















476.6 MILES













# Digital Transformation of an Enterprise

## 2 Speed IT & agile Scrum

*Amit Kumar*  
*Amit Anand*



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# Who are we?

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Amit Kumar

@toamit

Amit Kumar is a Digital Expert at McKinsey & Co, India. He has been focusing on developing scalable software solutions for more than a 15 years. He is passionate about engineering team building, Agile process methodologies and user-centric, feature-based web software design. He is in constant pursuit of simple innovative solutions to complex problems. He is an active member of the open source community and speaks at conferences and user groups. He is co-founder of the largest JS Community platform in Asia: JSChannel.



Amit Anand

@iamitanand

Amit Anand is a Digital Engagement Manager at McKinsey & Co, Australia. He is part of the core founding digital team in Australia and is focussed on delivery of digital transformation programs for clients. He is a Certified Usability Analyst and Certified Scrum Master and blends his 15 years experience across Consulting, ITES and product industries across engagements. He is co-founder of the largest JS Community platform in Asia: JSChannel.





*Why go digital?*



# *The blurring line of products and services..*





*The rise of “holistic” customer journeys..*





# *Radical disruption via design thinking..*

## **Analytic Thinking**

- Deep quantitative analysis
- Thinking and planning
- Projecting the future from past data
- Avoid failure
- Arms-length research
- Rigorous strategy
- Based in your office
- Rigid phases
- Day 1 answer
- End with recommendations



## **Design Thinking**

- Rapid test and learn
- Doing and learning
- Creating the future based on insights
- Fail fast
- Immersion with consumers; co-creation
- Rapid framing
- Working in the field
- Iterative approach
- Day 1 inspiration
- End with embraced concepts



*It's all about YOU.*





*Engagement and trust..*







—CIO of a large  
telecom company

*“Flexibility and capabilities are  
very important, as opposed to  
accurate predictions. As a large  
enterprise,  
if you don’t do  
anything,  
you will be dead. It’s a matter of  
time. And once you’re past that  
point of capacity to invest, you  
will not catch up, it simply won’t  
happen”*



# *Unprecedented demand on IT*

- ...more sophisticated technology
- ...increases the bar on IT performance
- ...requires closer business engagement



HELLO IT  
DID YOU TRY TURNING  
IT OFF AND ON AGAIN?



# Burberry uses technology and multimedia to bring digital to life in its U.K. flagship store and deliver a differentiated shopping experience

*Unprecedented demand on IT*

## 1 More sophisticated technology

- ➔ Store windows and displays are consistent with website design and merchandising
- ➔ RFID tags prompt videos on “magic mirrors” that educate consumers about product features
- ➔ >10% of all orders in London flagship are now placed using iPads





# U.S. pharmacy Walgreens teamed up with Google's Project Tango to enhance its in-store shopping experience using digital

*Unprecedented demand on IT*

## 2 Increases the bar on IT performance

- ➔ Time to market
- ➔ Quality and Reliability
- ➔ Security
- ➔ Efficiency





Pizza Hut is piloting a new, interactive digital tabletops that enable customers to design and order their pizza on their table top

*Unprecedented demand on IT*

### 3 Requires close business engagement

- ➔ Greater role in strategic decision making
- ➔ More IT-led innovation and regard IT as a leadership function, not a support function
- ➔ Recruit better talent





# *Challenges faced in this journey*



01 / Resistance to change..



# *Challenges faced in this journey*



02/ Existing architecture platforms do not allow for fast adoption to customer requirements while maintaining consistency of **transactional systems**



# *Challenges faced in this journey*



03/ High-level of **dependencies** and linkages between different systems slow down development



# *Challenges faced in this journey*



04/ Dedicated teams for each system might cause **misalignment** on interfaces and rework



A photograph of a railway track stretching into the distance towards a bright sunset. The sun is low on the horizon, creating a strong lens flare and illuminating the sky with orange and yellow hues. The sky is filled with scattered clouds. The ground is covered in dry, yellowish-brown grass and gravel. On the right side, there is a wooden railway signal post and a small white utility box. The overall mood is serene and contemplative.

A single mode of IT isn't enough..





