

DevOps and ITSM

Barclay Rae, CEO, itSMF UK

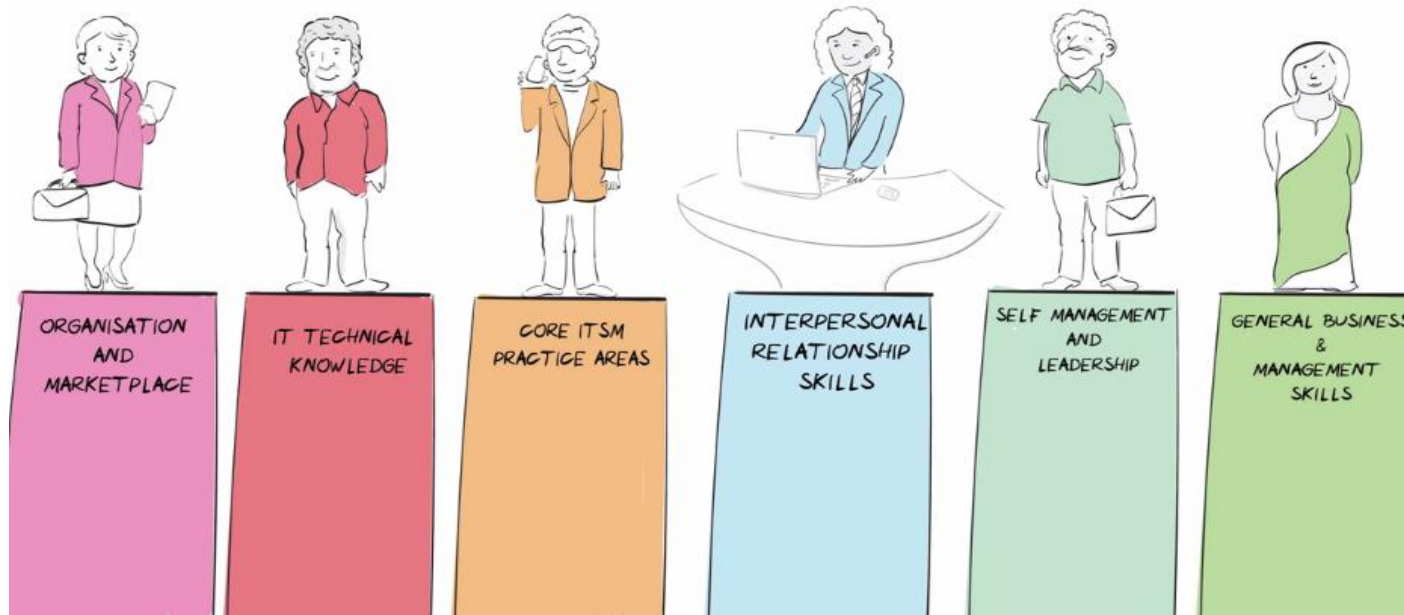


Biography

- CEO of ITSMF UK
- ITIL Lead author Team
- SDI Standards co-author
- Creator of 'ITSM Goodness'
- Voted in top 25 global (ITSM) Thought Leaders survey, HDI 2017, 2018
- Management Consultant in Service Management since 1994
- Worked in IT since 1986
- Background in Media support / Music
- Worked with SDI, HDI, ITSMF, Axelos, APMG, Axios, E2E
- Writer for industry vendors – e.g. BMC, Cherwell, Citrix, Sunrise, SysAid, Hornbill,
- Video and Podcast contributor – ITSMTV, Service Desk Inspector, ITSM Weekly podcast



Promoting Professionalism, Supporting People



Our brands



itSMF UK



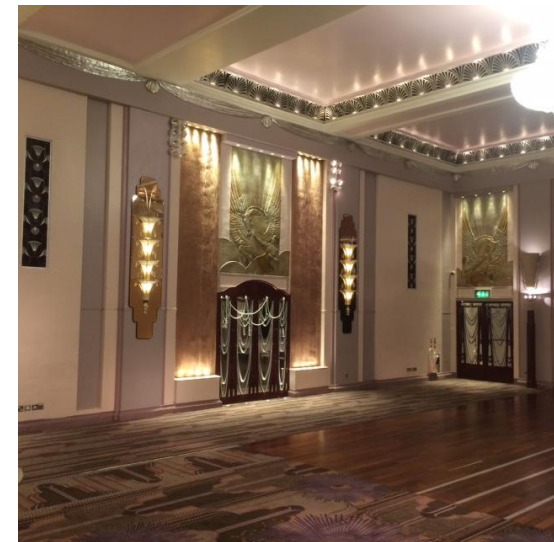
Professional Service Management Awards



Henry Blofeld

5th June, Sheraton Grand Park Lane, London
Categories include:

- Team of the Year and Young Professional
- Service Transformation
- Thought Leadership
- SIAM, DevOps, BRM
- and new ITIL Experience award.



www.itsmf.co.uk/psma18



ITSM18 – a new format for conference

19-20 November
155 Bishopsgate, London



- Member experience focus
- Back to basics stream
- Focused workshops and masterclasses
- New-style exhibition area
- Early Bird 33% discount until 31st March
- Call for speakers now open



Questions

- What is DevOps?
- Why do we need it?
- How does it work?
- How do we make this work with other models?
- How do we make this work in a 'traditional' IT organisation?

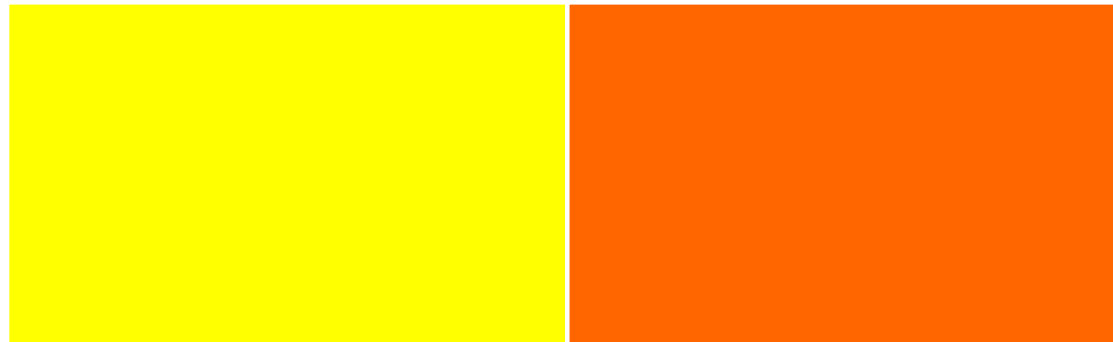


Why DevOps?



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What is the average breakdown of activity between Development and Support in IT Organisations?



