QA
POWERING POTENTIAL

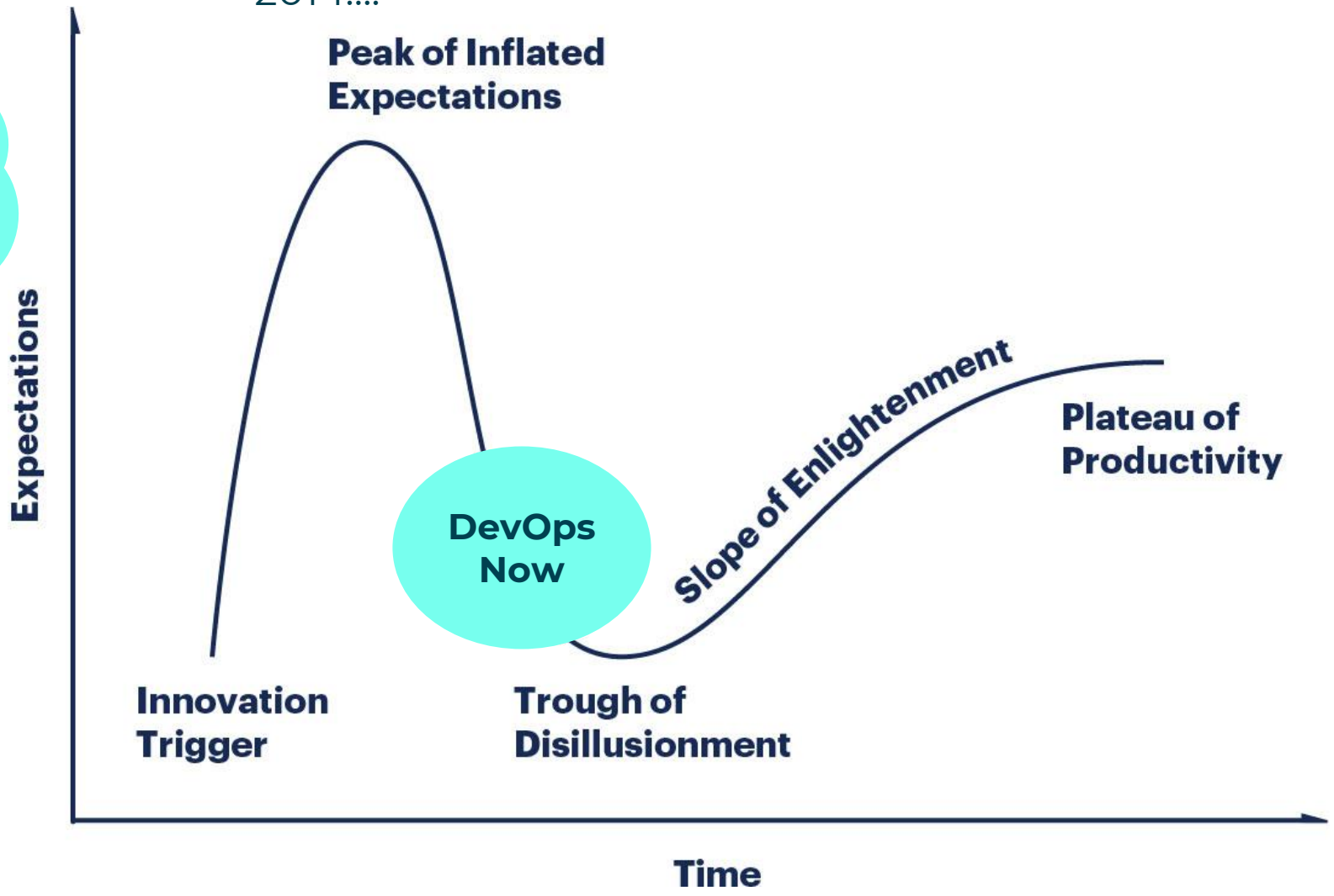
On the Mechanics of Goof

→ A Simulation Of the DevOps Value Proposition

Happy Birthday, DevOps

2009....

