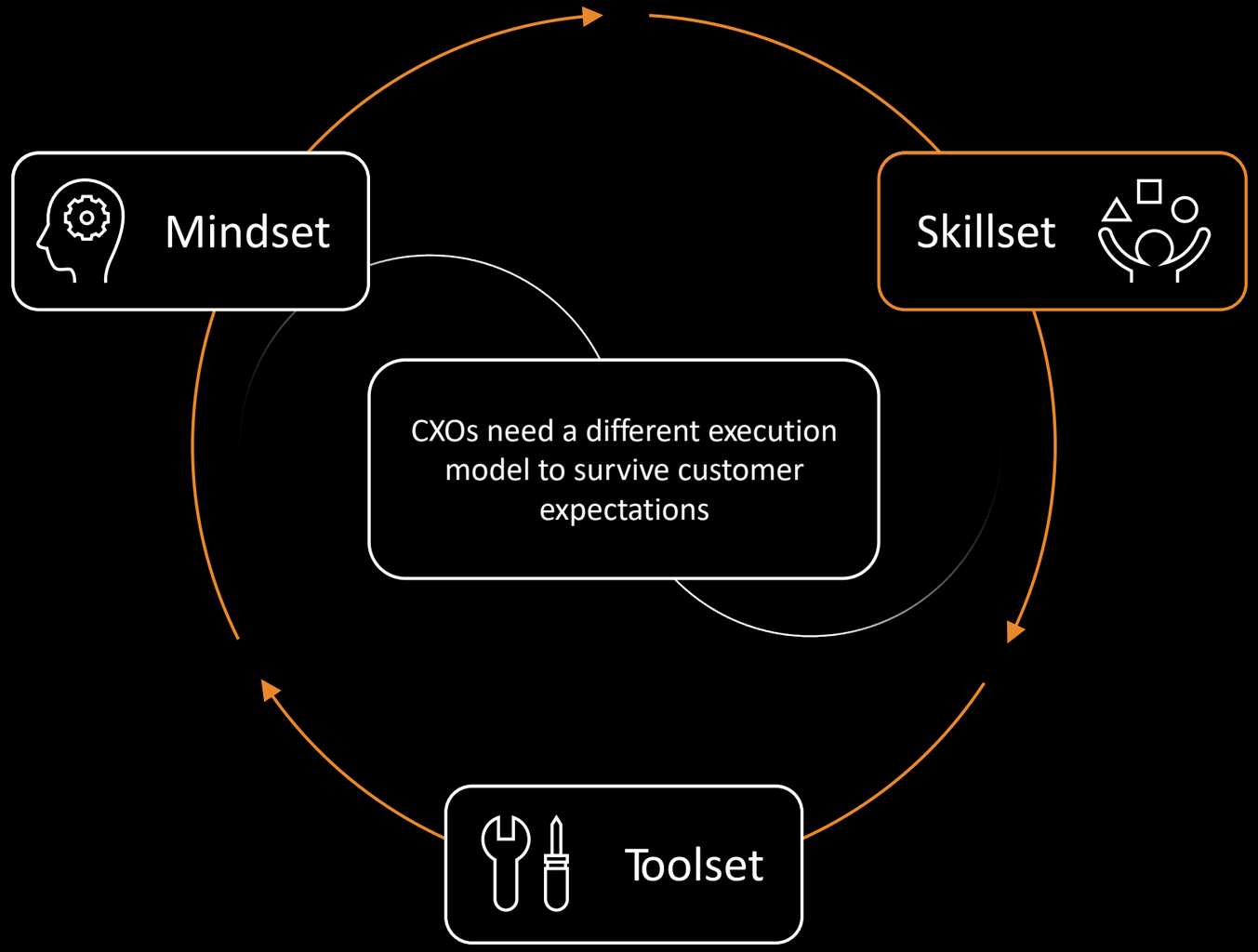


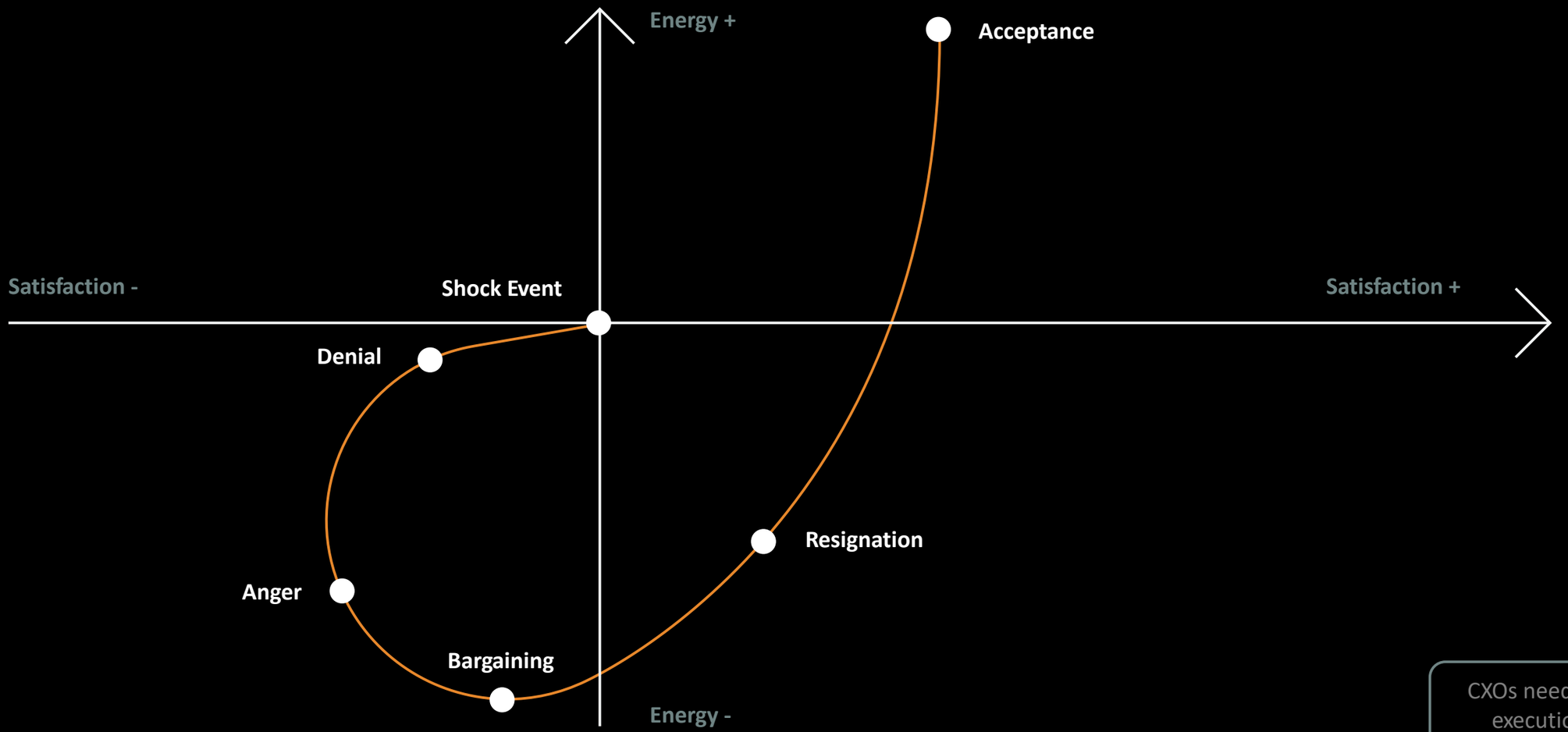
My data, my precious

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | Toolset

Resistance is not futile





https://en.wikipedia.org/wiki/K%C3%BCbler-Ross_model

CXOs need a different execution model to survive customer expectations

Mindset | **Skillset** | Toolset

“A leader takes people where they want to go, a great leader takes people where they don’t necessarily want to go but ought to be”

Rosalynn Carter

First Lady of the USA 1977–1981

"To motivate employees . . . [they need] Autonomy, Mastery, and Purpose"

Daniel Pink

Author, "Drive: The Surprising Truth About What Motivates Us"



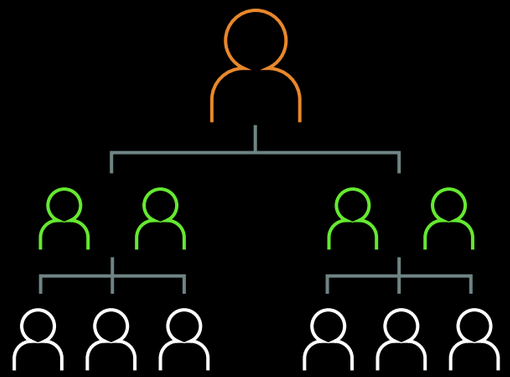
Servant leadership



Digital age IQ

CXOs need a different execution model to survive customer expectations

Mindset | **Skillset** | Toolset



HiPPO

