Lean + Agile: Deliver Half the Software and Delight your Clients

2018 Canadian Lean Summit

What goes wrong in technology projects?

- Why do many public sector technology projects fail?

  Research consensus:

  Projects are too big, too complex, too ambitious

- Questions to ask for any technology project:
  1. Should it be built?
  2. What problem or problems should it solve? What job are we hiring it to do for us?
  3. What problems can be solved by technology, and which are business process, behaviours, culture, etc.?

Gartner: http://www.gartner.com/newsroom/id/2790817
ZDNet: http://www.zdnet.com/article/6-reasons-government-it-projects-fail/
In The Black: https://www.intheblack.com/articles/2016/11/01/enormous-cost-it-project-failure
Shared Services Canada: https://www.canada.ca/en/shared-services/corporate/publications/what-prevents-large-it-projects-from-being-successful.html#a19

SHOULD IT BE BUILT?

Should it be built?

Peter Drucker

"There is nothing quite so useless as doing with great efficiency something that should not be done at all."

Sweepers for Your Pet's Feet:

16

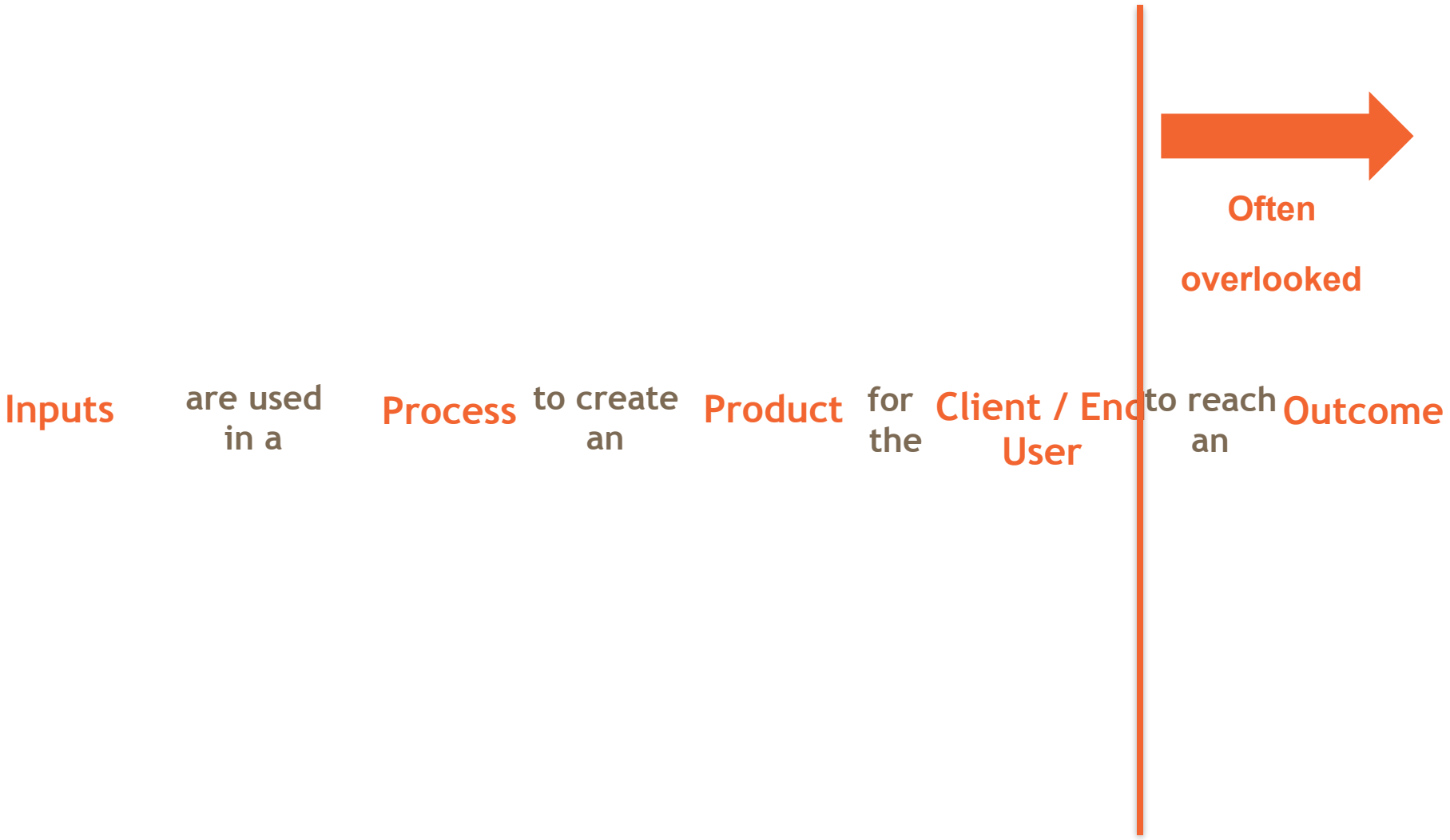
Should it be built?

A Tribunal, 2010:

- **Problem**: Typical file travelled approx.14.6 km through the building, from function to function, during its life cycle
- 10% of files were 'misplaced' at any given time, requiring broadcast "missing file" emails and manual searches
- **Proposed solution**: Place RFID tags on each file, system records location of each file at all times
- **Implemented solution**: Co-locate staff in small teams that include each major function, to work in a common space – 95% reduction in lost files plus increased collaboration and flow
- Reduced process lead time from 2.8 years to 5 months.
- **Reason for solution**: "I would rather simplify a process than implement complex technology to support a complex process"

WHAT PROBLEMS SHOULD IT SOLVE?


Lean Blog
"Before I state the problem,
are there any solutions?"


