

Software Innovation Equals Business Innovation

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program manager
system administrator
analyst operator
system engineer
scrum master
principal investigator data scientist
engineer
developer
product manager
development manager
test manager
project manager
data base administrator
tester
designer
architect
coder
build manager
chief engineer
quality assurance



Software innovation

**of those who leverage
software delivery today**

69%

**outperform those
who don't**





Software innovation



But only...

25%

**leverage software
delivery effectively**

CLOUD



MOBILE



YouTube



LinkedIn



Pinterest

SOCIAL

BIG DATA





AGILITY



SMARTER PRODUCTS



DELIVERY ANALYTICS

MOBILE



#ibminnovate

**Less Middlemen,
More Consumers**





Systems of Interaction

Systems of Engagement



**Continuous
client experience**

Systems of
Record

CRM

HR

DB

ERP

**Partner
value chain**

Cloud-based
Services



Internet of Things



Systems of Interaction



Detect



Enrich



Perceive



Act





Systems of Interaction

Detect



hail now!

Enrich



**personalized
favorite
destinations**

Act



**arrival,
payment**

**location, traffic,
proximity, direction**



CLOUD

#ibminnovate

**Less Setup,
More Capacity**



Optimization

Reduce Cost & Minimize Risk

Innovation

Rapidly Add Business Value

Focus on
Operational Costs



Focus on
Speed and Agility

Software Defined
Environment

Cloud Operating
Environment

API
Economy

Business Applications as Components

Service Oriented Architecture

Business Applications

Platform Services

Flexibility and discipline in patterns

Composition Layer

Infrastructure Services

Flexibility and discipline in infrastructure

Software Defined Environment

Converged Infrastructure

Fit for purpose PODs

Hardware



openstack™



**Less Ceremony,
More Exchange**



SOCIAL 



Software application development has gone social





Composable cloud services support faster application development



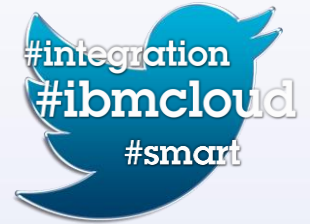


Build



#1 Best Seller

Measure



Learn



Less Noise, More Signal



**BIG
DATA**

#ibminnovate

Big Data Is the Next Natural Resource

Volume
40ZB
by 2020

Variety
80%
unstructured
data

Velocity
Real time,
everywhere

Veracity
What do
you trust?