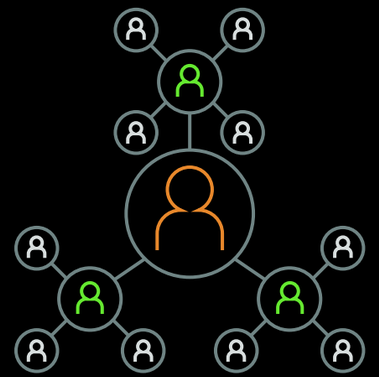
Talks

Directs

Builds silos

Hires for today’s skills

Known for intellectual prowess



Agile leader

Listens

Coaches

Builds communities

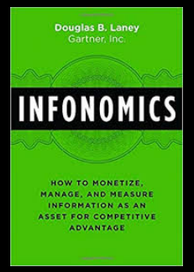
Hires for tomorrow’s needs and cultural fit

Exhibits emotional intelligence

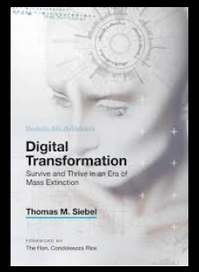
CXOs need a different execution model to survive customer expectations

Mindset | **Skillset** | Toolset

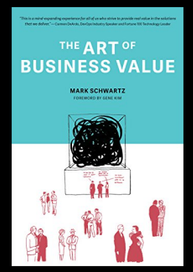
Raising the IT IQ: Digital literacy



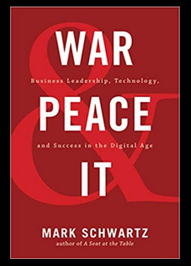
Infonomics
Doug Laney



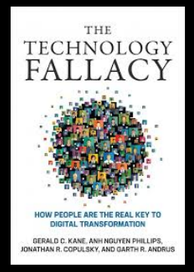
Digital Transformation
Thomas Siebel



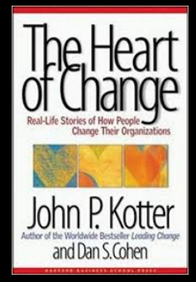
The Art of Business Value
Mark Schwartz



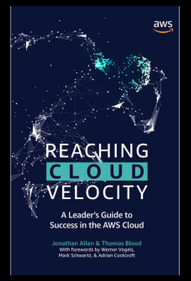
War and Peace and IT
Mark Schwartz



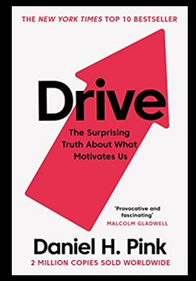
The Technology Fallacy
Gerald Kane et al.