Often
overlooked
Inputs
are used in a
Process
to create an
Product
for the
Client / End User
to reach an
Outcome

Your Product

For the product you are developing:

- Who is the client / end user?
- What **outcomes** are they trying to create with it?
- What problems should the product solve for them?, or
- What "**job**" are they "**hiring**" **it to do**?

Understand “The Job” of a Milkshake

Public Agency: Enterprise CRM System to manage flow of business cases

Requirements Binder

From

To

Current State – Preliminary Measures

The current Review and Approval (new funds) process has at least:

106 steps

73 people

Typical “Best Case”:

7 drafts of Summary

6 official drafts of the Request*

*plus numerous “unofficial” drafts

Current State – Preliminary Measures

Our "Effort" or "Touch" Time per request (New Funds)	Best Case	Worst Case
Early Engagement	1 day	21 days
Quality Review	1 day	
Substantive Rev	2 days	
Summary Process	ys	9 days
Speaking Notes		1.5 days
Request Review		9 days
Agenda	days	
Strategy Prep	3 days	
Committee Prep	3.5 days	5 days
Post-Committee	3 days	
Total Estimated "Effort" or "Touch" Time	1 month	3 months

Approximately 37 days of preventable work per request submitted (>300 requests per year)

What Problems Should it Solve?

Enterprise CRM system, eight major problems identified during Lean streamlining of the case management process:

Problems:

- Process designed for complex, high-risk files, but a significant percentage of low-risk files go through it
- Lack of clarity and early discussion with clients to understand their needs to create smooth path later
- Quality of incoming submissions was very low
- Unclear which experts review what, overlap
- Reviews are done sequentially, with little or no feedback between reviewers
- Takes too long to write a summary of the file
- Process is invisible so difficult to manage
- No viable process to track what happens after the decision

Invest early in clear, root-cause requirements, or pay later

What Problems Should it Solve?

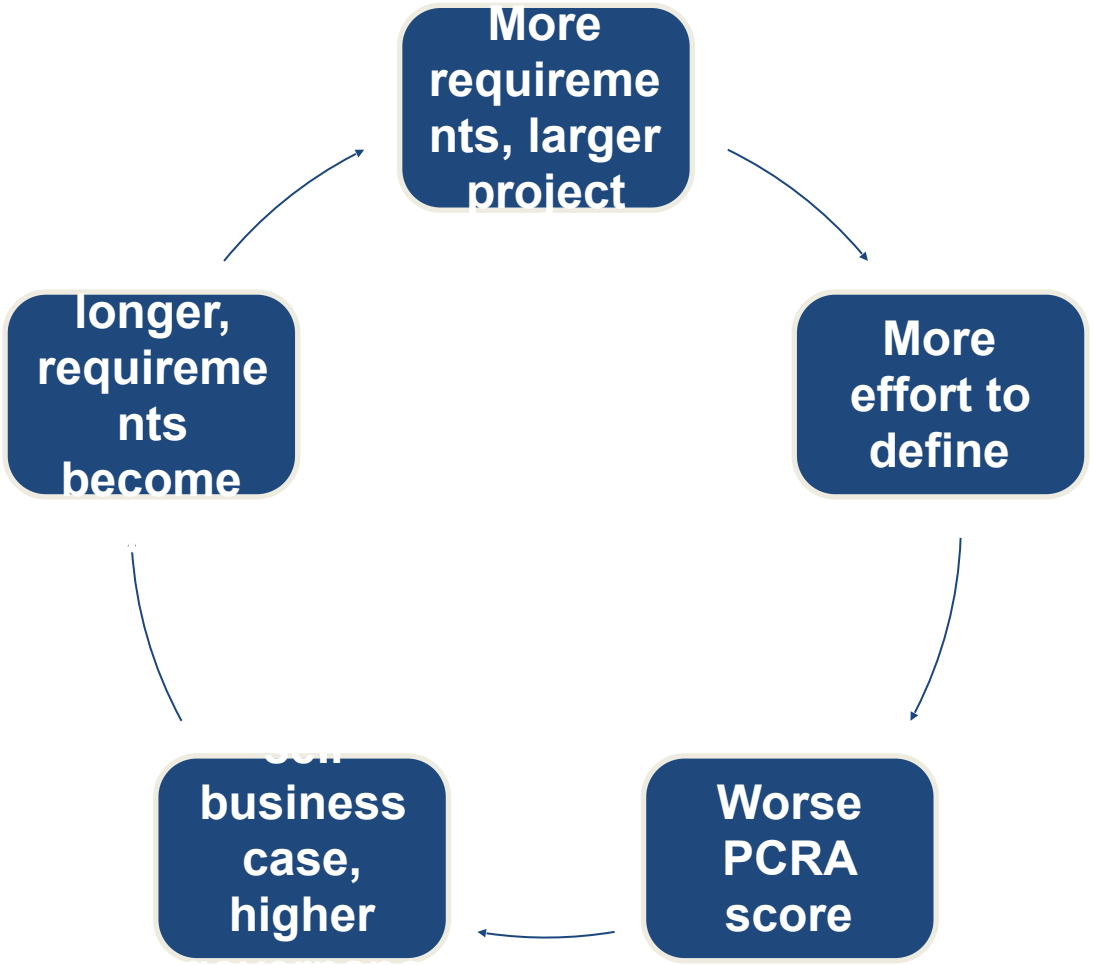
	Successful	Challenged	Failed
Grand	2%	7%	17%
Large	6%	17%	24%
Medium	9%	26%	31%
Moderate	21%	32%	17%
Small	62%	16%	11%
Total	100%	100%	100%