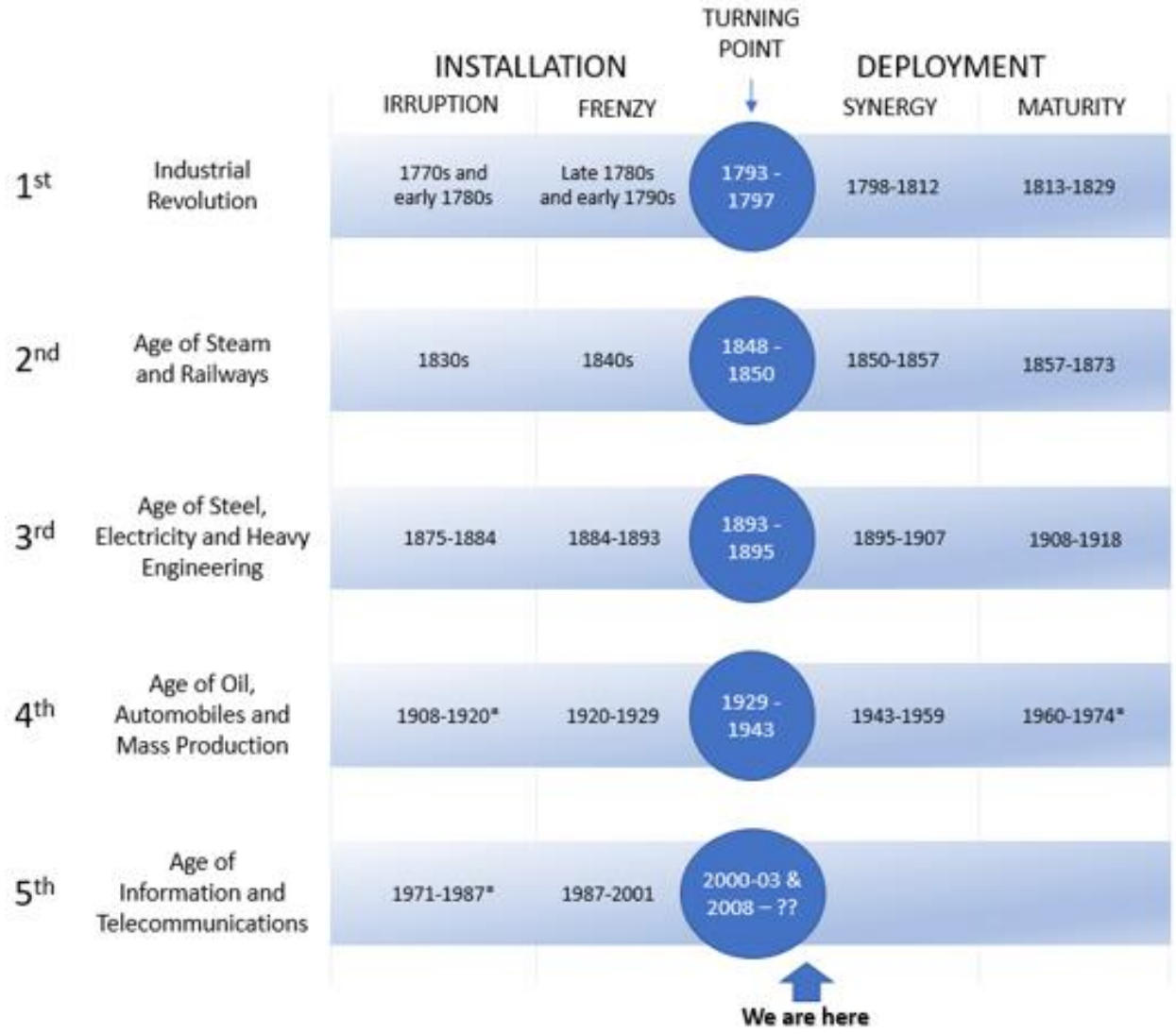
2014....