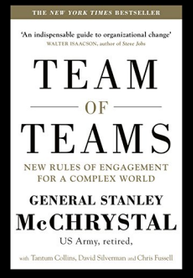
The Heart of Change; Accelerate
John Kotter



Reaching Cloud Velocity: A Leader's Guide to Success in the AWS Cloud
Jonathan Allen and Thomas Blood



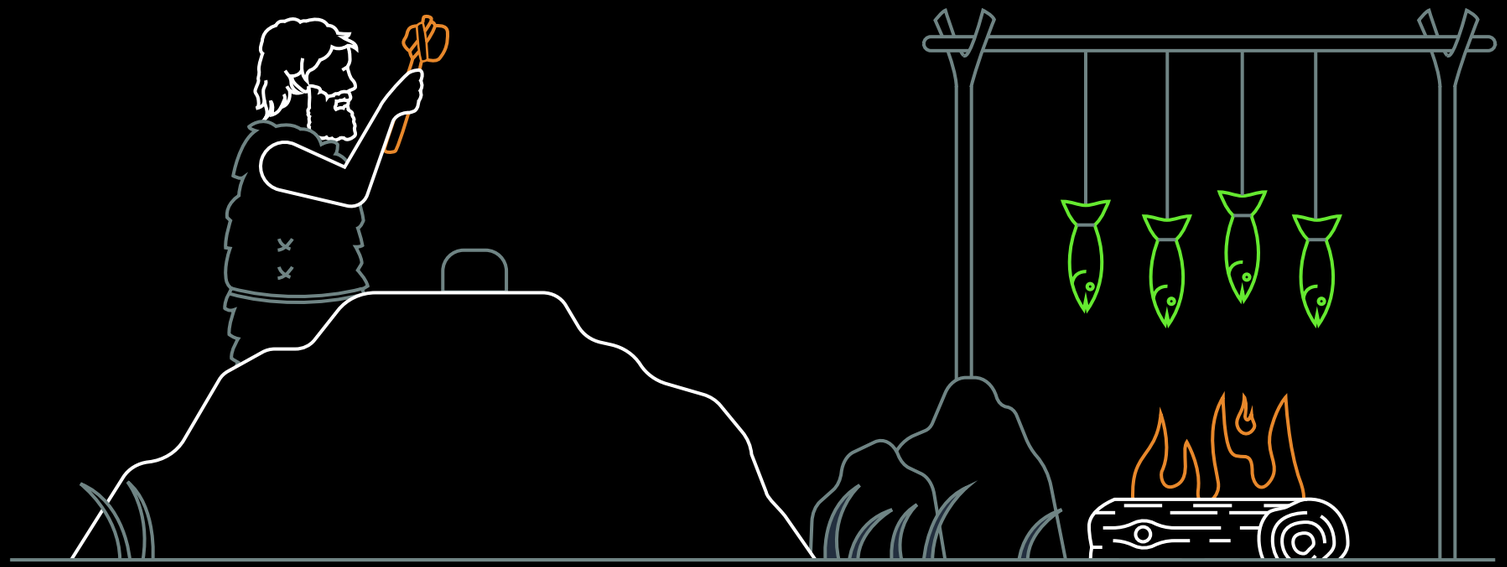
Drive
Daniel Pink

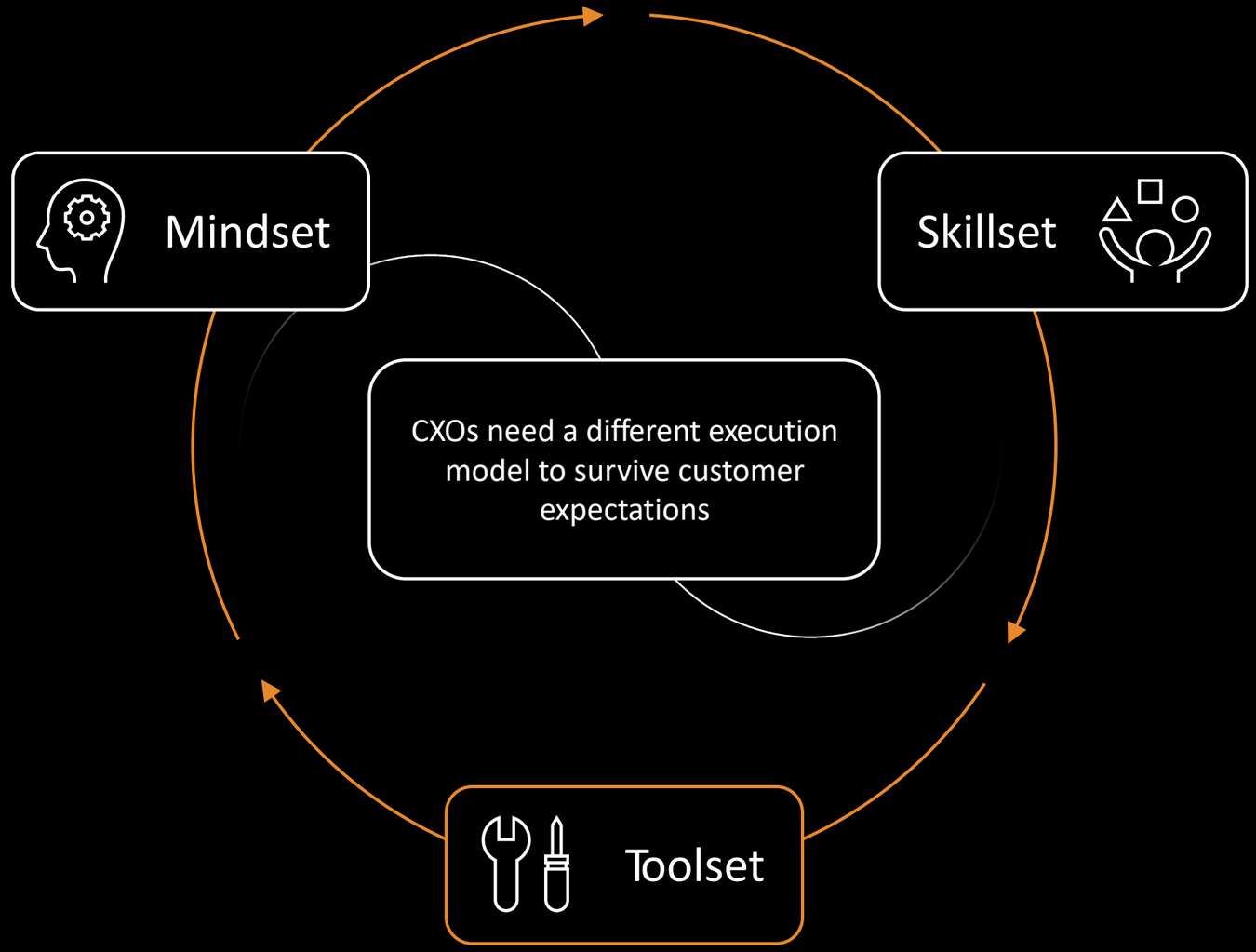


Team of Teams
Stanley McChrystal

- Journals
- Online training
- Technology safaris