Solving **non-technology issues first** reduces scope and complexity which, in turn, increases the chances for success

CHAOS Resolution by project size
FY2011-2015 Standish new CHAOS Database

Fewer, clearer, requirements
= Reduced complexity and scope
= Lower levels of risk
= Lower levels of governance
= Faster, easier approval

Project Complexity & Risk Assessment (PCRA)

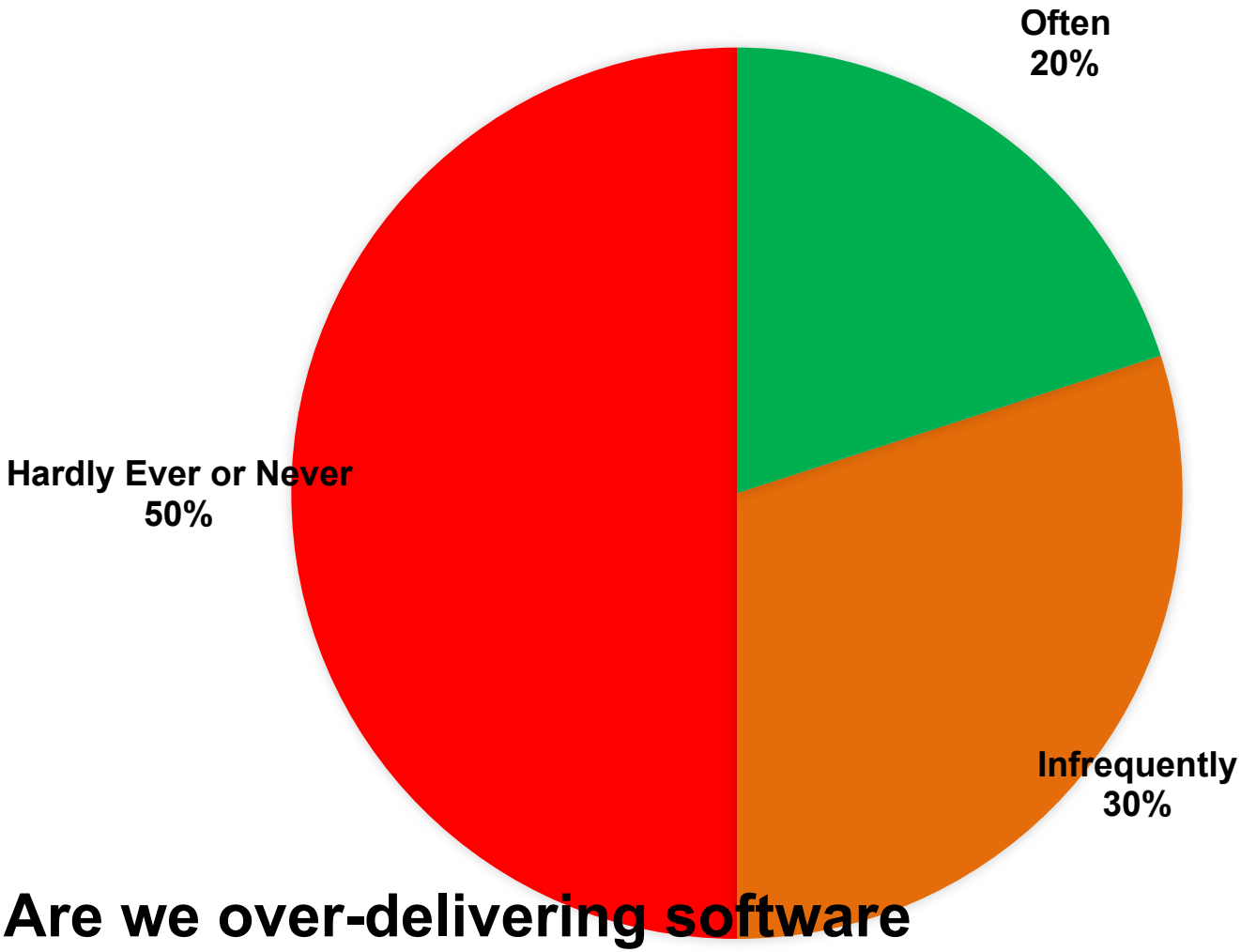


Requirements Binder

From

To

Features Used In Custom Software



Are we over-delivering software by 50%?