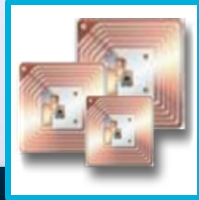


New Opportunities with Big Data & Analytics

**Transactional &
Application Data**



Machine Data



Social Data



Enterprise Content



Big Data and Technology Platform



New Opportunities with Big Data & Analytics

Data Scientist



Business Analyst



User



Roles and Analytics

Big Data and Technology Platform



New Opportunities with Big Data & Analytics

Enrich
info base



Improve customer
interaction



Reduce
risk



Optimize
and monetize



Gain efficiency
and scale



New Outcomes

Roles and Analytics

Big Data and Technology Platform



AGILITY

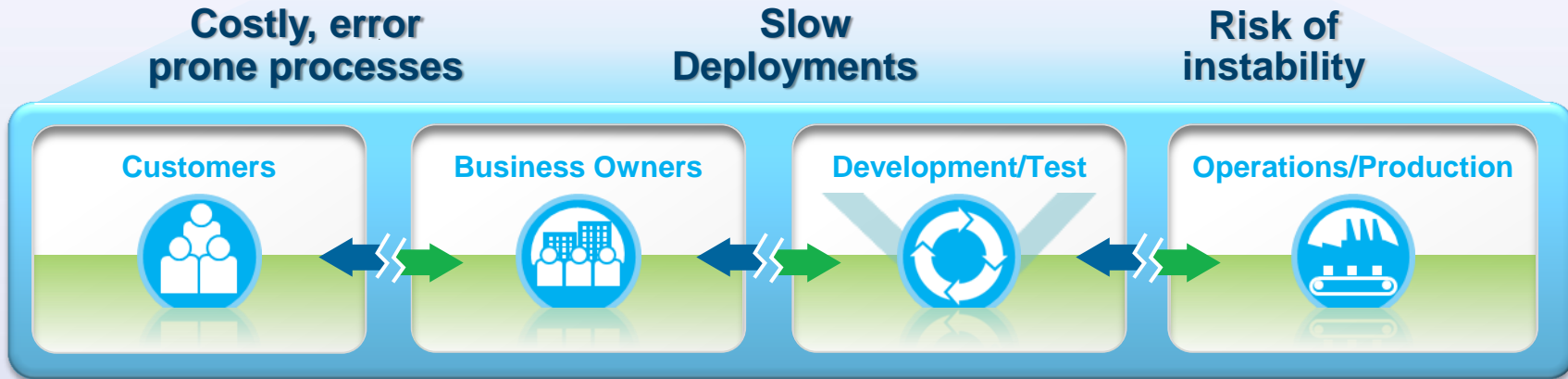


SMARTER PRODUCTS



DELIVERY ANALYTICS



Challenges

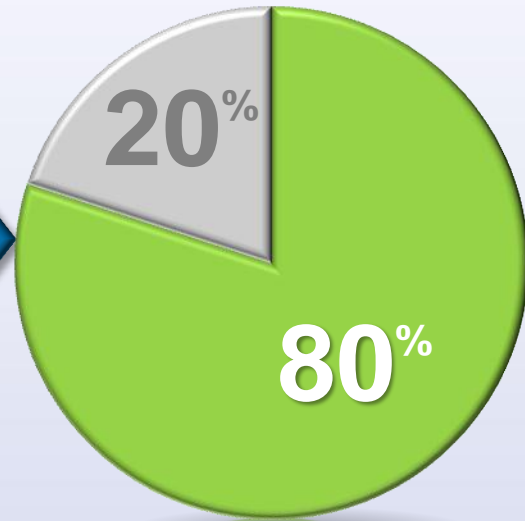
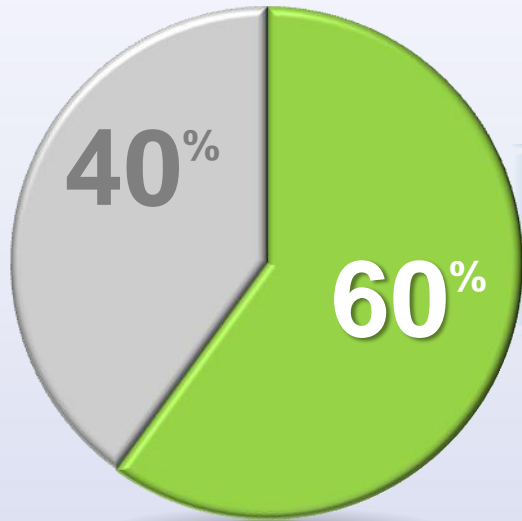






The Critical Measure of DevOps Success

-  Overhead and Rework
-  Productive



Less Perceived Complexity, More Capability



3 Imperatives

for a systems approach
to product development

Traceability
across
the lifecycle

Access to all
engineering
information

Collaboration
across
engineering
disciplines

**Less Inertia,
More Freedom**



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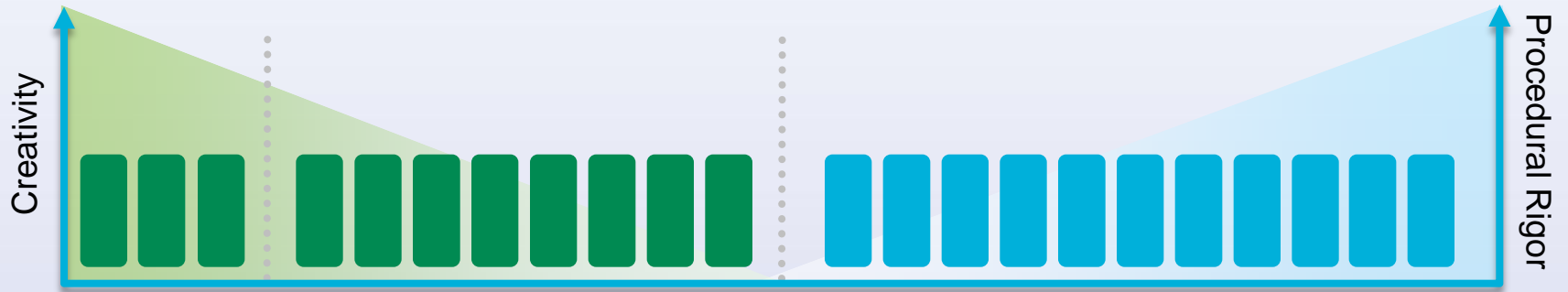
AGILITY