“Why Can’t DevOps Just Work?!” Says Oil

→ Carlota Perez: “You were the same way when you were a kid!”

Source: https://www.osam.com/Commentary/value-is-dead-long-live-value?source=techstories.org



Water Power drives change
Value: Mechanisation/Transportation
Management Goals: Factory Production

Steam Power drives change
Value: Ability to Scale Production
Management Goals: Standardisation

Electric Power & Steel drive change
Value: Cost Accounting/Scaled Efficiency
Management Goals: ***Taylorism***

Oil/Synthetics drive change
Value: Scaled Flow/Integration/Mass Production
Management Goals: Functional Specialism/hierarchies

Software and Information drive change
Values: ???
Management Goals: ???

Wait... Where Are You Taking Us?

→ **Explore How Different DevOps Transformation Approaches Lead to Different Results**

Will Use A Data-Driven Simulation Throughout → Introduce the Dangers of Goof and How to Fight It → Dubois was right!

Spoiler Alert! You may want to close your eyes and ears!

The greatest value of DevOps is not found in the technologies or even practices, but through it's ability to unleash the power of your people.

Lets Do A Simulation

→ Introducing Health Life …

North American Healthcare Provider Looking To Further its Performance Lead with its new Digital Capabilities

Business Lines

- Heath Care Facilities
- Assisted Living Services
- Physical Therapy Service
- Specialist Services

Digital Capabilities

- AI Analysis Capabilities
- Mobile Framework
- IoT Systems Framework
- Content Management System

Annual IT Financials

- **$100M/yr** "Change" spend
- **$265M/yr** "Run" spend
- Forecast **$125M return**

2019 Metric	Health Life	Industry Average
Revenue	**$5.5B**	$2.3B
Operating Expenses	**$5.2B**	$2.2B
Operating Income	**$300M**	$85.2M
Operating Margin	**5.45%**	4%

Simulation: Begin

→ No IT Transformation Approach

First Simulations features no IT changes and portfolio is delivered as expected…

Financial Metric	2019	After Portfolio
IT Transformation Program Spend	$0	$0
Net Revenue	$ 5.5B	$ 5.625B
Operating Expenses	$ 5.2B	$ 5.2B
Operating Income	$ 300M	$ 425.3M
Operating Margin	5.45%	**7.56%**
Increase in Operating Margin	N/A	**39%**
IT Spending/Budget	$ 370M	$ 370M

Job Done?

The Law of Goof

- Given an instance where work is being done “W”…
- Comprised by a specific team “T”
- Working on solving problems for a specific set of markets or people “P”
- At a specific time “t”…
- That system will exhibit a ***non-zero goofiness***.
- This goofiness can be expressed as the ratio between failed work and successful work, or the **Goof Quotient** Q_{goof}

$$Q_{goof} = \frac{Number\ Of\ Ideas\ that\ Don't\ Work}{Total\ Number\ of\ Ideas} > 0 \approx 75\%$$

Simulation: Begin (Again)