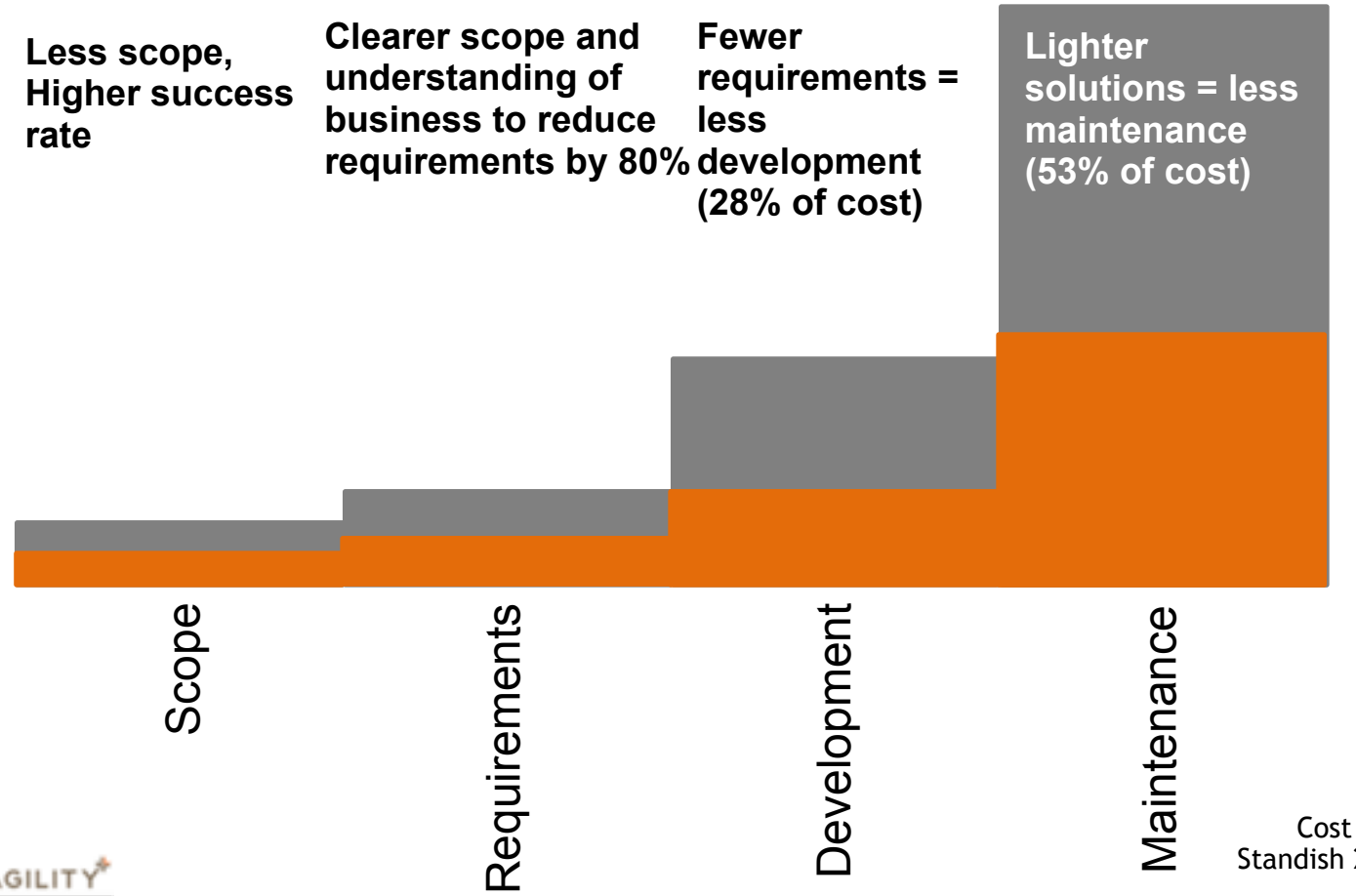
Features used in custom software from:
Standish 2014 CHAOS report

Why does the business need so many requirements and why do they think they are all essential?

- Rare Opportunity
- Poor Understanding
- Disconnected: Approvers & Developers
- Service Provider, not Client View
- Invisible Business Processes

Cost of Not Deeply Understanding Business Needs First

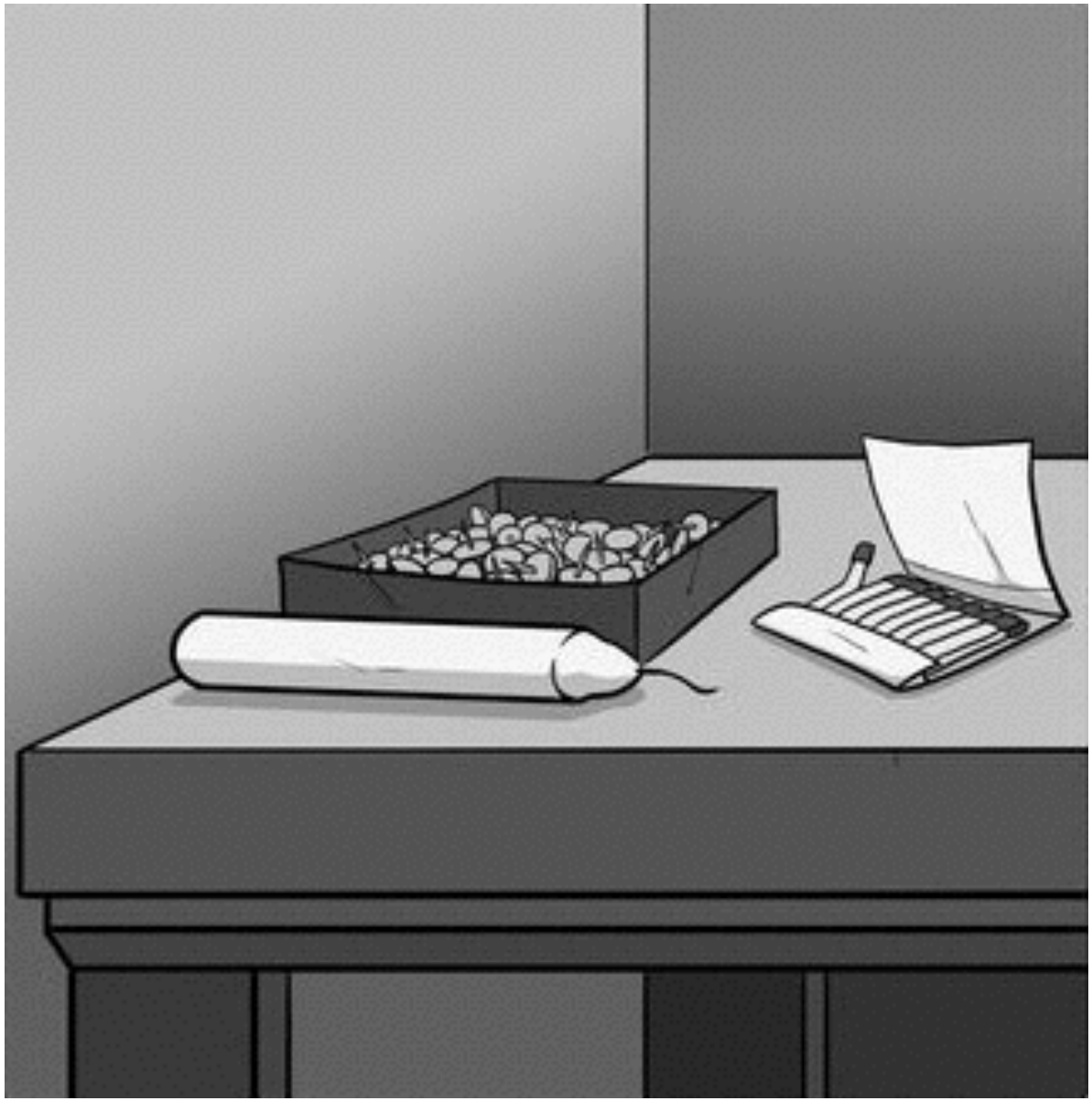
Cost of Traditional Development vs Understanding Business