- Professional memberships
- Major conferences
- Universities
- Feedback and reverse mentoring

Raising the IT IQ: Digital literacy

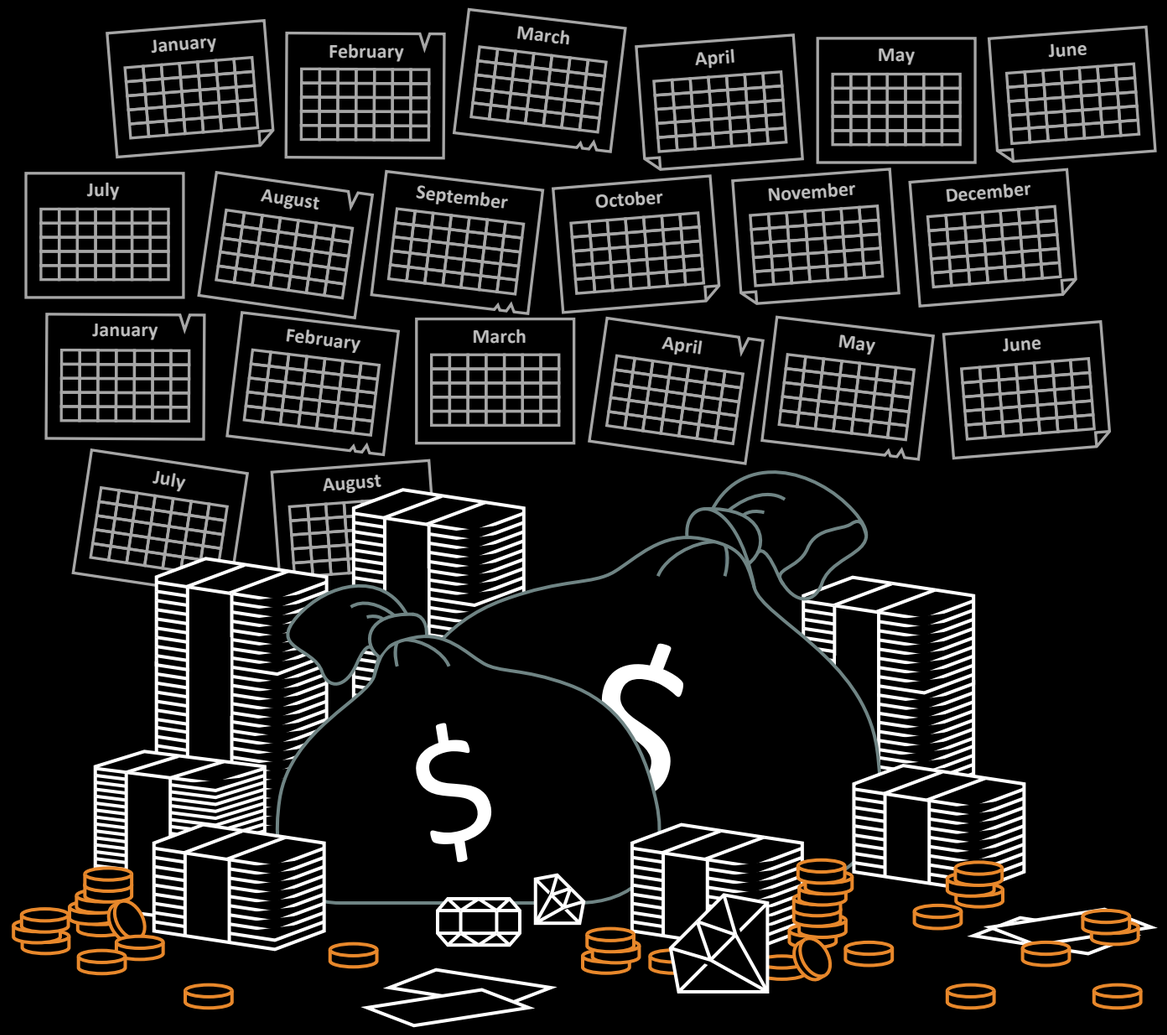



Mindset
Skillset
CXOs need a different execution model to survive customer expectations
Toolset

Step 1

RFP, negotiate, and sign a data center agreement in each geography you plan to test in