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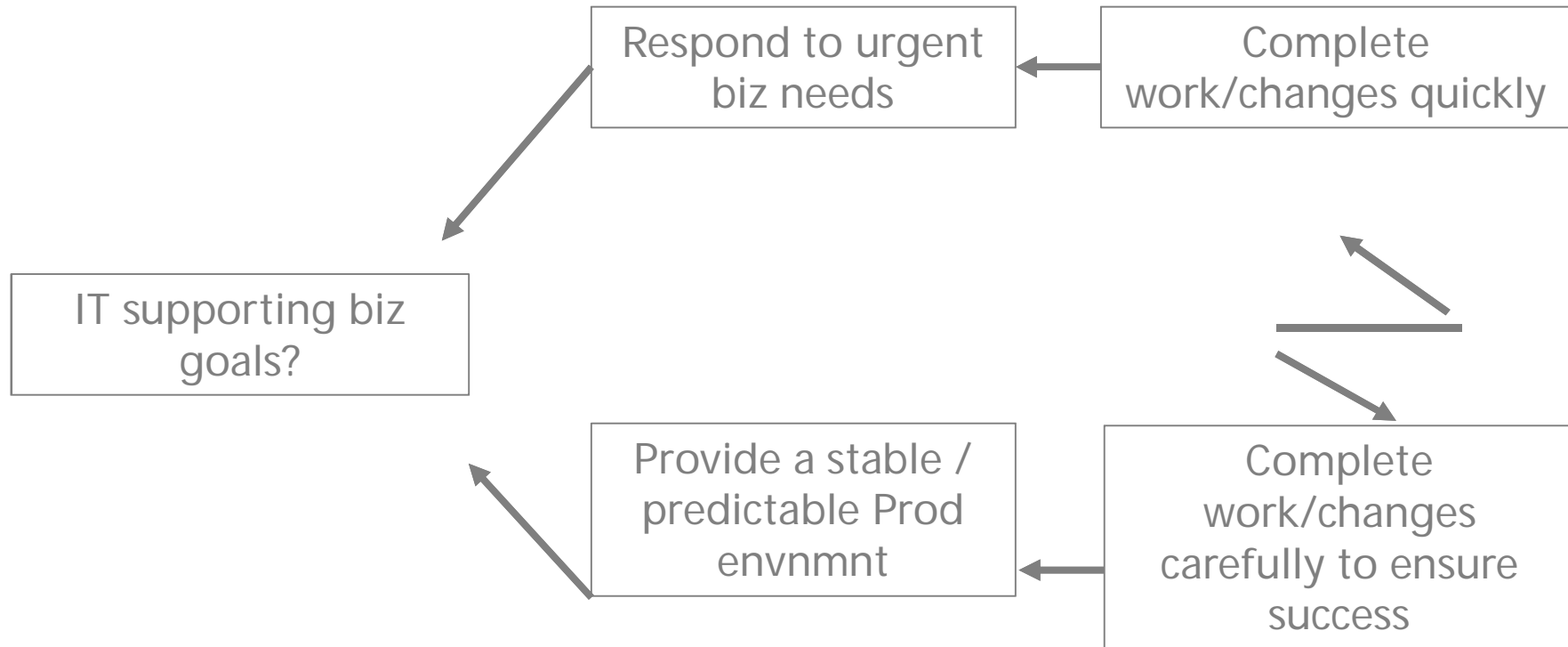
Why DevOps?

- Technical debt
- Silos and waste
- Old ways of working
- Theory of constraints

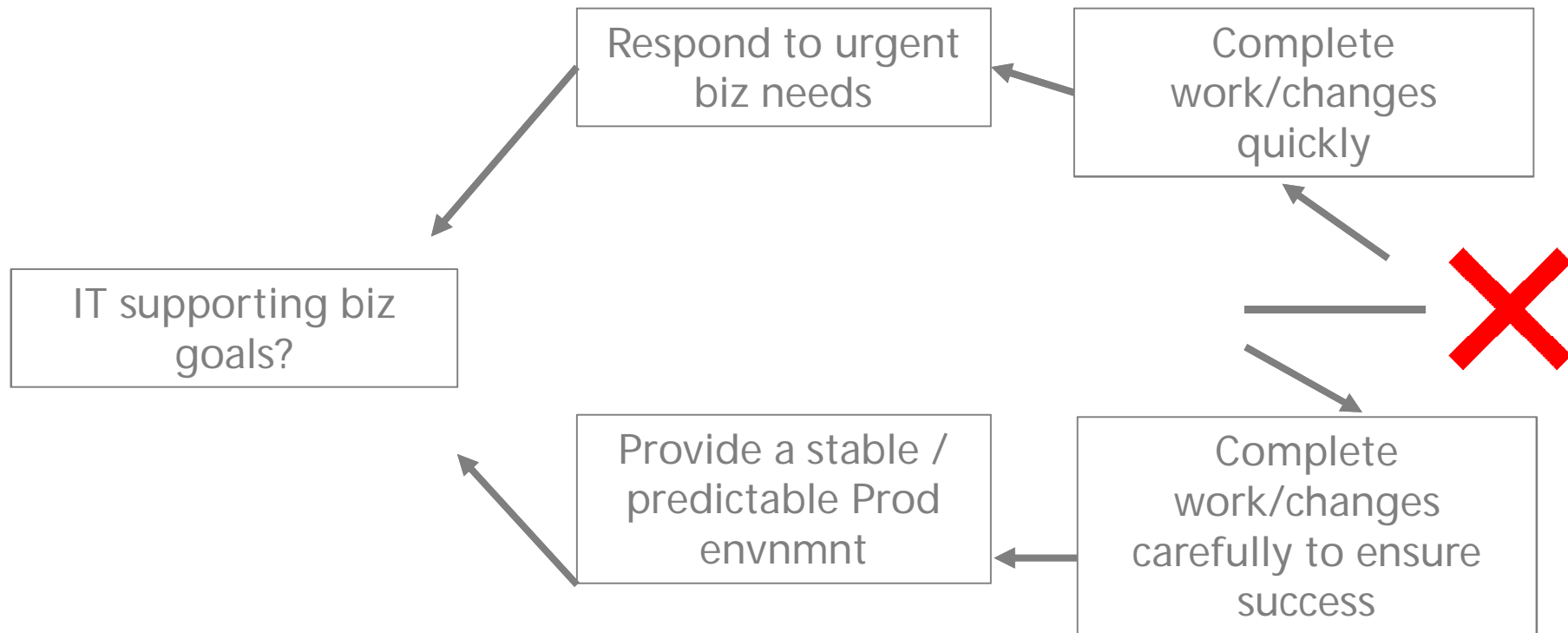
- The world now demands more...speed, agility, success