DEVELOPMENT

Creative Behavior

OPERATIONS

Procedural Rigor



Conventional Stovepiped Tools

DEVELOPMENT and OPERATIONS

Creative Behavior *Continuous Delivery* *Procedural Rigor*



Collaborative Automation Platform

**Less Surprises,
More Insight**



DELIVERY ANALYTICS



Challenge

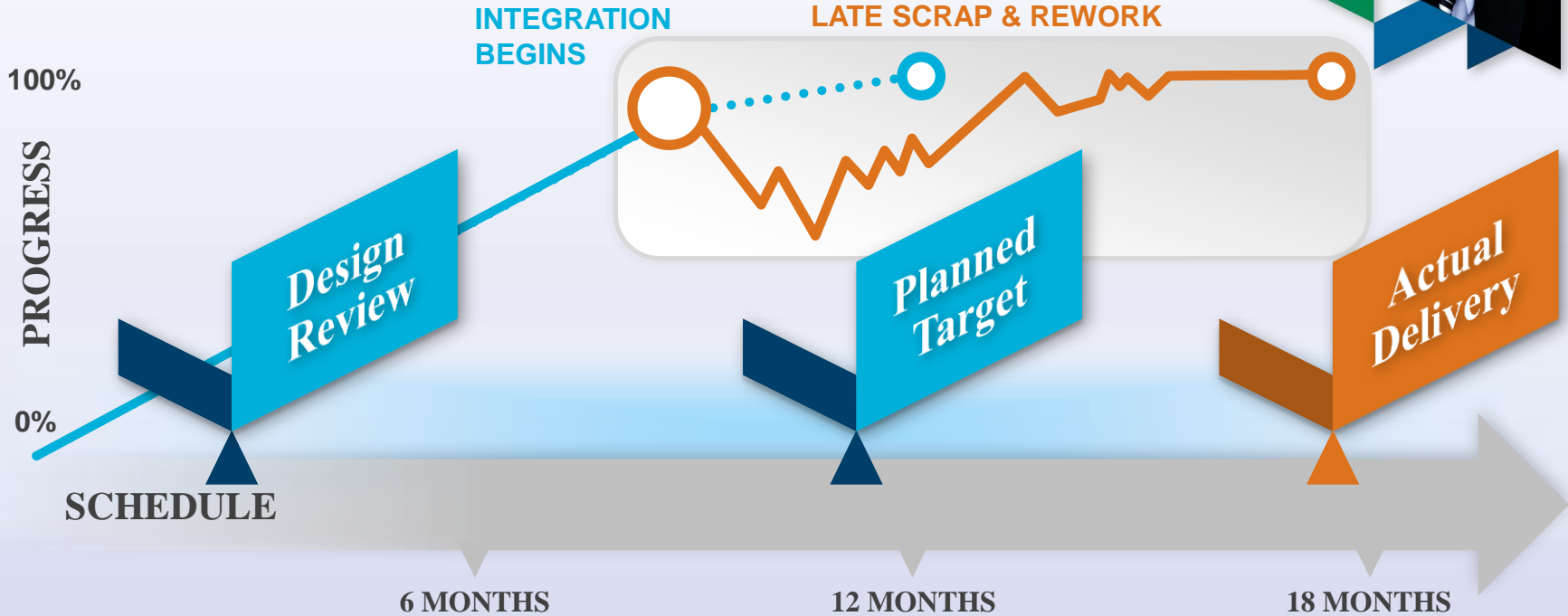
Deliver business critical software product release
WITHIN 12 MONTHS





Reality

Jerry's probable outcome...





Insight

Program parameters are also delivery predictions
COST, SCHEDULE, EFFORT, QUALITY...