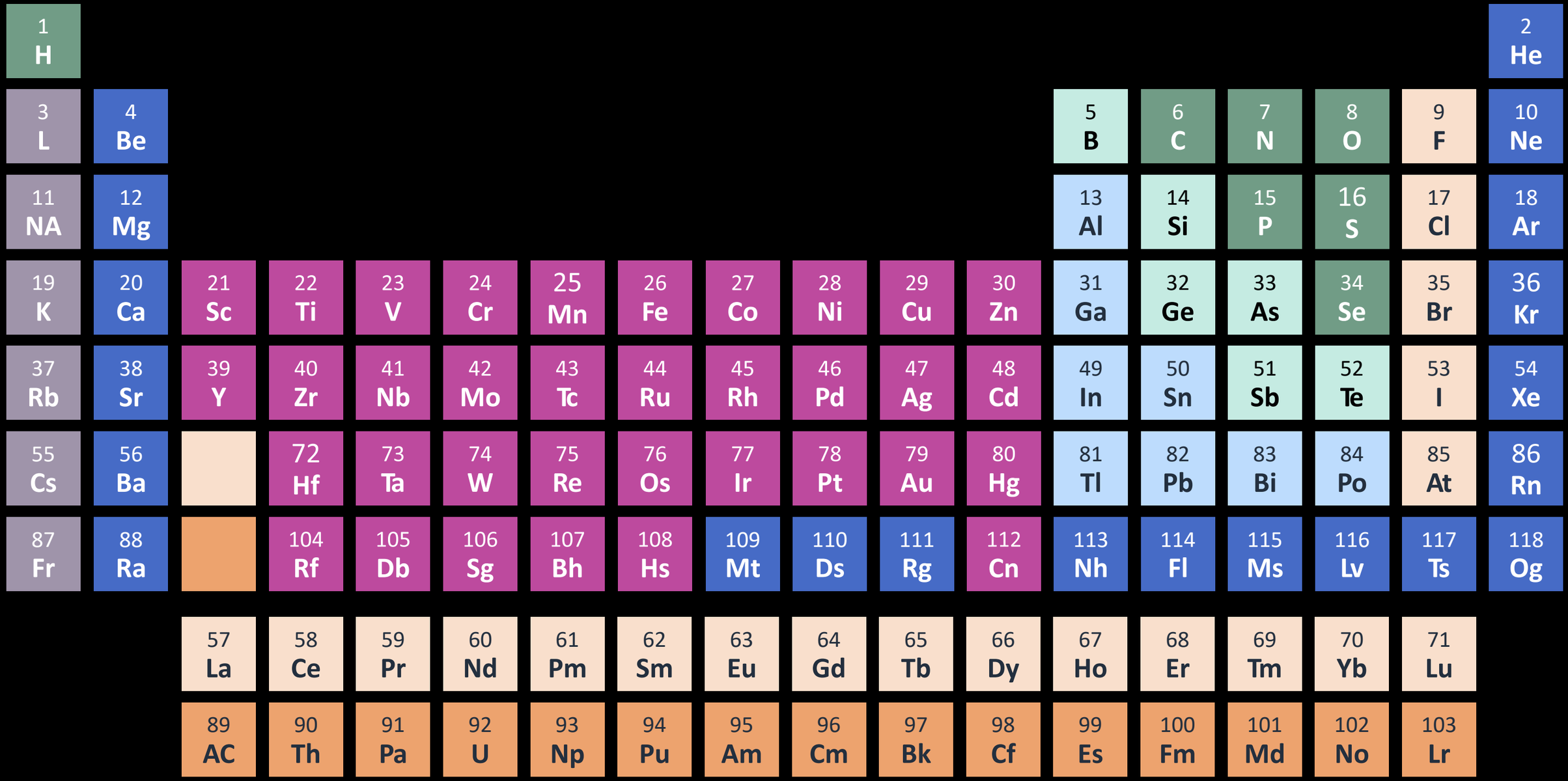
RFP, negotiate, and sign a managed services provider agreement



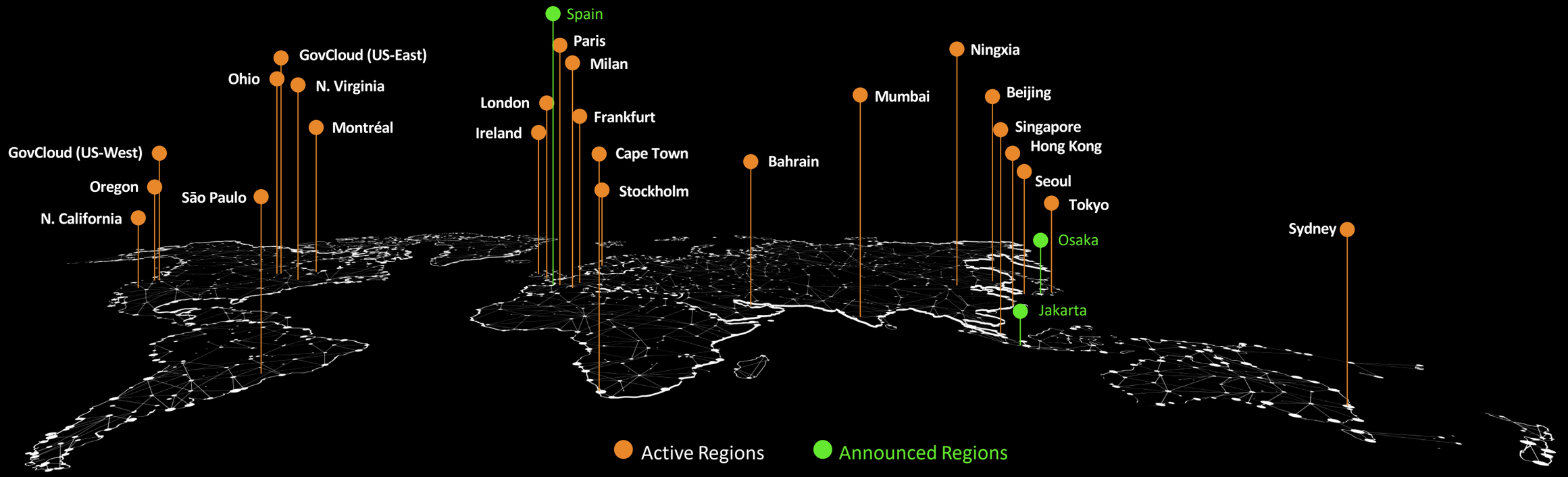
Why ???!