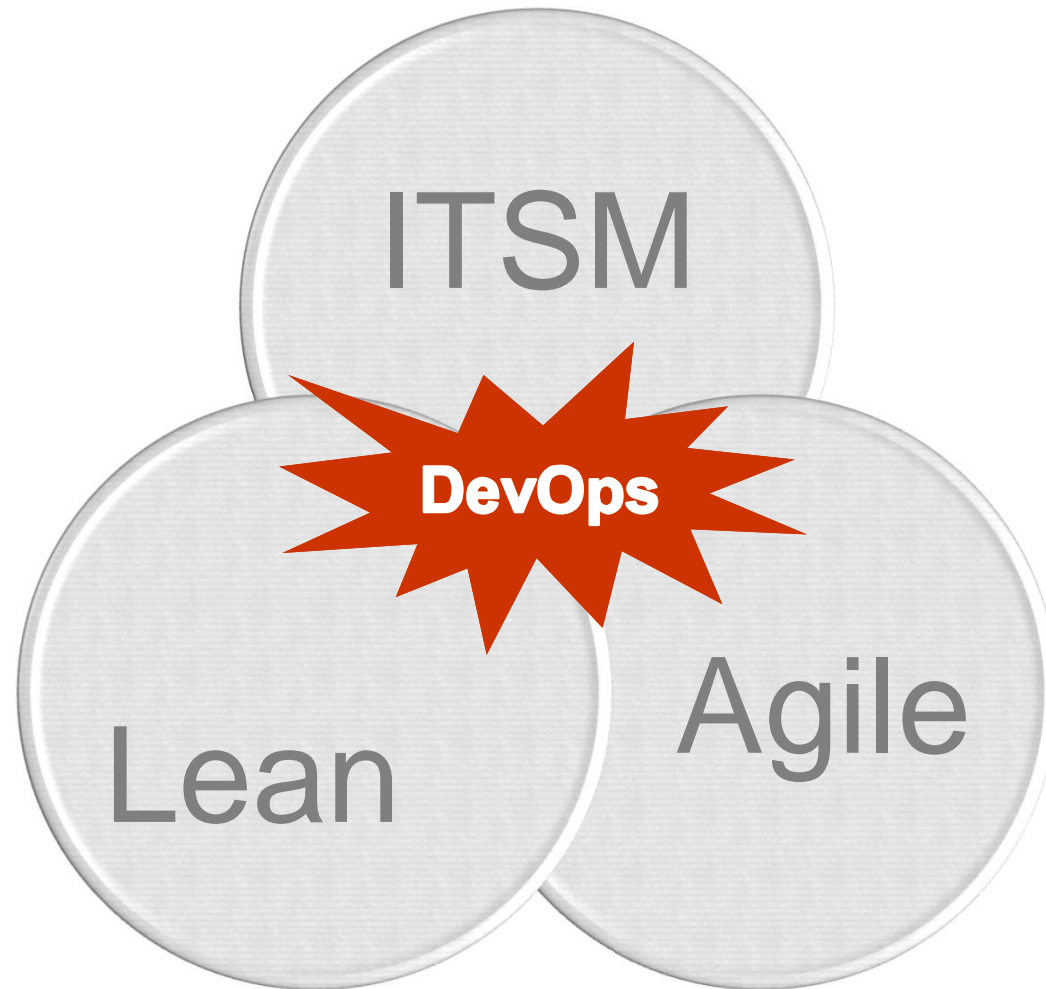
Theory of constraints



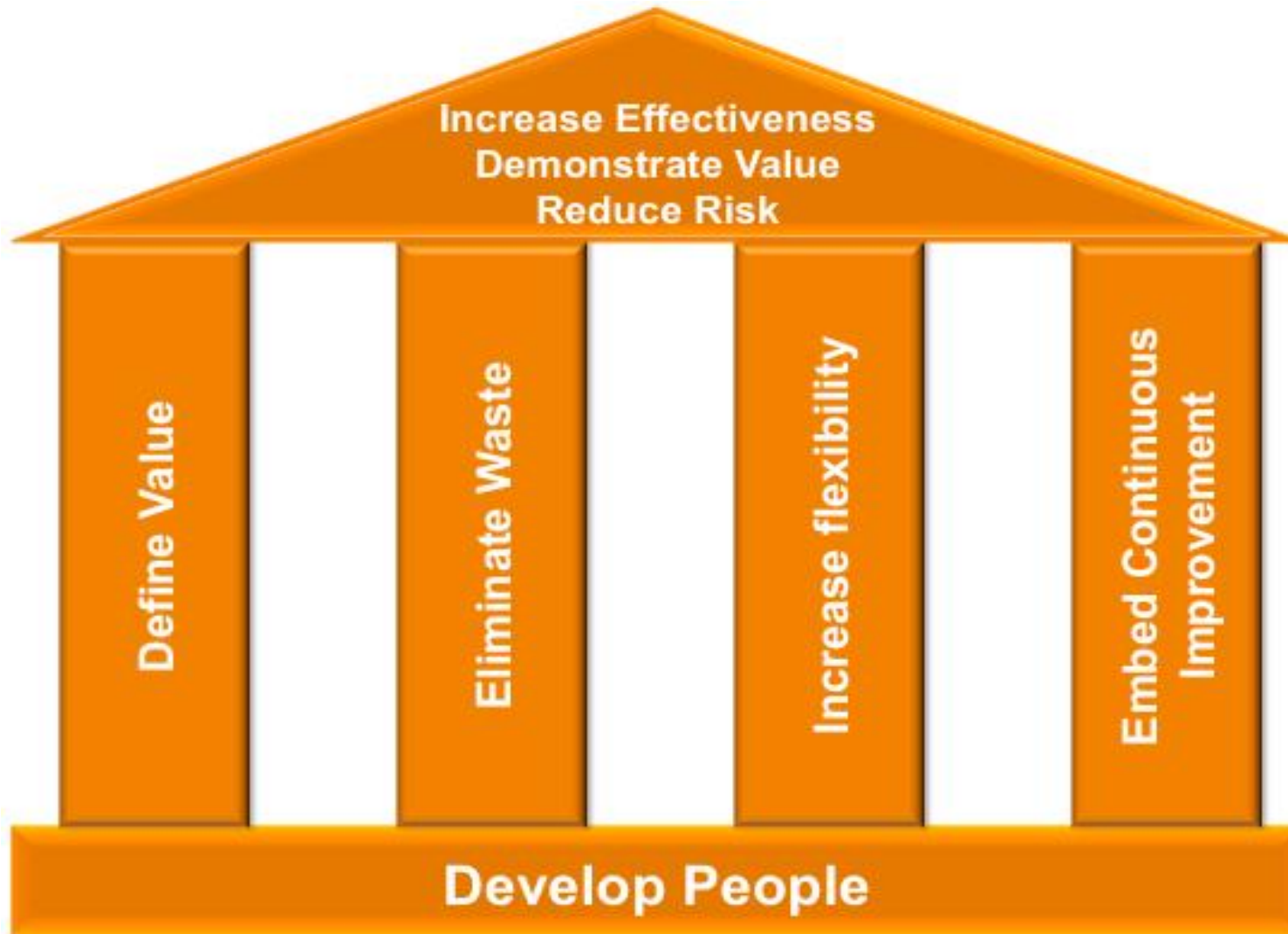
Theory of constraints



Devops Lean and Agile



Lean



The Agile Manifesto

WE VALUE

Individuals
and interactions

Working
software

Customer
collaboration

Responding
to change



Processes
and tools

Comprehensive
documentation

Contract
negotiations

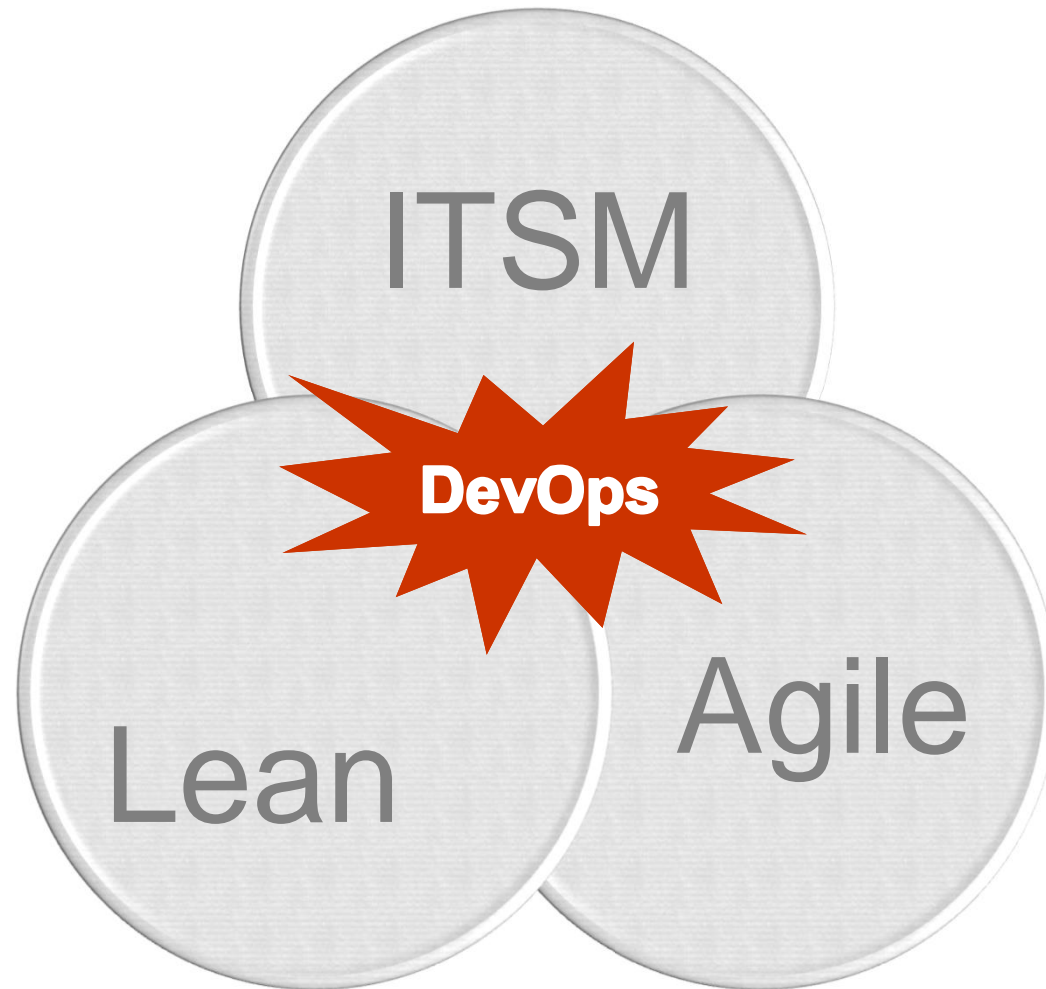
Following a plan

“It is my firm belief that ITSM and the DevOps movement are not at odds. Quite to the contrary, they’re a perfect cultural match.”

Gene Kim



Devops Lean and Agile



What is DevOps?



What is DevOps?

- DevOps is a perspective that requires cultural change, focusing on rapid IT service delivery through the adoption of agile, lean practices in the context of an integrated approach
- DevOps emphasizes people and culture to improve collaboration between development and operations groups, as well as other IT stakeholders, such as architecture and information security.
- DevOps implementations utilize technology, especially automation tools, that can leverage an increasingly programmable and dynamic infrastructure from a life cycle perspective.