→ No IT Transformation Approach

Apply a 75% failure rate for portfolio delivery

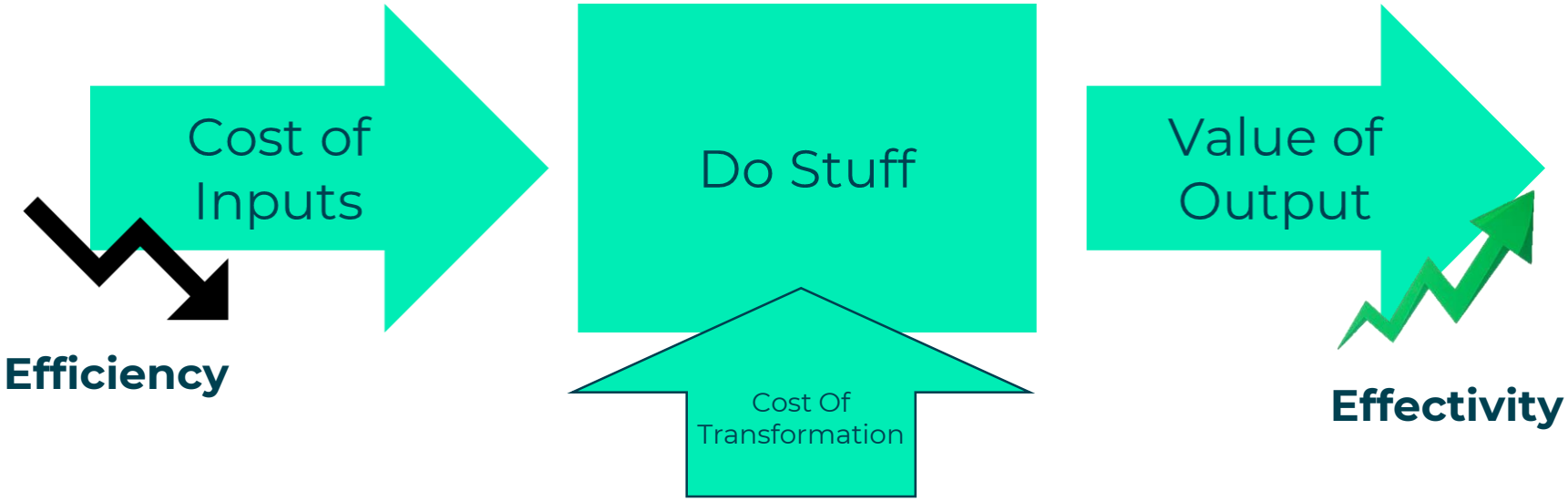
Financial Metric	2019	After Portfolio
IT Transformation Program Spend	$0	$0
Net Revenue	$ 5.5B	**$ 5.531B**
Operating Expenses	$ 5.2B	$ 5.2B
Operating Income	$ 300M	**$ 331.3M**
Operating Margin	5.45%	**5.99%**
Increase in Operating Margin	N/A	**10%**
IT Spending/Budget	$ 370M	$ 370M

Industry average > 10%

How can we get more?

The ROI can be modelled as the “Increase In Operating Income” you get for the price of your transformation….

$$\mathbf{ROI} = (\boldsymbol{Value\ of\ Output}) - (\boldsymbol{Cost\ Of\ Inputs})$$



$$\mathbf{Transformation\ ROI} = \frac{(\boldsymbol{New\ Value\ of\ Outputs} - \boldsymbol{Value\ of\ Output}) - (\boldsymbol{New\ Cost\ of\ Inputs} - \boldsymbol{Old\ Cost\ Of\ Inputs})}{\boldsymbol{Cost\ Of\ Transformation}}$$

Simulation: Begin (Again)

