Money for Nothing

and your change for free: Agile Contracts

With help from Google, Yahoo, Microsoft, IBM, Oracle, MySpace, Adobe, GE, Siemens, BellSouth, GSI Commerce, Ulticom, Palm, St. Jude Medical, DigiChart, RosettaStone, Healthwise, Sony/Ericson, Accenture, Trifork, Systematic Software Engineering, Exigen Services, SirsiDynix, Softhouse, Philips Medical, Barclays Global Investors, Constant Contact, Wellogic, Inova Solutions, Medco, Saxo Bank, Xebia, Insight.com, SolutionsIQ, Crisp, Johns Hopkins APL, Motley Fool, Planon, OpenView Venture Partners, Juske Bank, BEC, Camp Scrum, DotWay AB, Ultimate Software, Scrum Training Institute, AtTask, Intronix, Loyalty Lab, Version One, OpenView Labs, Central Desktop, Open-E, Zmags, eEye, Reality Digital

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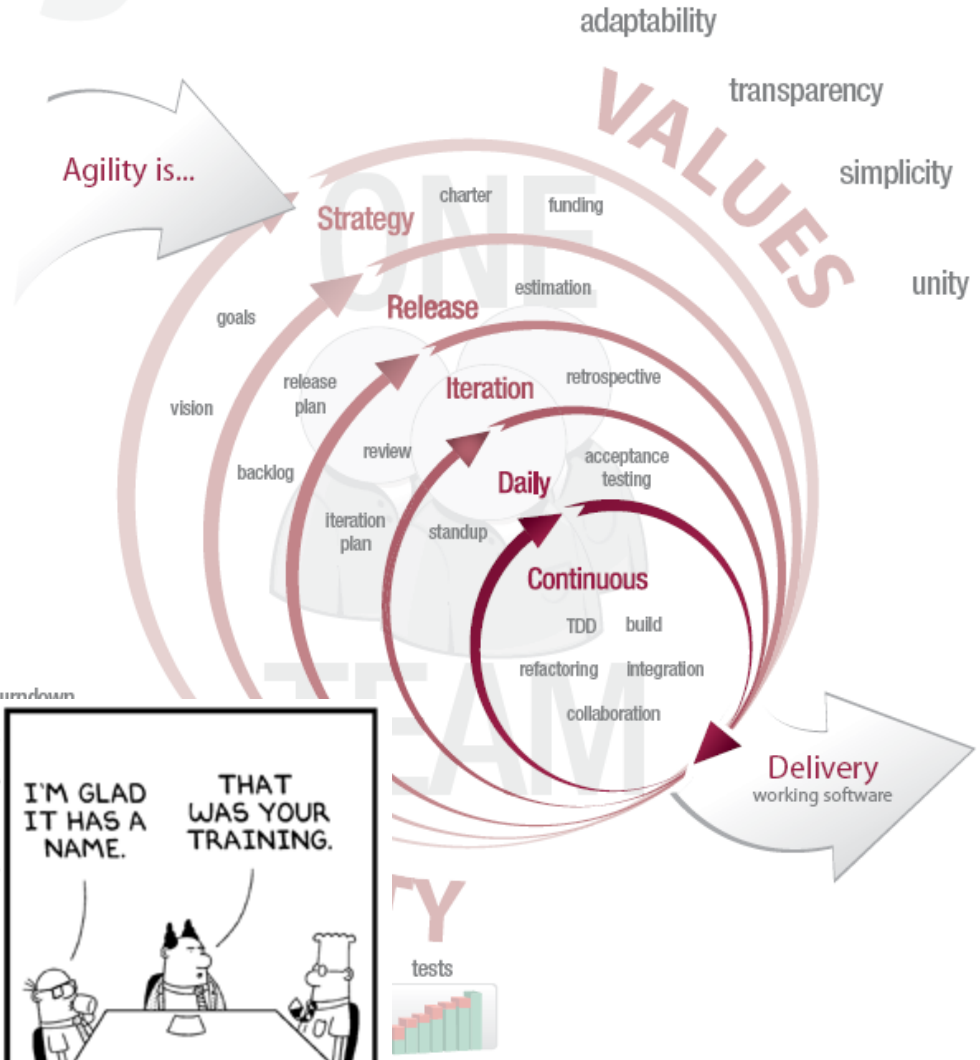
Agile Development