Cost percentages from:
Standish 2014 CHAOS report

Solving symptoms or root causes?

WHAT PROBLEMS CAN BE SOLVED BY TECHNOLOGY, AND WHICH ARE BUSINESS PROCESS, BEHAVIOURS, CULTURE, ETC.?



WHICH IS YOUR PROBLEM?

ROUTINE

NONROUTINE

5

Technology: Algorithmic vs Heuristic Work

Algorithmic

- Process and end product well-defined
- Follow a set of instructions down a single pathway to one conclusion.
- Inputs and outputs: mostly known, well-established
- Mass-processing

Outputs: tax returns, passports, simple permits, simple claims, border access,

Major positive technology impact

Heuristic

- No algorithm or single set of instructions exists for it
- Create ideas and strategies, experiment and create hypotheses until a solution is found.
- Inputs and outputs: vague, ambiguous
- Customized

Outputs: policy, regulations, business cases, ministerial or TB submissions, research, investigations, media products, annual reports, analysis, plans, briefing notes, presentations

Typically minor positive technology impact

	Business solution: Process, Mindsets, Leadership	Technology Solution currently exists in marketplace
Spikes in incoming volume not managed, causing….	✓	
Overloaded staff, unbalanced work so low productivity	✓	✓
"Job" (desired outcomes) of the output or document unclear	✓	
Lack of early engagem	✓	
Review and "su reviewers	✓	
Review feedback oss org	✓	✓
Same process for si complex files	✓	
Process is invisible, not understood, status of file unclear		✓
No triggers to move work to the next step		✓

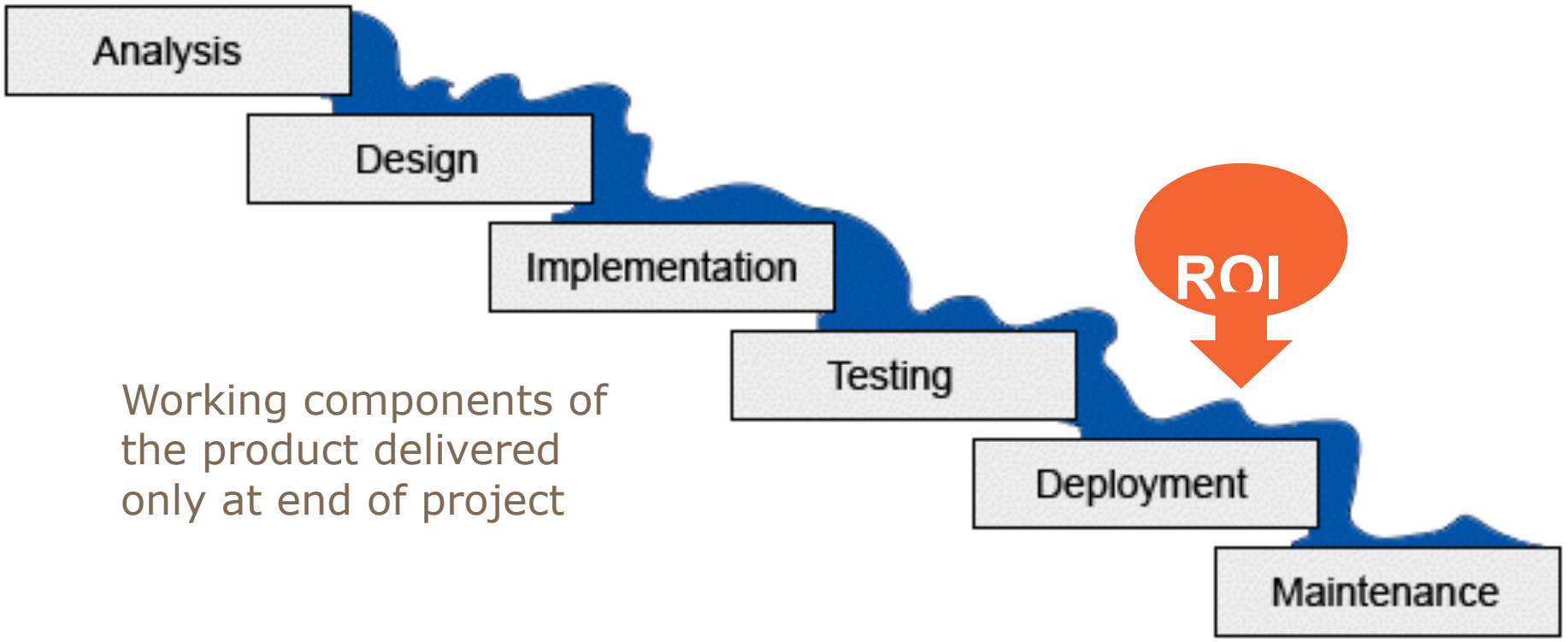
Few of these root causes are currently solvable by technology - Who should be accountable for which cause: COO or CIO?