→ Automation for Cost Savings

Cut 25% costs via DevOps automation

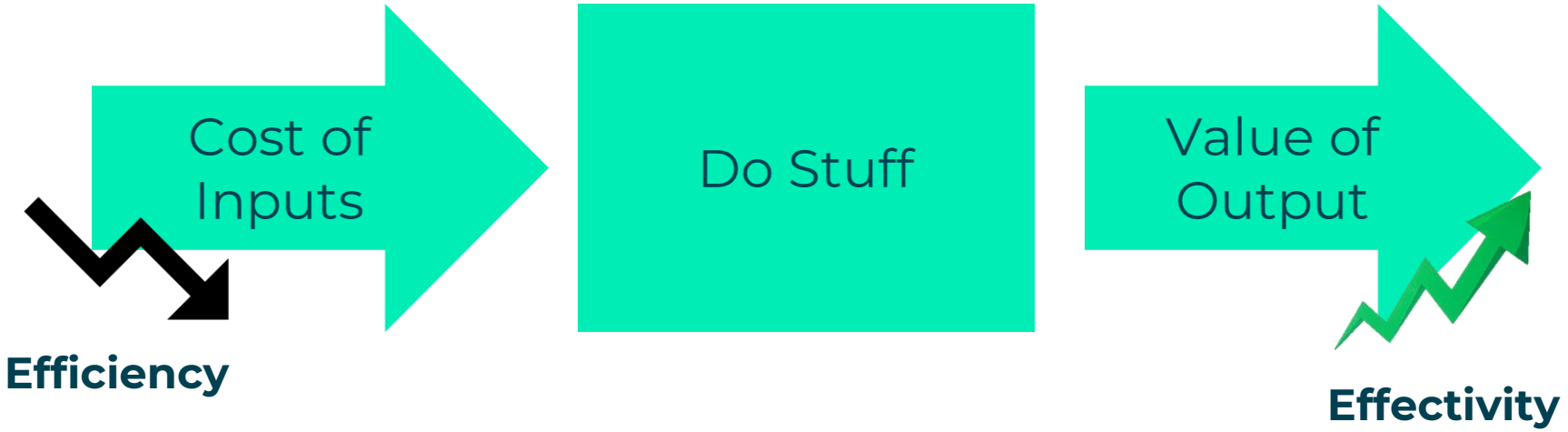
Financial Metric	2019	"Goofy" Portfolio	"Goofy" Cost Transformation
IT Transformation Program Spend	$0	$0	**$7.5M**
Net Revenue	$ 5.5B	$ 5.531B	**$ 5.512B**
Operating Expenses	$ 5.2B	$ 5.2B	**$ 5.133B**
Operating Income	$ 300M	$ 331.3M	**$ 379.1M**
Operating Margin	5.45%	5.99%	**6.88%**
Increase in Operating Margin	N/A	10%	**26%**
IT Spending/Budget	$ 370M	$ 370M	**$ 303M**

2015 Harvard Business Review Article Cites a Study finding disengaged employees have:

- **37% higher absenteeism**
- **49% more accidents**
- **60% more errors and defects.**

There's Nothing Wrong With Efficiency

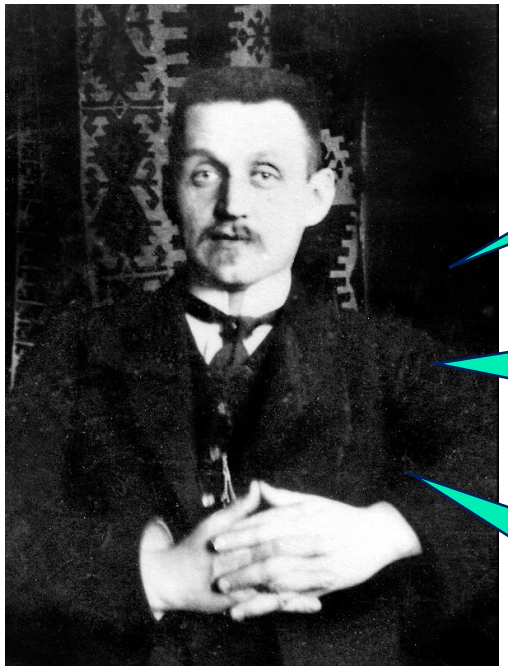
→ But Disruption Comes from Increasing Effectivity and Innovation



… So How Do We Increase Effectivity In Disruptive Markets?

Trying to Drive Cost Savings Via DevOps May Not Work	Efficiency Transformation Can Damage Effectiveness	Efficiency Shapes Transformation Incorrectly
• Cost Of Transformation hard to manage • Long Term Costs Creep back	• Engagement and motivation goes down • Innovation goes down • Knowledge is lost	• Disruption Doesn't come from Cost Savings, It Comes from Innovation

Managing Uncertainty Through Experiment



Peter Akimovich Palchinsky
1875–1929

Variation!

Survivability!

Selection!

The more experiments, the better

The smaller, then better

The more feedback, the better

Entrepreneurial Culture!

Minimum viable product!

Validated Learning!