## ..2 Speed IT Approach



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# 2 speed IT Architecture

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*Fastest way to deliver IT for digital*

a fast-speed, customer-centric front end running alongside  
a slow-speed, transaction-focused legacy back end



focus initially on transforming IT for just one or two high  
value business areas



## `We must have both, initial implementation` on 2 speed - Gartner

- ➔ We need to be able to operate at the speed of business moments
  - Need to be able to sense and react in near real time to market, customer, competitor
  - Conventional IT is too slow for real time response
- ➔ Yet, traditional is excellence
  - necessary for more steady, predictable work



# Six components needed to deliver 2-speed IT for Digital Enterprise

1

**Business Product Owners**  
with clear priorities and  
value drivers

2

**Elite developer talent**  
based on robust skills  
assessment

3

**Innovation ready  
architecture** - simplified  
architecture that scale in a  
more iterative fashion

4

**Agile development** - bring  
business and IT team  
together; fortnightly  
releases

5

**DevOps and cloud  
infrastructure** for one-click  
testing and deployment

6

**Rapidly scalable  
developer sourcing** -  
establish near-shore  
contract for Agile dev  
capacity



The fastest way to realize 2-speed IT is to focus on rolling out the 6 elements in a few value business domains

# Elements

## Conventional IT

Apply a few elements across all domains

## 2 speed IT

Apply all elements in a few high value business domains

Web   Mobile   Domain X   Domain Y   Domain Z

Web Mobile Domain X Domain Y Domain Z

## 1 Business Product Owners

## High Speed IT functions

## Lower speed IT functions

## Later

## 2 Elite developer talent

# Now

### 3 Innovation ready architecture

# Now

## 4 Agile development

## Later

## 5 DevOps & cloud infrastructure

# Later

## 6 Rapidly scalable developer sourcing



There are two design decisions and three key success factors when following the two-speed approach

# There are two design decisions and three key success factors when following the two-speed approach

## Design decisions

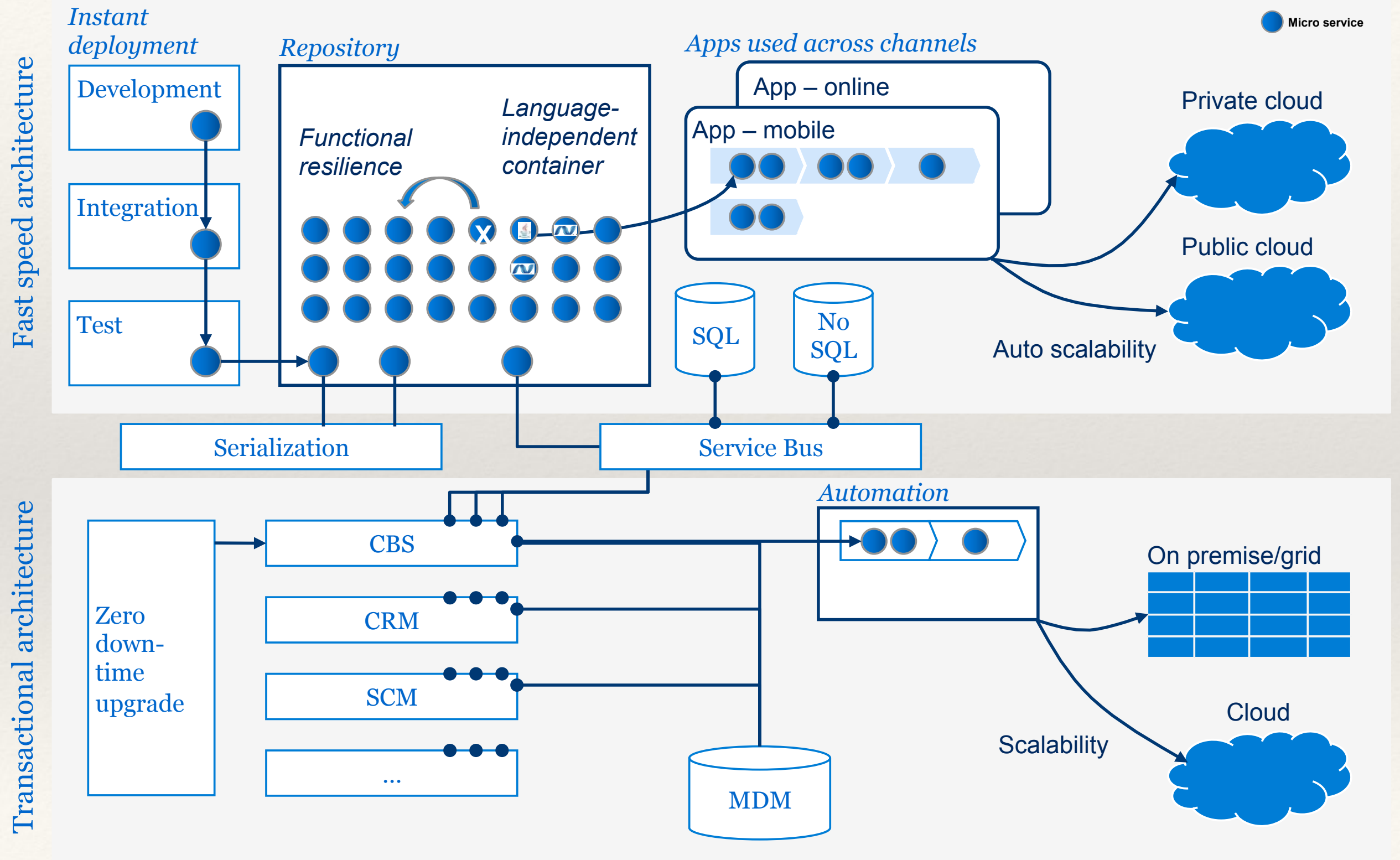
- 1 | How to create the high speed organisation: transform what you have, build new, or acquire?
- 2 | How to lead the high speed function: have a single accountable CIO or distributed leadership?