...rather than being a market per se, DevOps is a philosophy, a cultural shift that merges operations with development and demands a linked toolchain of technologies to facilitate collaborative change - Gartner

DevOps Capabilities

Culture

- Focus on People
- Embrace Change & experimentation

Automation

- “Continuous Delivery”
- “Infrastructure as Code”

Lean

- Focus on producing value for the end-user
- Small batch sizes

Measurement

- Measure everything
- Show the improvement

Sharing

- Open information sharing
- Collaboration & Communication



DevOps

- A new context that speaks to a new audience
- Based around agile, lean, Dev and ITSM collaboration
- Not restricted to start-ups and tech companies
- Now used in part / adaption in many orgs and projects
- An approach that focusses on teamwork, collaboration and principles
- respect

The DevOps trend goes way beyond implementation and technology management and instead necessitates a deeper focus on how to effect positive organizational change. - Gartner



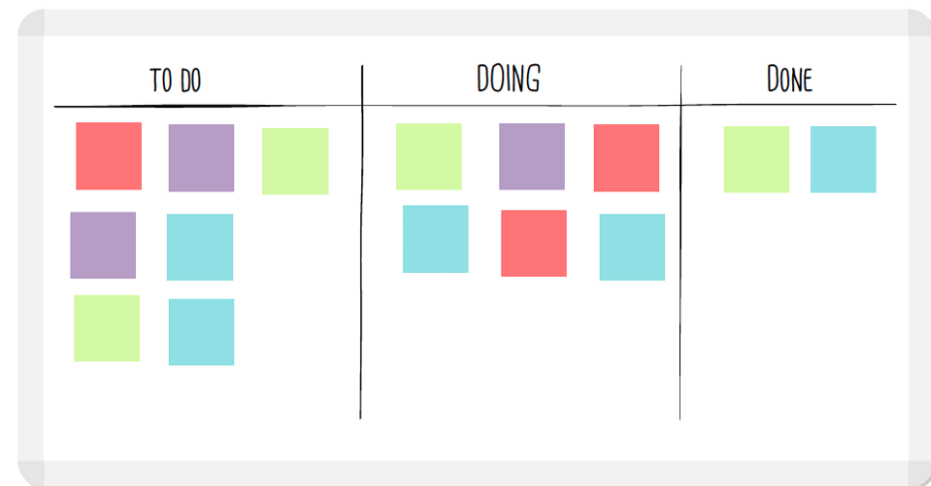
3 Ways of Devops

- Flow
- Feedback
- Experimentation and continuous learning



3 Ways - FLOW

- Make work visible
- Limit work in progress
- Reduce batch sizes
- Continually monitor and elevate constraints
- Eliminate waste
- Improve working conditions