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | **Toolset**


1 H
2 He
3 L
4 Be
5 B
6 C
7 N
8 O
9 F
10 Ne
11 NA
12 Mg
13 Al
14 Si
15 P
16 S
17 Cl
18 Ar
19 K
20 Ca
21 Sc
22 Ti
23 V
24 Cr
25 Mn
26 Fe
27 Co
28 Ni
29 Cu
30 Zn
31 Ga
32 Ge
33 As
34 Se
35 Br
36 Kr
37 Rb
38 Sr
39 Y
40 Zr
41 Nb
42 Mo
43 Tc
44 Ru
45 Rh
46 Pd
47 Ag
48 Cd
49 In
50 Sn
51 Sb
52 Te
53 I
54 Xe
55 Cs
56 Ba
72 Hf
73 Ta
74 W
75 Re
76 Os
77 Ir
78 Pt
79 Au
80 Hg
81 Tl
82 Pb
83 Bi
84 Po
85 At
86 Rn
87 Fr
88 Ra
104 Rf
105 Db
106 Sg
107 Bh
108 Hs
109 Mt
110 Ds
111 Rg
112 Cn
113 Nh
114 Fl
115 Ms
116 Lv
117 Ts
118 Og
57 La
58 Ce
59 Pr
60 Nd
61 Pm
62 Sm
63 Eu
64 Gd
65 Tb
66 Dy
67 Ho
68 Er
69 Tm
70 Yb
71 Lu
89 AC
90 Th
91 Pa
92 U
93 Np
94 Pu
95 Am
96 Cm
97 Bk
98 Cf
99 Es
100 Fm
101 Md
102 No
103 Lr