1
2
3
5
8
13
21
?

Now, with fewer requirements, build them with Scrum

AGILE / SCRUM

Traditional “Waterfall” Project Management

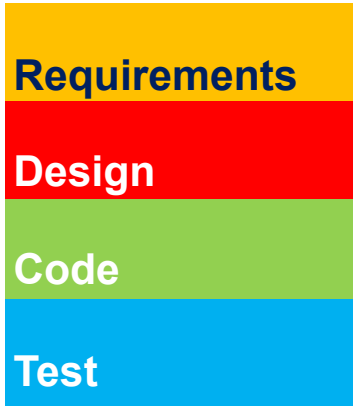


Working components of the product delivered only at end of project

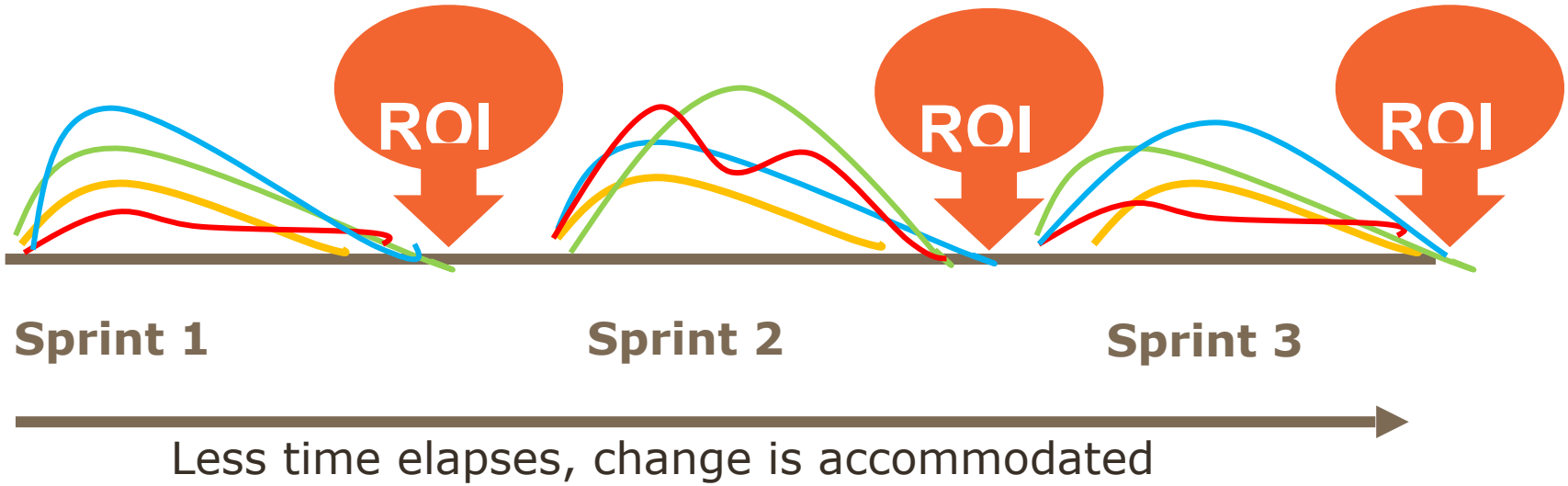
Time elapses, things change, progress slows

Agile Project Management

Working components of the product delivered frequently, not only at end of project



Work done face-to-face in cross-functional development team, broken down into short “sprints”