3 Ways - FEEDBACK

- Working within complex systems – safety
- Identify problems as they happen – fast feedback
- Swarm problem resolution – build knowledge
- Quality and decision making – push to source
- Optimise downstream – non functional requirements



3 Ways - EXPERIMENT

- Enable a learning culture – generative

Pathological	Bureaucratic	Generative
Information - hidden	Ignored	Actively sought
Messengers - 'shot'	Tolerated	Trained
Responsibilities - Shirked	Compartmented	Shared
Bridging between teams -discouraged	Allowed but discouraged	Rewarded
Failure – covered up	Managed	Results in action
New ideas - crushed	Cause problems	welcomed



3 Ways - EXPERIMENT

- Enable a learning culture – generative
- Institutionalise daily improvement
- Transform improvements from local to global
- Build resilience activity into daily work – as the norm
- Leadership – support and coaching



Plus...

- Respect, not blame culture
- Automation
- Dev direct support - 'shift right'
- 'Value chain'
- Preparing for failure
- Fast short development
- Communications
- Continuous Development / Integration



DevOps Adoption

- A survey of 252 Gartner Research Circle members in May 2016 revealed that 38% already are using DevOps and an additional 35% have plans in place to implement DevOps within the next year.
- DevOps adoption increased from 66 percent in 2015 to 74 percent in 2016. (Everbridge)
- DevOps adoption is strongest in the enterprise (81 percent of enterprises adopting DevOps compared to 70 percent in SMBs).

DevOps Outcomes

- 75% - Faster Cycle times
- 66% Faster realisation fo business value
- 43% Improved release success rates
- 36% Improved Employee job satisfaction
- 32% Improved incident resolution times



Digital Adoption

- By the End of 2017, Two-Thirds of CEOs of Global 2000 Enterprises Will Have Digital Transformation at the Center of Their Corporate Strategy. - IDC Futurescape 2016
- CIOs expect digital revenues to grow from 16% to 37%. Similarly, public-sector CIOs predict a rise from 42% to 77% in digital processes. - Gartner 2016 CIO Report



High Performers

- 30x more frequent deployments
- 200x faster lead times than their
- 60x better change success rate
- 168x faster to recover (MTTR)
- 2x more likely to exceed profitability, market share & productivity goals



ITSM + DevOps



Practical DevOps

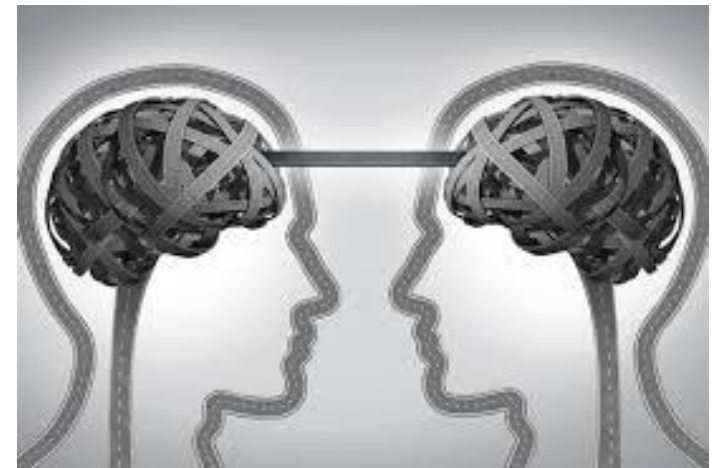
- Collaboration
- Sprints and agile development
- Continuous development
- Continuous Integration
- Minimum viable product
- Positive blame-free culture
- Open CSI approach
- Measurement, Measurement

In response to the rapid change in business today, DevOps can help organizations that are pushing to implement a bimodal strategy to support their digitalization efforts - Laurie Wurster, Gartner



What we do

- We support people not just technology
- Success depends on our ability to interact
 - productively, positively and professionally
- This involves collaboration:
 - Between people
 - Across teams and IT departments
 - Beyond IT departments
 - With partners



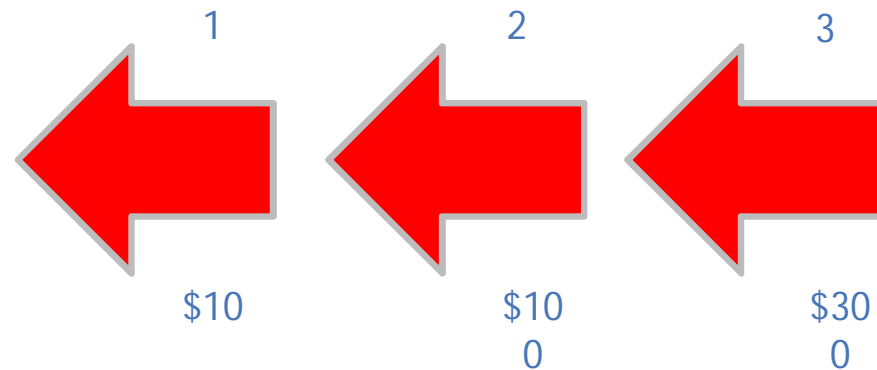
Shift Left

The 'no brainer'

Faster

Cheaper

Easier



Just a better customer experience

ITSM and DevOps?

ITSM?

- Frameworks for operational processes
- Bodies of knowledge
- Training programmes
- Process and technology models
- Associated with large organisations

DevOps?

- Agile based collaboration approach
- A way of working
- Fast development approach
- Getting it right first time
- Blame free – new culture

ITSM and DevOps?