## Success factors

- 1 | Design the organisational interfaces between high speed and service IT to avoid fractures
- 2 | Balanced IT transformation roadmap across both sides two-speed
- 3 | Challenge the business to own the critical decisions



# A reference architecture for 2 Speed Architecture







# *Digital Transformation of an Enterprise*



In an accelerated ~6 months, client was able to reduce TTM by 75%

# Digital Transformation

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Leading travel incumbent was facing disruption from digital competitors after missing multiple online growth opportunities



# 2 speed IT, Agile & DevOps drove significant impact in digital transformation

## 1 Architecture

2 speed IT with single consolidated front-end to support innovation

## 2 Business Interface

Central digital function using the agile prioritization with single backlog, defined processes / roles

## 3 Application development

Weekly releases with true Agile 1 week sprints. Full transparency into velocity, story points and quality metrics

## 4 Continuous Delivery

One click fully automated production deployment. Full automation of test suite

## 5 Talent & Sourcing

Focussed talent management with clear value proposition, tech friendly culture and attractive career path



# New cutting edge front-end architecture and platform was critical to support speed of change in the business

## Cutting edge Technology

- New cutting edge technologies - NodeJS, AngularJS, NoSQL to enable mobile/ tablet responsive design
- Unified codebase with single deployment artifact

## Multi-market platform

- Single platform and architecture to support multiple markets with different branding and localization features
- Feature-flag capability to run A/B testing

## Standardized Integration

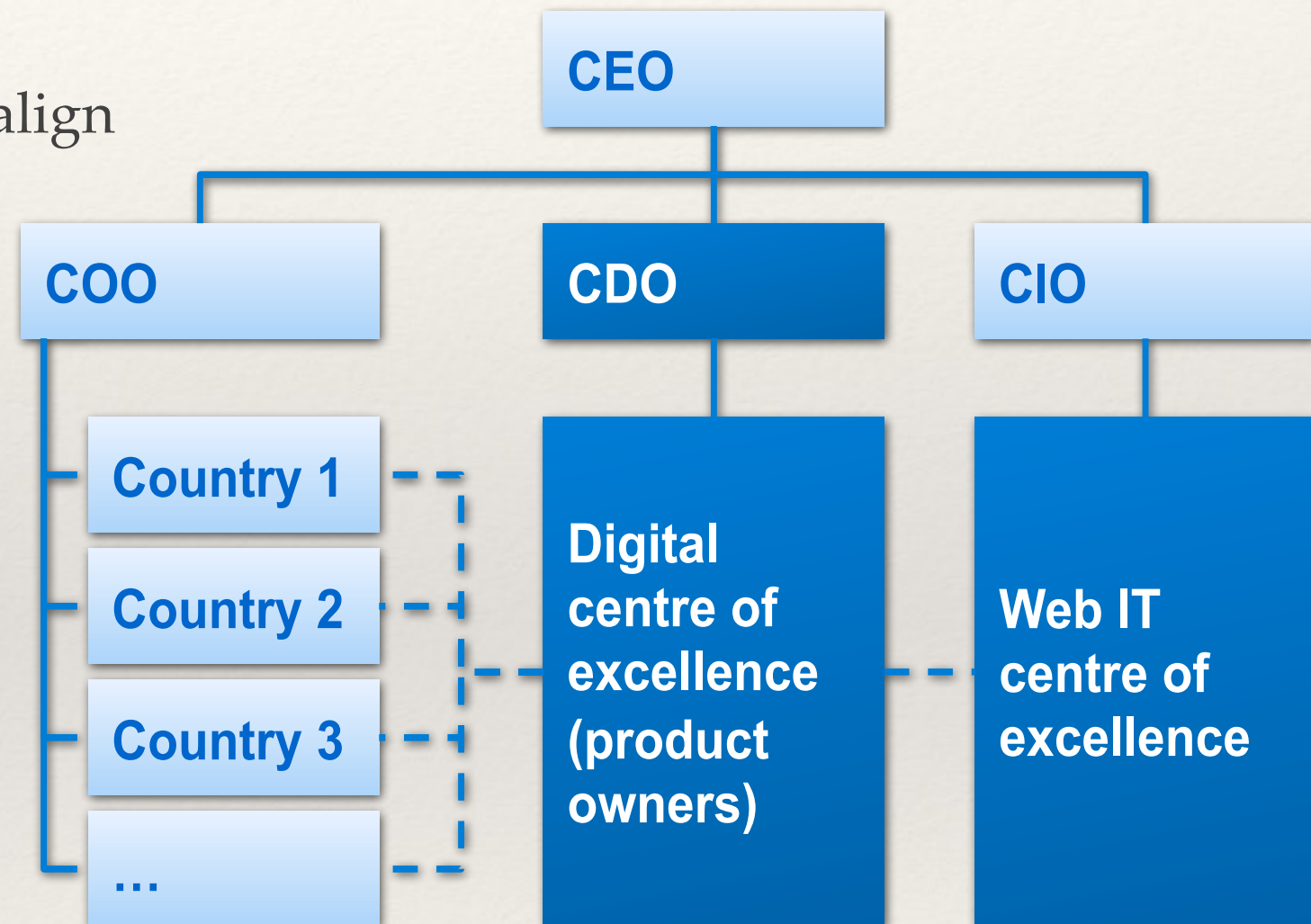
- Micro-services architecture
- RESTful API layer with that normalizes the rapidly changing front-end from complexity of back-end consolidation