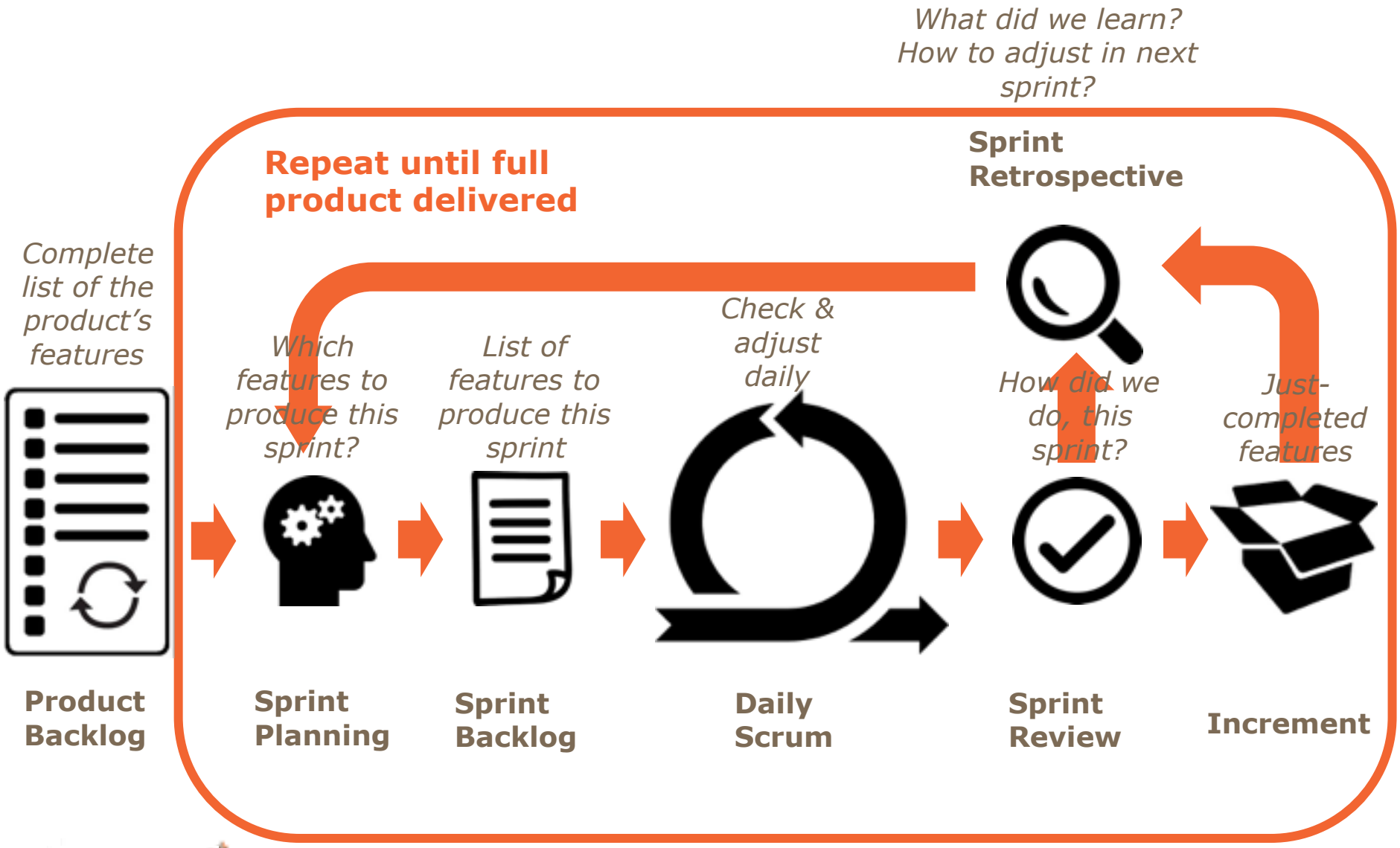
Comparison

Traditional Project Management	Agile Project Management
Client involved at front end, but kept away once project begins	Client involved at front end, and throughout project to ensure value being created
Product planned extensively then developed and tested	Work delivered to client in small, frequent releases to get rapid feedback
Escalate problems to leaders automatically	Attempt to resolve problems at team level first, builds trust and speed
Assumes you can anticipate and plan for problems	Assumes you cannot foresee all events, so need to plan well, but also adjust and adapt quickly

Comparison

Traditional Project Management	Agile Project Management
Sticking to processes and plan is critical	Less focus on processes, more on adapting to deliver the product
ROI realized at the end of the project	Small, fast, iterative prototypes that work – early, frequent ROI
A leader defines who does what	Leader sets direction, parameters, team self-organizes and group decisions are made
Team members work separately	Team member work face to face
"Lessons learned" are formally documented at the end of the project.	The team reflects throughout the project on how to change and these changes are made immediately

Scrum Framework



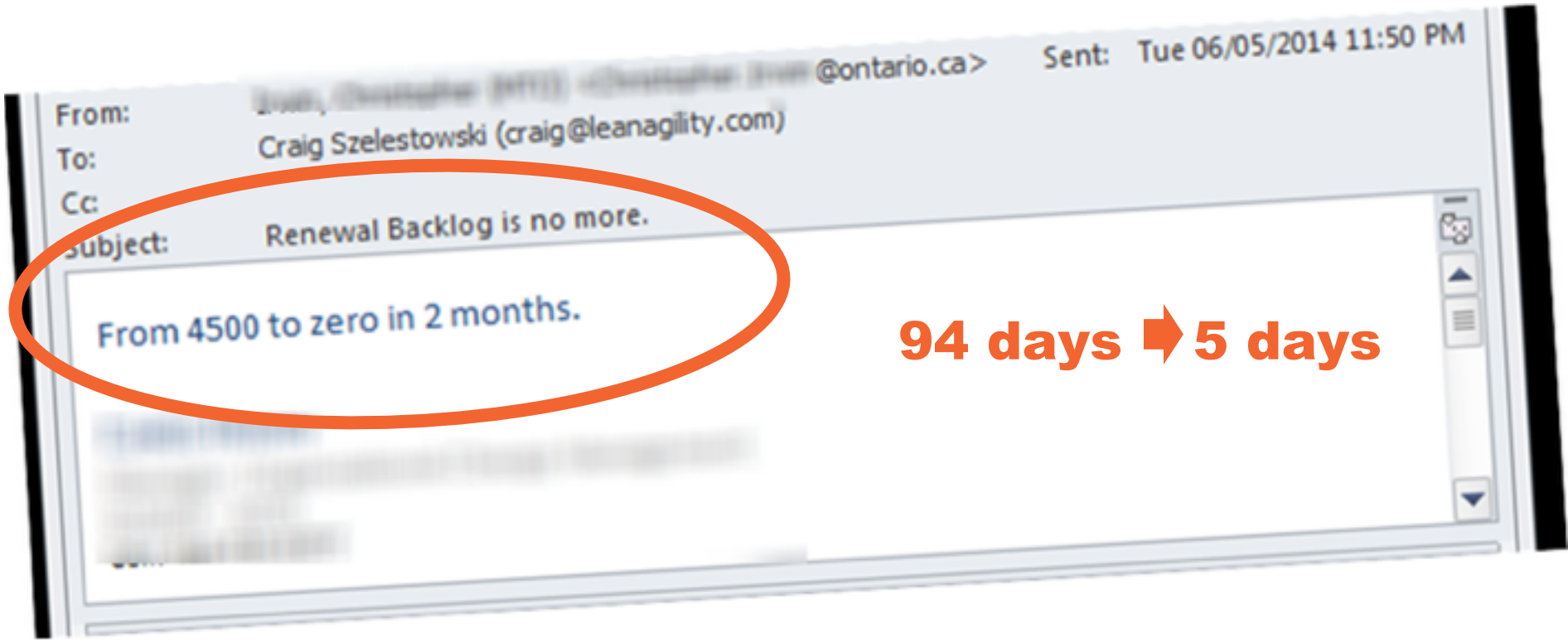
Not Just to Develop Software….