- Need to define services
- Structured around Service Delivery
- Customer experience
- Journey Mapping
- Measurement and metrics
- Collaboration and Communication



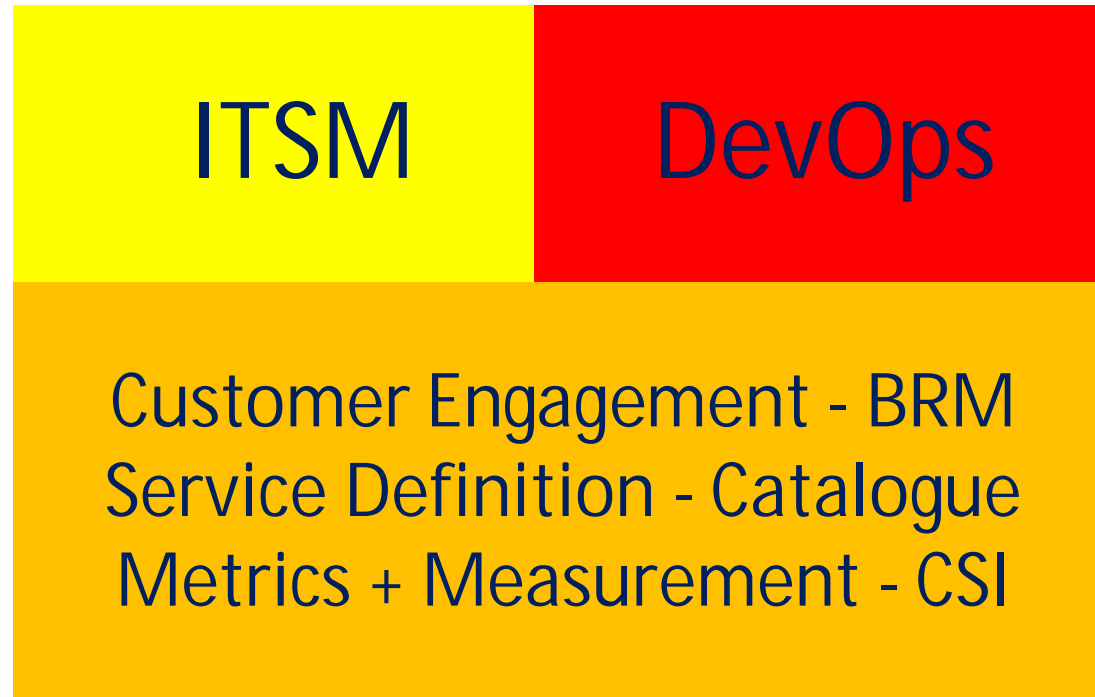
Service Management

Process

Culture

Control

Speed



Digital Transformation?

- Pervasive Mobile Computing
- Cloud & Consumerisation of IT
- AI, Analytics & Robotics
- Social Media & Gen Y
- Agile & DevOps

A 'perfect storm'



Continuous Delivery

- Takes continuous integration to the next level
- Provides fast, automated feedback on a system's production-readiness
- Prioritizes keeping software deployable over working on new features
- Relies on a deployment pipeline that enables push-button deployments on demand
- Reduces the cost, time, and risk of delivering incremental changes

Continuous delivery is a methodology that focuses on making sure software is always in a releasable state throughout its lifecycle

Challenges

- DevOps is relatively new, which means many managers lack experience with the approaches, technologies and operating models
- DevOps does not have a standard definition, making it difficult for I&O leaders to determine the value, cost and risk of the initiative being discussed
- The wide variety of DevOps projects means that there is no standard method of associating a project with a common set of objectives aligned with customer value