**Impact:** Unified web, mobile and CRM to improve TTM by 7X



# Central digital function aligns priorities and inputs to true agile prioritisation process

- **Central digital function** - POs who align regional priorities
- **Single Backlog** with agreed list of priorities and progress
- **POs sit with BAs** - for instant issue identification and resolution



**Impact:** Aligned priorities, no more lost requirements, issues resolved in hours than days or weeks



# Application development with focus on automation and Engineering practices led shift from monthly to weekly releases

## Agile Development

- Integrated cross-functional team mobile/ tablet responsive design
- True agile spirit with weekly sprints and CD

## Engineering Practices

- Fully automated testing that run < 2 mins on each push of code
- One-click fully automated deployment of application in <5 minutes
- Automated code review process with industry standard review workflow

**Impact:** Critical web multi-market platform delivered 3X faster than similar projects with client IT



# Treat Infrastructure as Code and ability to automate all components of Ops helped to cater to multi-market demands

## Infrastructure as Code

- Full automation of environment provisioning
- Auto-scale infrastructure based on load / traffic demand
- Dynamic CI environment based on conventional configuration or by click of button

## Cross functional teams

- Integrated DevOps with Agile team
- One-click fully automated deployment of application in <5 minutes
- Automated code review process with industry standard review workflow

**Impact:** CD enabled to release weekly feature-based release



# Three steps to building talent internally in the organization, required defining career trajectory and pay benchmarking

## ACQUIRE TALENT

- Sourced from developer conferences and communities as well as agencies
- Pair programming exercises

## REVIEW TALENT

- Skills matrix defined for key roles
- Quarterly reviews supported by career trajectory discussions

## RETAIN TALENT

- Defined career trajectory in terms of thought leadership, conference presentations, reputation building
- Pay benchmarking informed by an agile partner organisation that hires top developer talent



# Re-Structure the talent hire process to make it more inclusive and evaluating the best of the lot

## HOT HOUSE

- Inclusive model to contract vendors
- 1 day workshop in which IT and vendors collaborate together to build a small feature using Agile-SCRUM
- **Step 1:** Identify the vendors participating in the inclusive program
- **Step 2:** Identify the business feature that can be built in 1 day workshop
- **Step 3:** Follow true Agile development to build the working software

## PROBLEM STATEMENT & EVALUATION

- Exclusive model
- **Step 1:** Identify the vendors participating in the program
- **Step 2:** Identify the business feature that can be shared with the vendors
- **Step 3:** Identify the parameters to assess the vendor. For e.g.:
  - \* Agile mind-set
  - \* Following engg practices maturity
  - \* Design patterns etc

**Impact:** `A team` that delivers with 5-6x higher productivity



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# Digital Transformation - IMPACT

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- Uplifted conversion rates by up to 50% across online channels (desktop, mobile and tablet)
- Reduced TTM by up to 75% (from once in 3 months to every week)
- Increased team productivity by up to 3X through Agile Development mind-set shift
- Accelerated Production Deployment duration from 250+ mins to ~5 mins