Eric Reis
Founder of Lean Startup

Reducing Goof Through Experiment

Product 1	10M USD
Product 2	10M USD
Product 3	10M USD
Product 4	10M USD
Product 5	10M USD
Product 6	10M USD
Product 7	10M USD
Product 8	10M USD
Product 9	10M USD
Product 10	10M USD

Potential: 100M USD

Reducing Goof Through Experiment

Product 1	10M USD
Product 2	10M USD
Product 3	10M USD
Product 4	10M USD
Product 5	10M USD
Product 6	10M USD
Product 7	10M USD
Product 8	10M USD
Product 9	10M USD
Product 10	10M USD

Potential: 100M USD

Realised: **30M USD**

Reducing Goof Through Experiment

Product 1	5M USD	5M USD
Product 2	5M USD	5M USD
Product 3	5M USD	5M USD
Product 4	5M USD	5M USD
Product 5	5M USD	5M USD
Product 6	5M USD	5M USD
Product 7	5M USD	5M USD
Product 8	5M USD	5M USD
Product 9	5M USD	5M USD
Product 10	5M USD	5M USD

Potential: 100M USD

Realised: **40M USD**

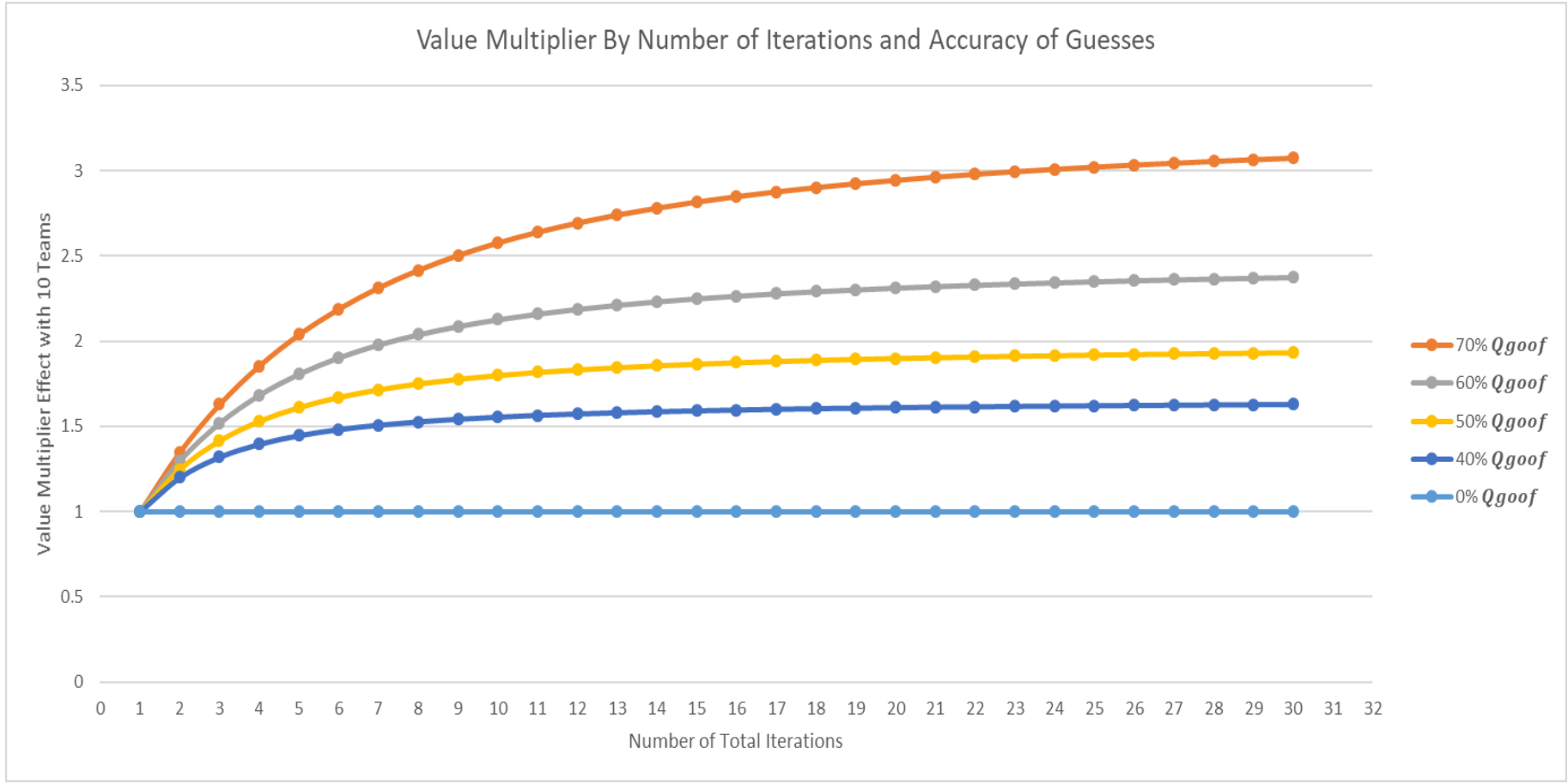
Reducing Goof Through Experiment

Product 1	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 2	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 3	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 4	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 5	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 6	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 7	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 8	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 9	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD
Product 10	2.5 M USD	2.5 M USD	2.5 M USD	2.5 M USD

Potential: 100M USD

Realised: **55M USD**

Exponential Decay Of Goofs (EDG) and the Goof Quotient (Q_{goof})



- Experimentation Makes Bad Ideas Go Away Logarithmically
- After 14 Iterations, All Goof Level Impacts are reduced by over 90%
- Multiplying Effect Increases With The Goof Quotient

Continue Simulation... Goof Decay

→ Process & Culture Transformation

*Increase transformation investment to **reward fast iteration, small batch sizes, and fast failure** so organisations can achieve 4 iterations per cycle*

Financial Metric	2019	"Goofy" Portfolio	"Goofy" Cost Reduction	Basic Goof Reduction
IT Transformation Program Spend	$0	$0	$7.5M	**$10M**
Net Revenue	$ 5.5B	$ 5.531B	$ 5.512B	**$ 5.561B**
Operating Expenses	$ 5.2B	$ 5.2B	$ 5.133B	$ 5.133B
Operating Income	$ 300M	$ 331.3M	$ 379M	**$ 427M**
Operating Margin	5.45%	5.99%	6.88%	**7.69%**
Increase in Operating Margin	N/A	10%	26%	**41%**
IT Spending/Budget	$ 370M	$ 370M	$ 303M	$303M

The True Transformation

→ **People Transformation**

Transform Technology to Automating Commoditised Tasks

Transform Processes by Introducing Experimentation

Transform People Into Differentiating Product Teams

- Introduce Opportunities for People to Upskill and Advance
- Amplify Differentiation Increasing Number of Product Teams