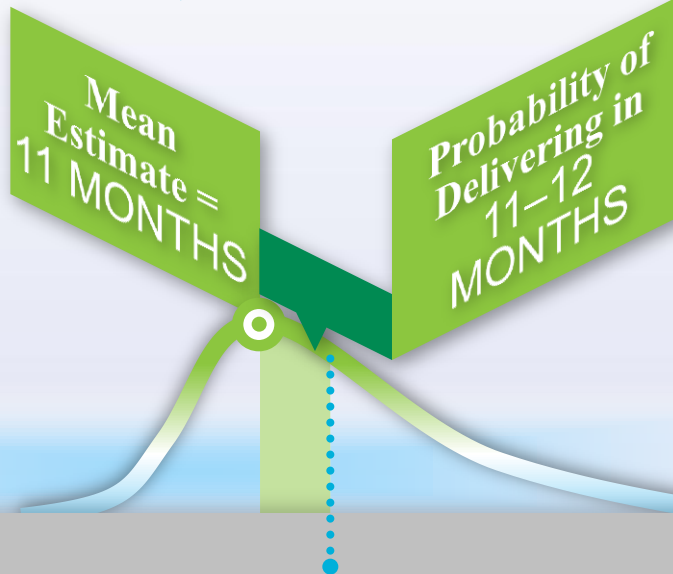
PROBABILITY

SCHEDULE

6 MONTHS

12 MONTHS

18 MONTHS





Coin Flip

There is roughly a **50% CHANCE** of making the date



PROBABILITY

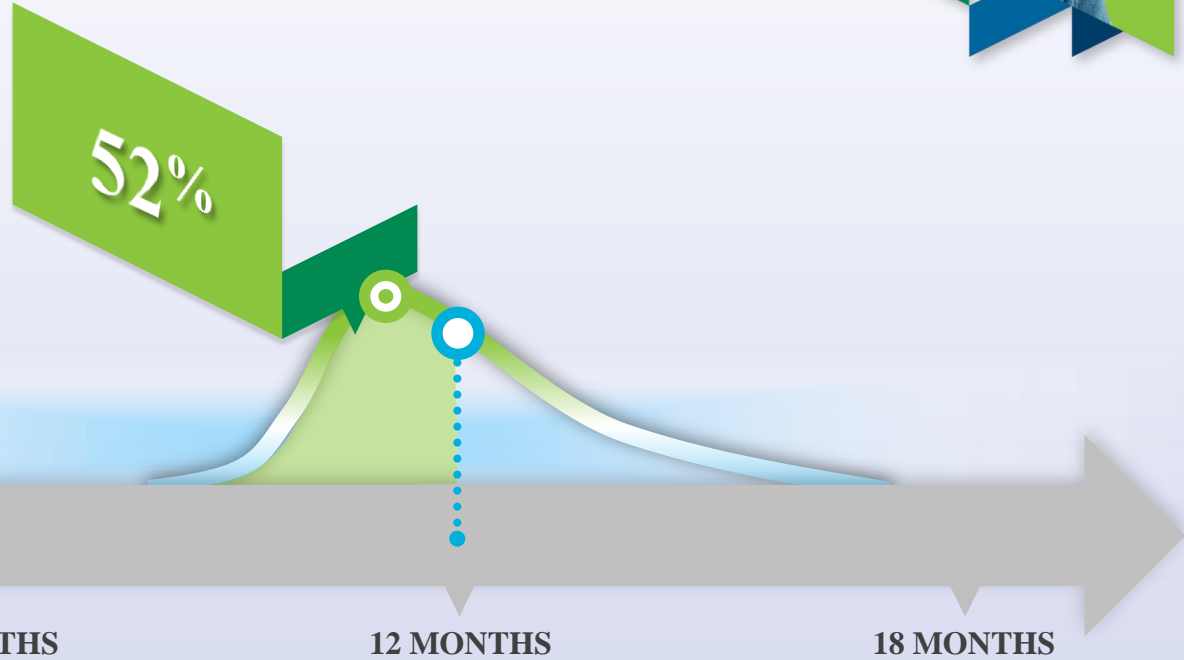
SCHEDULE

6 MONTHS

12 MONTHS

18 MONTHS

52%





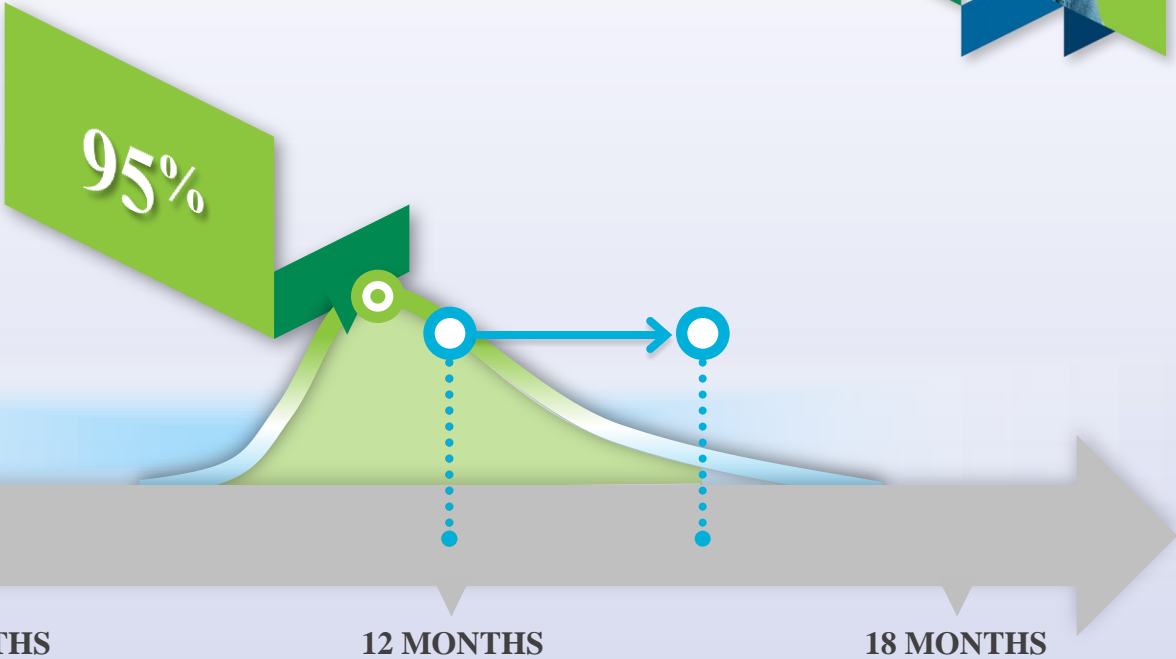
Option 1

Move out the date to improve likelihood of shipping?

Absolutely NOT!