ITIL and Devops even Guiding principles



**BE
TRANSPARENT**

**FOCUS ON
VALUE**



**DESIGN FOR
EXPERIENCE**



COLLABORATE



9 GUIDING PRINCIPLES



**START WHERE
YOU ARE**



**KEEP IT
SIMPLE**

**→
PROGRESS
ITERATIVELY**

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**WORK
HOLISTICALLY**



People, Partners,
Process, Performance,
Product value chain

**OBSERVE
DIRECTLY**

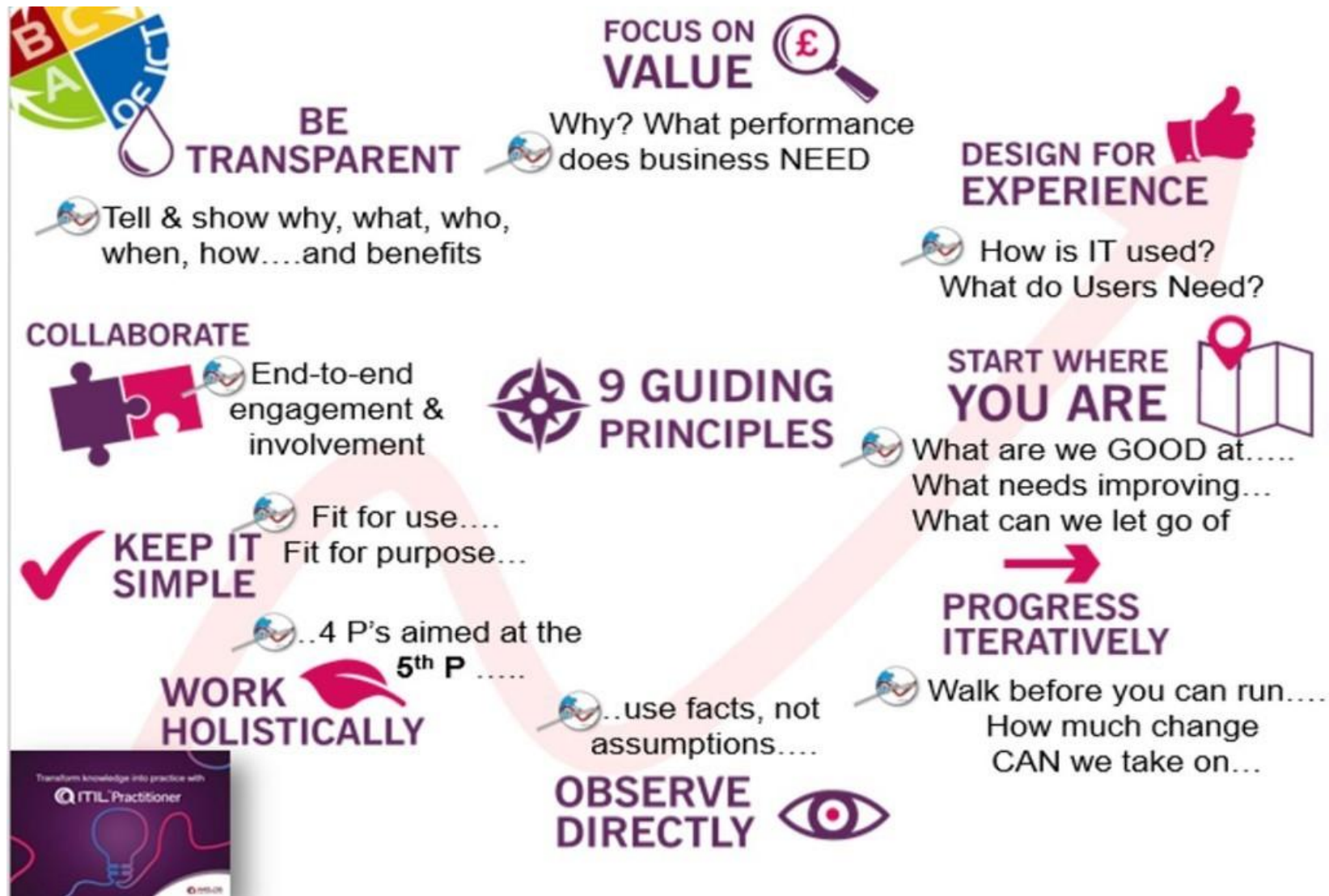


Facts and data,
not assumptions

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ITIL supports DevOps



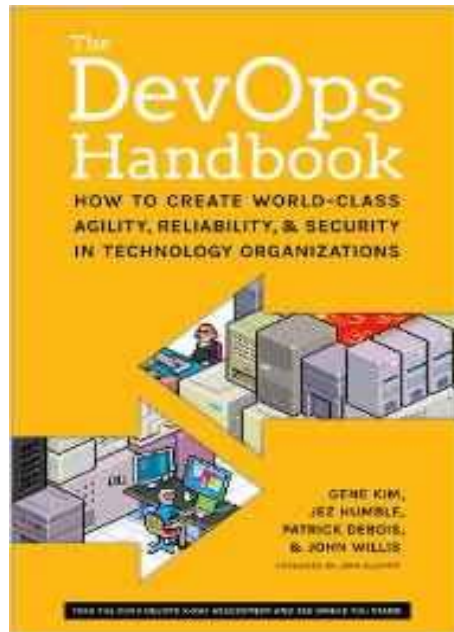
Key points

- Focus on customer and business goals
- Visualisation – flow, Kanban visibility
- Automation – pre built prod environments, testing, continuous integration and delivery
- Dev teams to include Ops – ‘shift right’, small teams
- Open and positive learning culture – safety, growth, get close to the source
- Value stream mapping – work on weak points
- Measurement and metrics



Reading

- The Phoenix Project – of course... plus:



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High Velocity ITSM

AGILE IT SERVICE MANAGEMENT FOR RAPID CHANGE IN
A WORLD OF DEVOPS, LEAN IT AND CLOUD COMPUTING

Type of Waste	Description
Inventory	Excess products and materials that are not being used
Talent	Improper or inefficient use of people skills and knowledge
Waiting	Wasted time waiting for the next step in a process
Motion	Unnecessary movement of people
Defects	Efforts to fix data errors, program bugs or other types of failures
Transportation	Unnecessary movement of data or outputs
Overprocessing	Producing at levels of quality more than required by the customer
Overproduction	Creating more output than what is needed or before it is needed

Randy A. Steinberg

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Additional Resources

Agile Manifesto www.agilemanifesto.org

DevOps Institute www.devopsinstitute.com

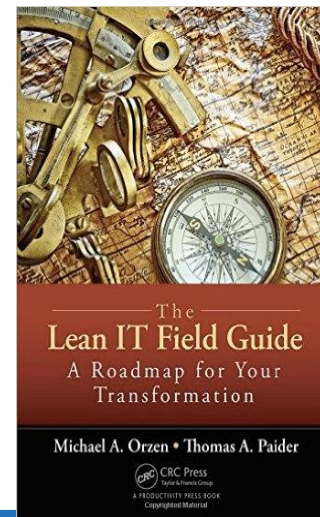
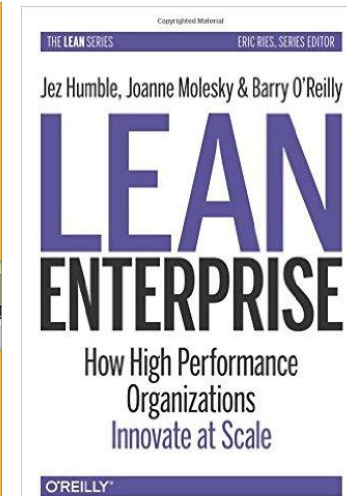
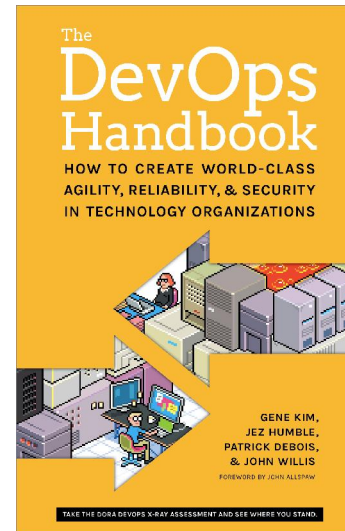
DevOps.com www.devops.com

State of DevOps Puppet Annual report

Scrum Alliance www.scrumalliance.org

Theory of Constraints www.tocinstitute.org/

IT Revolution www.itrevolution.com



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Thank you

Barclay.Rae@itsmf.co.uk
[@barclayrae](https://twitter.com/barclayrae)



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What is happening

- Many support tasks can be eliminated or automated, as can a number of administrative approval and documentation functions
- Current high levels of administration and break/fix tasks in IT result in high levels of waste



But of course

- IT departments still have a responsibility to manage and protect the information assets of the organisation
- This is often forgotten in the race to be agile and to use cool new stuff



People and skills

- Organisations need to invest in hiring a wider range of people and skillsets for successful IT



'New' IT Skills

- Specialist technical skills
- Organisational change and people development
- Key business knowledge/skills
- Contract and supplier management
- Supply and demand management
- Marketing and communications
- Relationship management
- Contract negotiation