- Creating complex surveys
- Creating museum exhibitions
- Developing policies
- Assessing job classifications
- Implementing process improvements

RESULTS

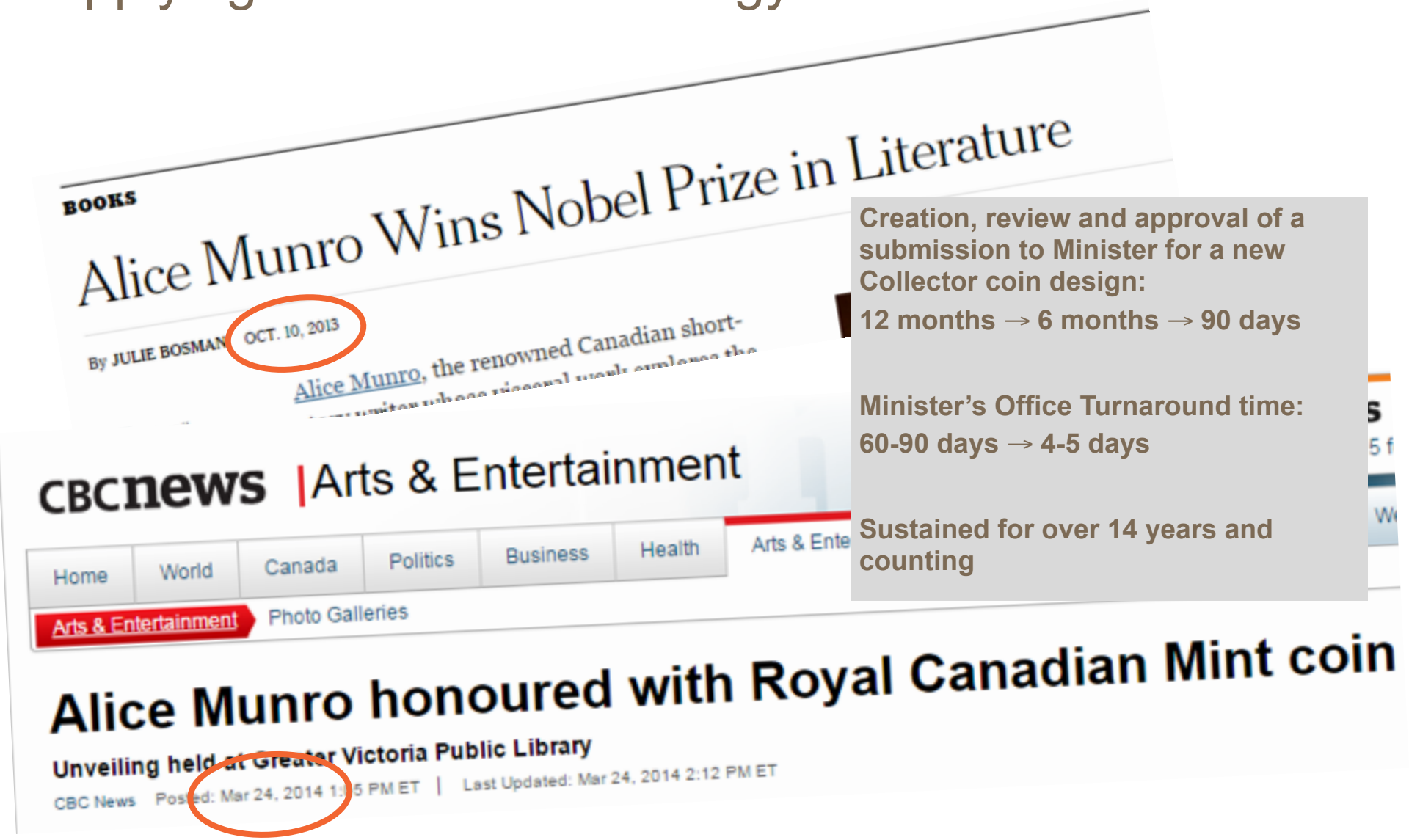
“This is no longer a $ 300k project that has to go through our approval process. Four days of a Business Analyst and Coder and the existing system will deliver the refined requirements”

-CIO, Federal Regulatory Agency, 2012



- **Achieved without any spending on technology.**
- **Multi-million dollar case tracking project - opportunity to de-scope – how much tracking required when process takes 5 days vs old state of 94 days?**

Applying Lean and Technology to Heuristic Work



Creation, review and approval of a submission to Minister for a new Collector coin design:

12 months → 6 months → 90 days

Minister's Office Turnaround time:

60-90 days → 4-5 days

Sustained for over 14 years and counting

Opportunity:

- Identify the problem(s) to be solved first
- Then streamline business process
- Then identify which remaining problems can be solved by technology
- Implement the technology

Benefits:

- CIO, Dev. Team, accountable for technology-solvable issues
- COO accountable for core business issues
- IT development, support and maintenance resources freed up to work on other priorities, getting more done with same or less effort, creating even more value

Questions?

We teach this material in the following formats:

- 90 minute presentation to your leadership group
- Full-day workshop for leadership groups, or Business Analysts, Business Architects
- Three-day Yellow Belt for IT plus follow-on coaching.

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