PROBABILITY



SCHEDULE



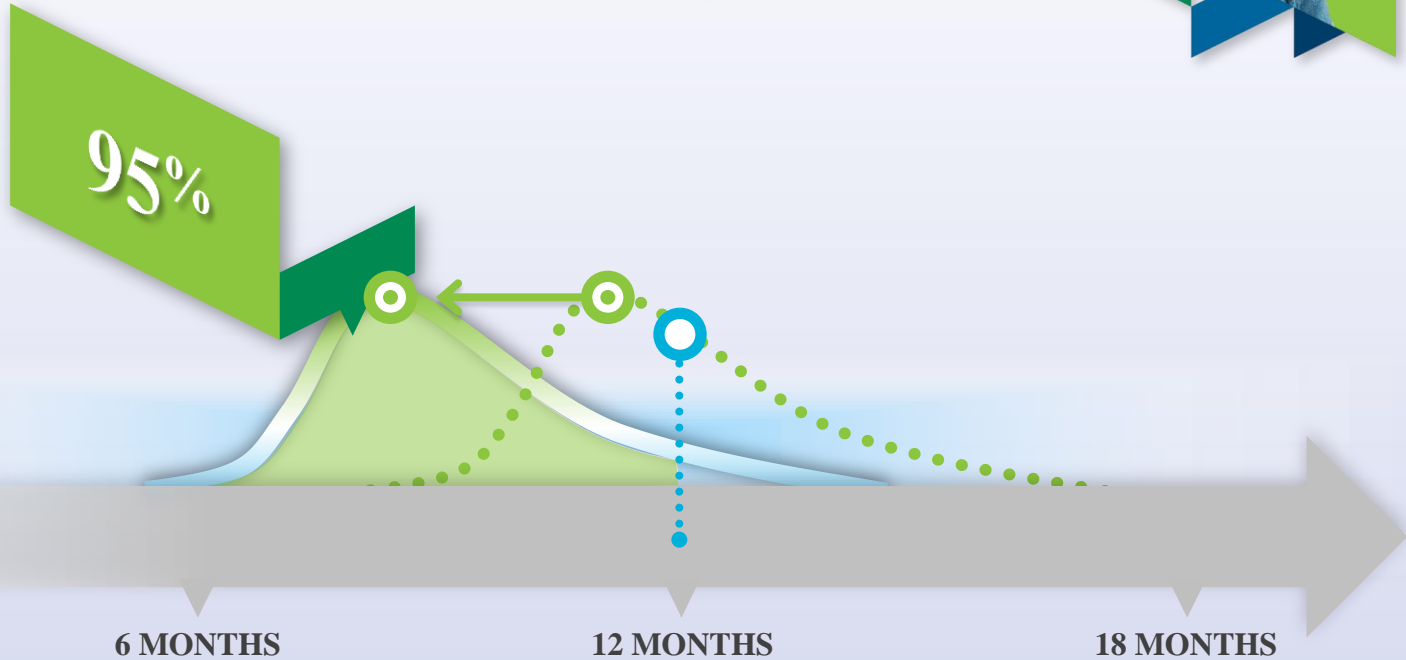
Option 2

Decrease time estimate by sacrificing quality or content?

Absolutely NOT!