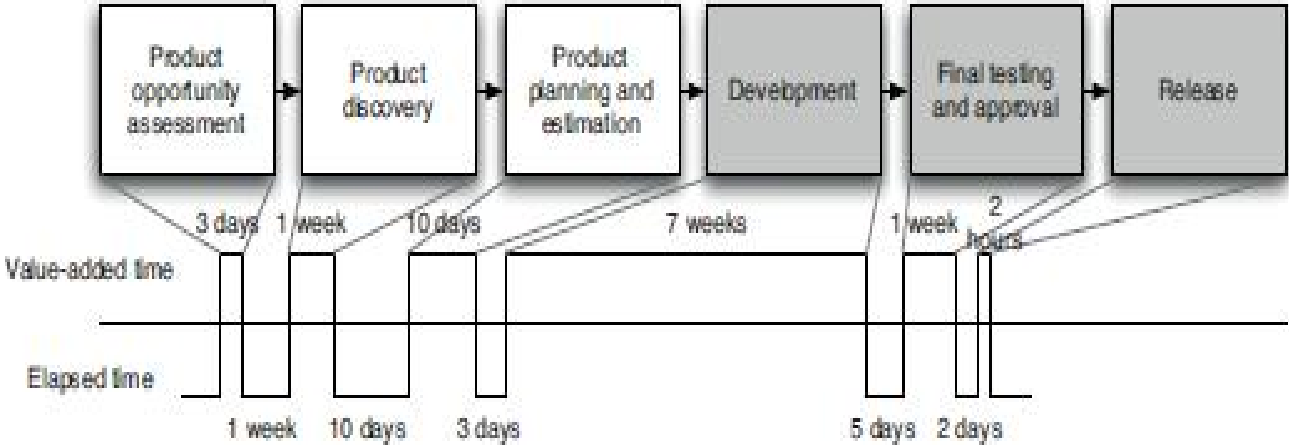


Value Stream Mapping

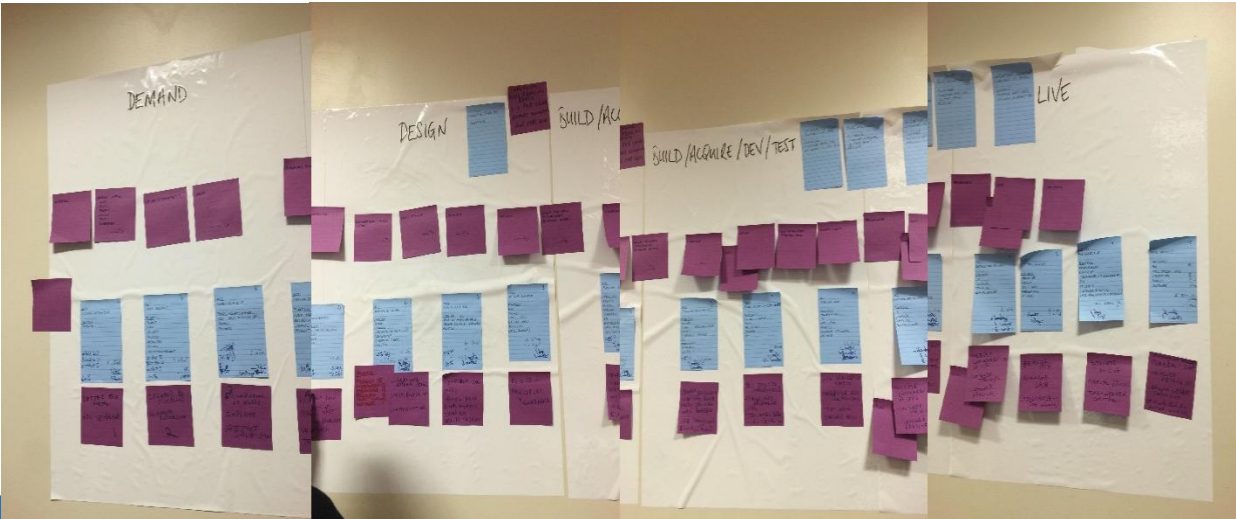
- A 'value stream' is the sequence of activities required to design, produce, and deliver a specific product or service
- Value streams typically span multiple processes
- Value stream mapping enables cross-functional teams to
- See an entire value stream from a work and information flow perspective
- Identify areas of non-value waste that could be eliminated in an effort to improve flow and deliver greater value
- Identify, prioritize and measure improvements

Value stream mapping is a lean tool that depicts the flow of information, materials and work across functional silos with an emphasis on quantifying waste, including time and quality.

Sample Maps



Source:
 Jez Humble -
*Continuous Delivery:
 Reliable Software
 Releases through
 Build, Test, and
 Deployment
 Automation*



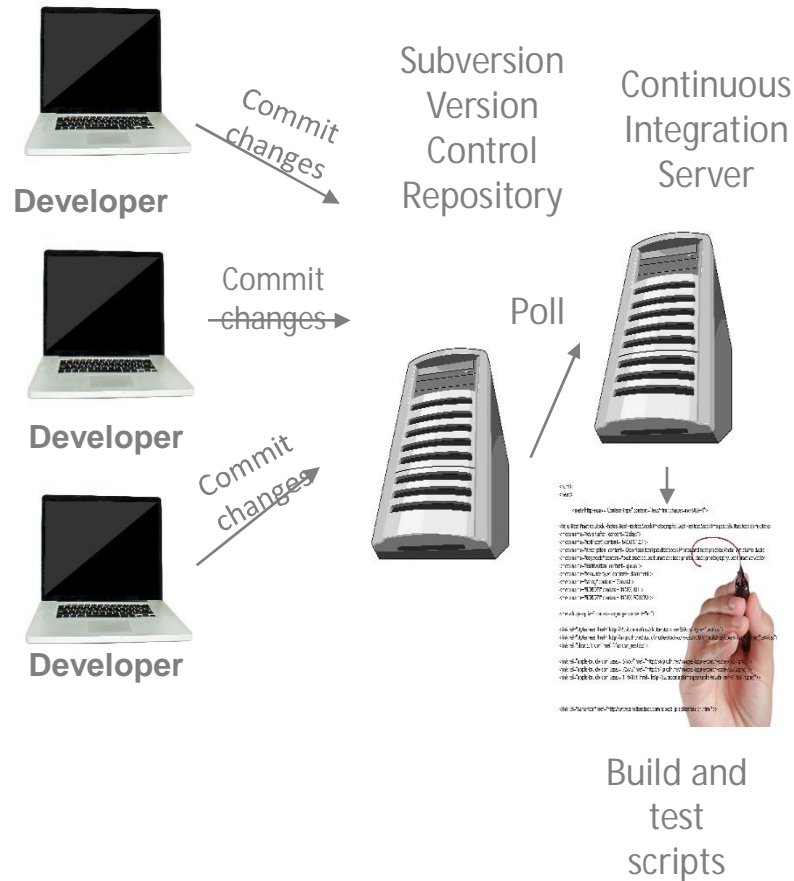
Source:
 Daniel
 Breston,
 Ranger4

Continuous Integration (1)

- Each code check-in is validated by
 - An automated build
 - Automated unit, integration and acceptance tests
- Is dependent on consistent coding standards
- Requires subversion/version control repositories and CI servers to collect, build and test committed code together

Continuous integration (CI) is a development practice that requires developers to commit code into a shared repository at least daily.

Continuous Integration (2)



Runs on production-like environments

Integrates multiple code branches into a trunk (also known as a master)

Must pass unit, acceptance and integration tests

Allows for early detection and quick remediation of errors from code changes before moving to production