ANALYTICS
ANALYTICS
DATA EXCHANGE
DATA LAKE
DATA PIPELINES
DATA WAREHOUSE
ELASTICSEARCH
STREAMING
ETL
HADOOP/SPARK
INTERACTIVE SQL QUERIES
VISUALIZATIONS
AR + VR
AR/VR EXPERIENCES
AWS COST MANAGEMENT
ANALYZE AWS COSTS
COST & USAGE BUDGETS
COST & USAGE REPORTS
RESERVED INSTANCES REPORTING
APPLICATION INTEGRATION
EMAIL
MESSAGE BROKER
QUEUEING & NOTIFICATIONS
SEARCH
TRANSCODING
WORKFLOW
BUSINESS APPLICATIONS
EMAIL & CALENDARING
ONLINE MEETINGS
SHARING & COLLABORATION
UNIFIED COMMUNICATIONS
VOICE-ENABLED WORKPLACE
BLOCKCHAIN
BLOCKCHAIN TEMPLATES
LEDGER DATABASE
MANAGED BLOCKCHAIN
CUSTOMER ENGAGEMENT
CONTACT CENTER
EMAIL TARGETING
USER ENGAGEMENT ACROSS CHANNELS
COMPUTE
COMPUTE
AUTO SCALING
BATCH JOBS
EVENT-DRIVEN SERVERLESS COMPUTING
INSTANCE TYPES
MANAGED VIRTUAL PRIVATE SERVERS
MANAGED REPOSITORY FOR SERVERLESS APPS
RUN & MANAGE WEB APPS
SERVERLESS COMPUTE
VIRTUAL SERVERS
CONTAINTERS
CONTAINER SERVICE
MANAGED KUBERNETES
STORE & RETRIEVE DOCKER IMAGES
DATABASE
REALTIONAL DATABASES
HIGH-PERFORMANCE RELATIONAL DATABASE BUILT FOR THE CLOUD
MANAGED MARIADB
MANAGED MYSQL
MANAGED ORACLE
MANAGED POSTGRESQL
MANAGED SQL SERVER
PURPOSE-BUILT DATABASES
DOCUMENT DATABASE
GRAPH DATABASE
IN-MEMORY CACHING
KEY-VALUE STORE DATABASE
LEDGER DATABASE
TIME SERIES DATABASE
DEVELOPER TOOLS
ANALYZE & DEBUG
APPLICATION LIFECYCLE MANAGEMENT
AUTHORING
BUILD & TEST
CONTAINERS
DEVOPS RESOURCE MANAGEMENT
ONE-CLICK APP DEVELOPMENT
PATCHING
PIPELINE ORCHESTRATION
RESOURCE TEMPLATES
TRIGGERS
END USER COMPUTING
APP STREAMING
DESKTOP COMPUTING
MOBILE ACCESS
STORAGE & COLLABORATION
HYBRID ARCHITECTURE
AWS SERVICES ON PREMISES
DATA INTEGRATION
INTEGRATED DEVICES & EDGE SYSTEMS
INTEGRATED IDENTITY & ACCESS
INTEGRATED NETWORKING
INTEGRATED RESOURCE & DEPLOYMENT MANAGEMENT
VMWARE CLOUD ON AWS
GAME TECH
CROSS-PLATFORM 3D GAME ENGINE
GAME SERVER HOSTING
INFRASTRUCTURE
AVAILABILITY ZONES
CUSTOM HARDWARE
DATA CENTER INFRASTRUCTURE
GLOBAL NETWORK BACKBONE
POINTS OF PRESENCE
POWER INFRASTRUCTURE
REGIONS
INTERNET OF THINGS (IOT)
RULES ENGINE
DEVICE ANALYTICS
DEVICE GATEWAY
DEVICE SDK
DEVICE SHADOWS
EVENT DETECTION & RESPONSE
LOCAL COMPUTE
LOCAL DATA COLLECTION
MANAGEMENT & SECURITY
MICROCONTROLLER OPERATING SYSTEM
REGISTRY
VISUAL APPLICATIONS DEVELOPMENT
MACHINE LEARNING
ML FRAMEWORKS
DEEP LEARNING AMIs & CONTAINERS
HARDWARE ACCELERATION
ML AT THE EDGE
TENSORFLOW, PYTORCH, MXNET
AI SERVICES
CHATBOTS
ENTITY EXTRACTION
FACE ANALYTICS
FACE SEARCH
FORECASTING
IMAGE LABELING
NATURAL LANGUAGE PROCESSING
PERSONALIZATION & RECOMMENDATION
SENTIMENT ANALYSIS
SPEECH TRANSCRIPTION
TEXT & DATA EXTRACTION
TEXT TO SPEECH
TRANSLATION
VIDEO & IMAGE ANALYSIS
CONTENT MODERATION
SAGEMAKER
AUTOMATIC MODEL TUNING
DATA LABELING
HOSTED NOTEBOOKS
ML MARKETPLACE
MODEL HOSTING
MODEL OPTIMIZATION
MODEL TRAINING
PRE-BUILT ALGORITHMS
TOPIC MODELING
DEEP LEARNING MODELS
REINFORCEMENT LEARNING
SPOT INSTANCES
BATCH PREDICTIONS
REAL-TIME PREDICTIONS
MANAGEMENT & GOVERNANCE
ACTIVITY & API USAGE TRACKING
CHATBOT
CONFIGURATION TRACKING
GOVERNANCE
INVENTORY TRACKING
LICENSE MANAGER
MANAGE POLICIES
MANAGE RESOURCES
MONITORING
PROVISIONING
RESOURCE TEMPLATES
SECURITY RECOMMENDATIONS
SERVER MANAGEMENT
SERVICE CATALOG
SYSTEMS MANAGER
MARKETPLACE
ANALYTICS
DATA PRODUCTS
DATABASES
DEVOPS
IOT
MACHINE LEARNING
NETWORKING
OPERATING SYSTEMS
SECURITY
STORAGE
MEDIA SERVICES
LIVE VIDEO TRANSPORT
MEDIA STORAGE
TRANSCODING
VIDEO ORIGINATION & PACKAGING
VIDEO PERSONALIZATION & MONETIZATION
VIDEO PROCESSING & DELIVERY
VIDEO STREAMING ANALYSIS
MIGRATION & TRANSFER
APPLICATION MIGRATION
DATABASE MIGRATION
EXABYTE-SCALE MIGRATION
ONLINE DATA TRANSFER
SCHEMA CONVERSION
SERVER MIGRATION
TRANSFER FOR SFTP
MOBILE
API GATEWAY
DEVELOPMENT FRAMEWORK
IDENTITY
MOBILE ANALYTICS
MOBILE APP TESTING
SINGLE INTEGRATED CONSOLE
SYNC
TARGETED PUSH NOTIFICATIONS
NETWORKING & CONTENT DELIVERY
APPLICATION DELIVERY
DEDICATED NETWORK CONNECTION
DOMAIN NAME SYSTEM
LOAD BALANCING
MONITOR APIS
MONITOR MICROSERVICES
NETWORK TOPOLOGY
NETWORKING HUB
PRIVATE CONNECTION TO APPS
SCALE VPC & ACCOUNT CONNECTIONS
SERVICE DISCOVERY
VIRTUAL PRIVATE CLOUD
ROBOTICS
CLOUD ROBOTICS
SATELLITE
SATELLITE OPERATIONS
SECURITY, IDENTITY, & COMPLIANCE
ACCESS CONTROL
ASSESSMENT & REPORTING
CONFIGURATION COMPLIANCE
DATA PROTECTION
DDOS PROTECTION
IDENTITY MANAGEMENT
KEY MANAGEMENT & STORAGE
MONITORING & LOGGING
RESOURCE MANAGEMENT
THREAT DETECTION
WEB APPLICATION FIREWALL
STORAGE
ARCHIVE STORAGE
BACKUP & RESTORE
BLOCK STORAGE
DATA TRANSFER
EDGE PROCESSING & COMPUTING
FILE STORAGE
HIGH-PERFORMANCE FILE SYSTEM
HYBRID CLOUD STORAGE
OBJECT STORAGE
WINDOWS FILE SYSTEM
CUSTOMER ENABLEMENT
ACCOUNT MANAGEMENT
DASHBOARD PERSONALIZATION
ENTERPRISE SUPPORT
EXPERTS MARKETPLACE
OPTIMIZATION GUIDANCE
PARTNER ECOSYSTEMS
PROFESSIONAL SERVICES
SECURITY & BILLING REPORTS
SOLUTIONS MANAGEMENT
TRAINING & CERTIFICATION