PROBABILITY



SCHEDULE



Optimize

Reduce the variance to improve likelihood of shipping



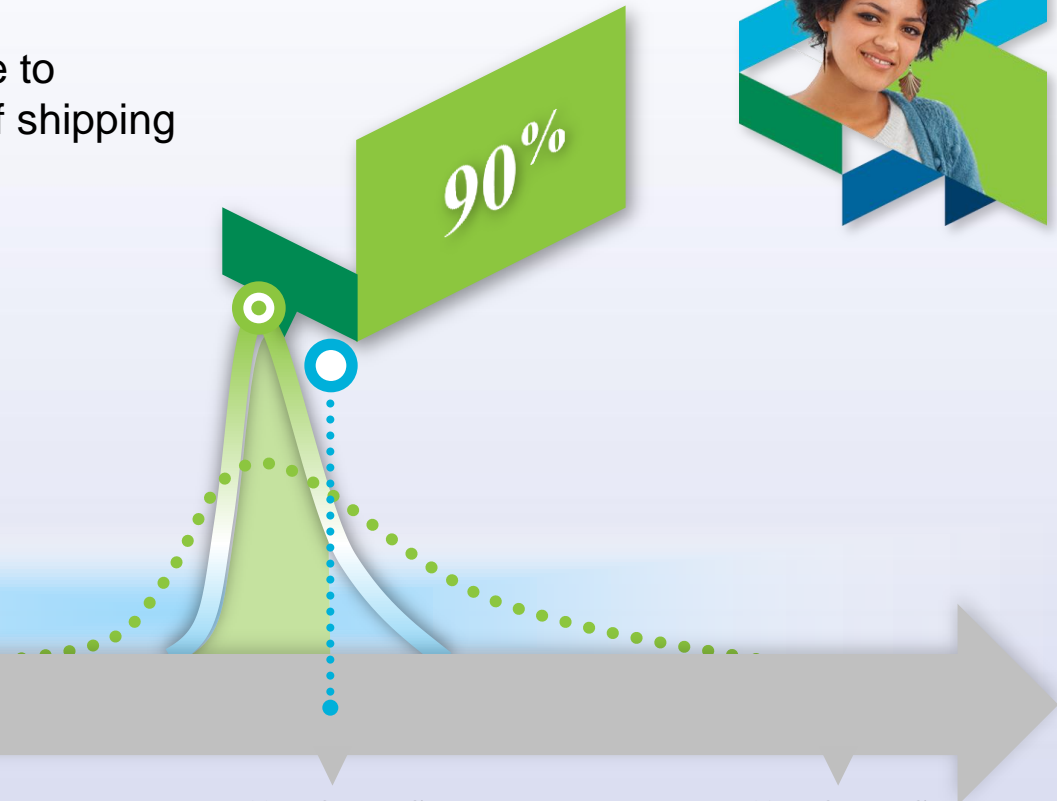
PROBABILITY

SCHEDULE

6 MONTHS

12 MONTHS

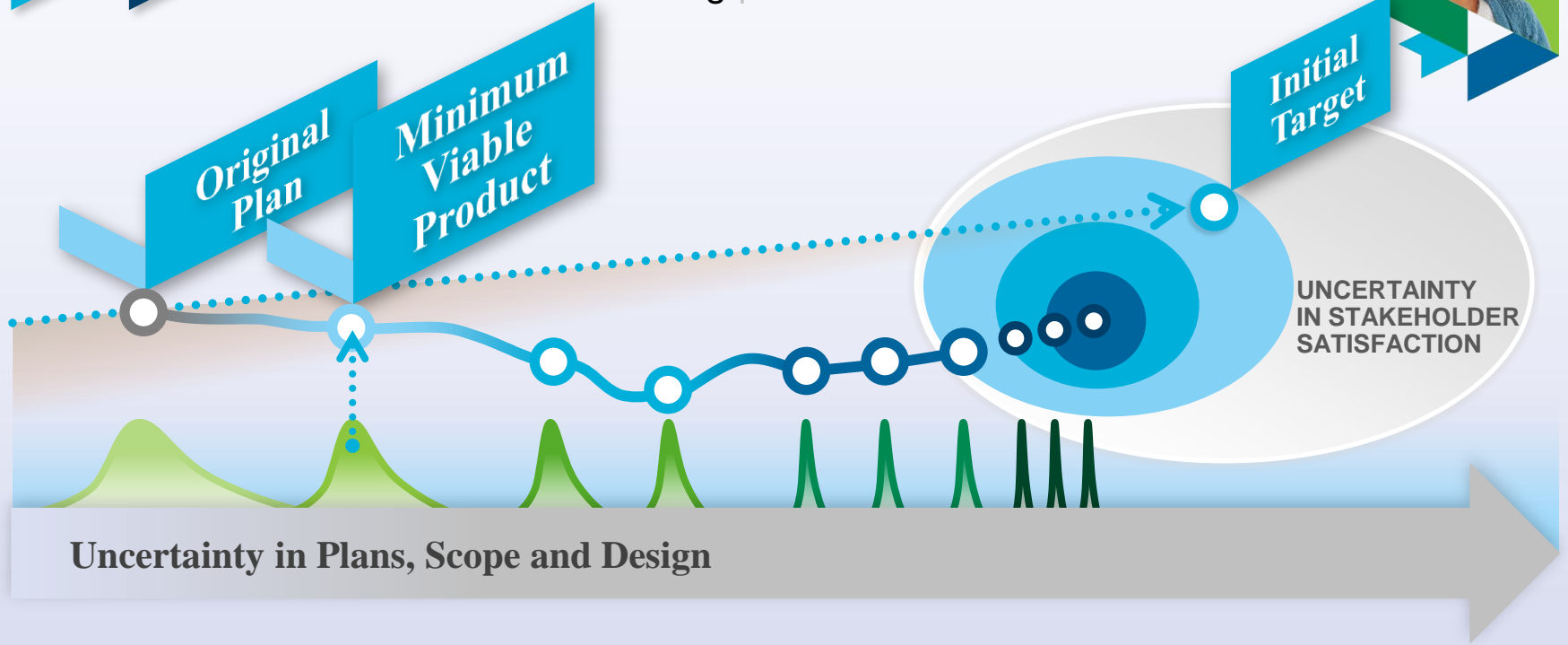
18 MONTHS





Optimize

Measure validated learning | **REDUCE THE VARIANCE**





The moral of this story...



**Economic
Governance**



**Variance
Reduction**



**Smarter
Analytics**

DevOps

Less Overhead,
More Innovation

Investment

Less Defense,
More Offense

Business

Less Cost,
More Profit

Mobile

Less Middlemen, More Consumers

Social

Less Meetings, More Exchange

Smarter Products

Less Complexity, More Capability

Delivery Analytics

Less Surprises, More Insight

Cloud

Less Setup, More Capacity

Big Data

Less Noise, More Signal

Agility

Less Inertia, More Freedom