Final Simulation... Amp Up the Change

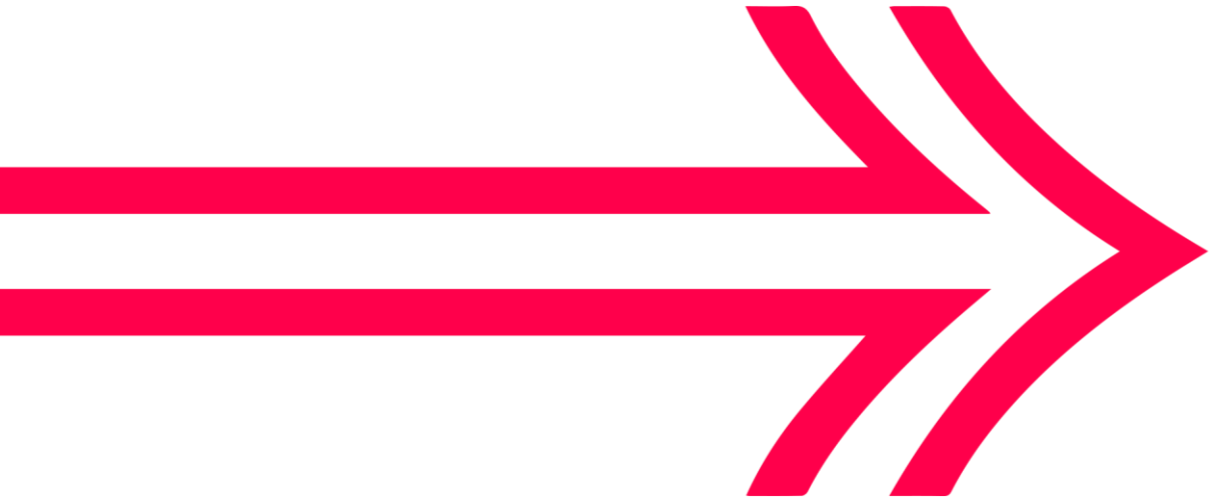
→ Process & Culture Transformation

Target >50% of displaced IT team members to join product teams

ROI for the Transformation = 1172%

Financial Metric	2019	"Goofy" Portfolio	"Goofy" Cost Reduction	Basic Goof Reduction	Transform the Team
IT Transformation Program Spend	$0	$0	$7.5M	$10M	**$15M**
Net Revenue	$ 5.5B	$ 5.531B	$ 5.512B	$ 5.561B	**$ 5.67B**
Operating Expenses	$ 5.2B	$ 5.2B	$ 5.133B	$ 5.133B	**$ 5.166B**
Operating Income	$ 300M	$ 331.3M	$ 379M	$ 427M	**$ 507M**
Operating Margin	5.45%	5.99%	6.88%	7.69%	**8.94%**
Increase in Operating Margin	N/A	10%	26%	41%	**64%**
IT Spending/Budget	$ 370M	$ 370M	$ 303M	$303M	$303M

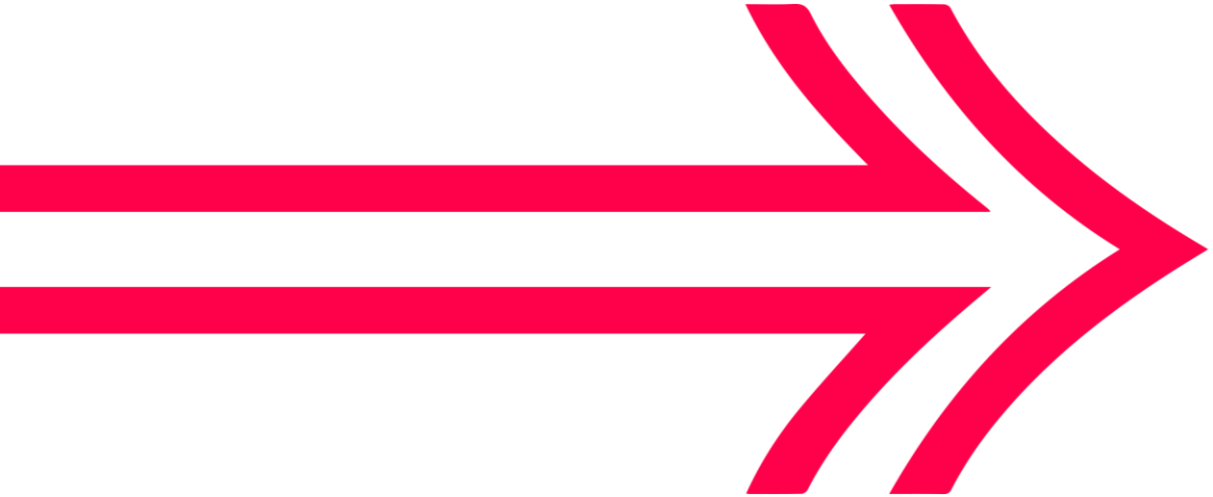
Summary: Your People Are Your Differentiator



Unleash their potential with DevOps

- ✓ Focus on Efficiency over Effectivity Leads to Missed Expectations
- ✓ Goof Is Real, Experimentation Decays it
- ✓ Transform our people and they will transform you

Thanks!



Questions?