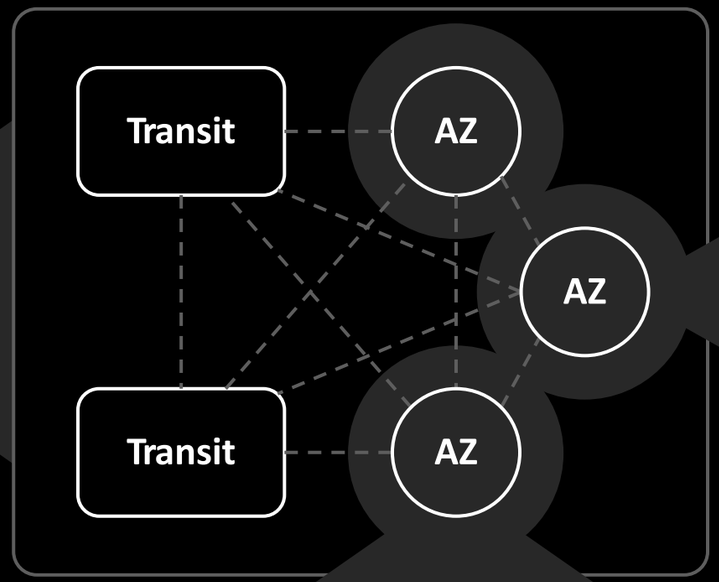


CXOs need a different execution model to survive customer expectations

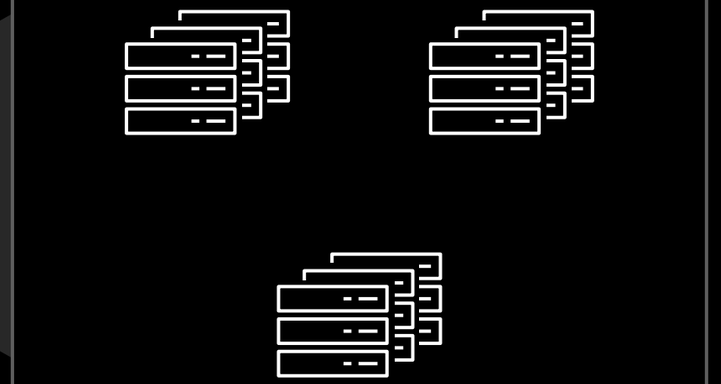
Mindset | Skillset | Toolset



AWS Region



AWS Availability Zone (AZ) can have many data centers





CXOs need a different execution model to survive customer expectations

Mindset | Skillset | **Toolset**

“If I had seen further it was by standing on the shoulders of giants”

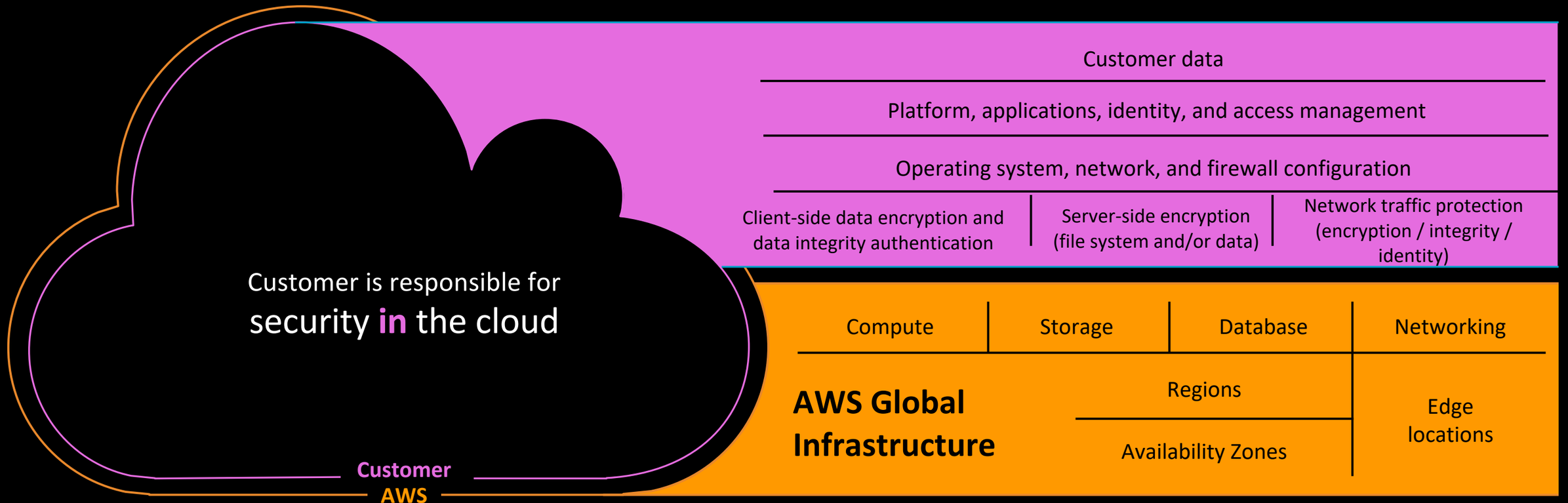


Sir Isaac Newton

Mathematician, physicist, and all-around genius

Image source: https://commons.wikimedia.org/wiki/File:Sir_Isaac_Newton_(1643-1727).jpg; http://www.phys.uu.nl/~vgent/astrology/images/newton1689.jpg

Shared responsibility model for security



AWS is responsible for security **of** the cloud

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | **Toolset**

Agile companies have

10x

workloads in the cloud

2x

ability to keep pace with business demand

Source: McKinsey (2016), "Leaders and Laggards in Enterprise Cloud Infrastructure Adoption."

CXOs need a different execution model to survive customer expectations

Mindset | Skillset | **Toolset**

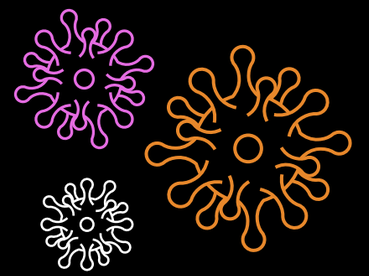
Who is leading your transformation?



CEO?



CIO?



An external event?

Thank you!

Phil Le-Brun

linkedin.com/in/phillebrun/

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AWS re:Invent

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