ScrumButt

Accelerate Success

Nokia Test Origins

Nokia Siemens Networks

- In 2005, Bas Vodde started training and coaching teams at Nokia Networks in Finland. The first Nokia test focused on Agile practices
  - jeffsutherland.com/scrum/basvodde2006_nokia_agile.pdf
- By 2007, Siemens had acquired Nokia Networks to form Nokia Siemens Networks with over 60,000 employees and 15 billion Euro in revenue. Bas Vodde moved to China to train Nokia Siemens Networks staff on Scrum and updated the Nokia Test to include Scrum practices.
- In 2007, Jeff Sutherland tuned the Nokia Test for Scrum Certification and in 2008 developed a scoring system.
  - agileconsortium.blogspot.com/2007/12/nokia-test.html
  - jeffsutherland.com/scrum/Agile2008MoneyforNothing.pdf
- Each person on the team takes a sheet of paper and prepares to score eight questions on a scale of 1-10.
- Teams average their score and team scores are averaged across a training class or a company to determine the Nokia test score.

ScrumButt Checklist

Nokia Test by Bas Vodde

(fine tuned by Jeff Sutherland)

- Are you doing iterative development?
  - Sprints must be time boxed to four weeks or less
  - Software features must be tested and working at the end of an iteration
  - Sprints must start with an Agile specification
- Only 50% of Scrum teams worldwide meet this criteria

http://www.slashphone.com/media/a7/7120.jpg

Question 1 - Iterations

- No iterations - 0
- Interations > 6 weeks - 1
- Variable length < 6 weeks - 2
- Fixed iteration length 6 weeks - 3
- Fixed iteration length 5 weeks - 4
- Fixed iteration 4 weeks or less - 10

Question 2 - Testing

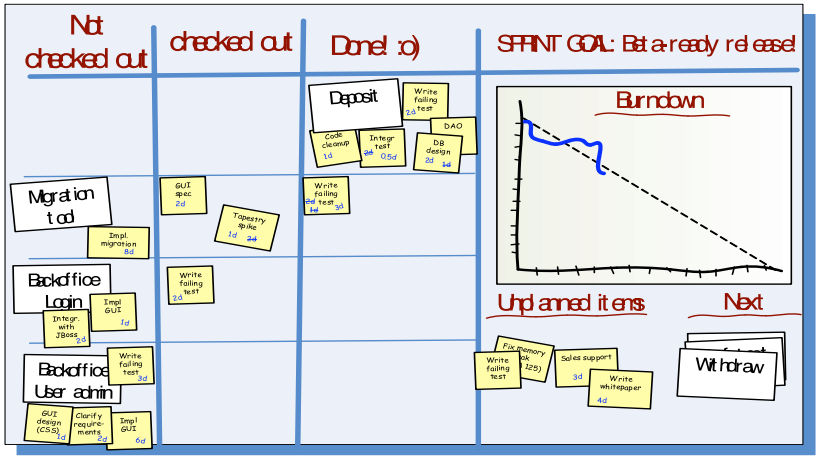
- No dedicated QA - 0
- Unit tested - 1
- Feature tested - 5
- Features tested as soon as completed - 7
- Software passes acceptance testing - 8
- Software is deployed - 10

Question 3 - Agile Specification

- No requirements - 0
- Big requirements documents - 1
- Poor user stories - 4
- Good requirements - 5
- Good user stories - 7
- Agile specifications - 8
- Good user stories tied to Agile specifications as needed - 10

Nokia Test - Part 2

- You know who the product owner is
- There is a product backlog prioritized by business value
- The product backlog has estimates created by the team
- The team generates burndown charts and knows their velocity
- There are no project managers (or anyone else) disrupting the work of the team



Kniberg, Henrik. Scrum and XP from the Trenches: How We Do Scrum. Version 2.1, Crisp, 5 Apr 2007.

Question 4 - Product Owner

- No Product Owner - 0
- Product Owner who doesn’t understand Scrum - 1
- Product Owner who disrupts team - 2
- Product Owner not involved with team - 2
- Product owner with product backlog - 5
- Product owner with release roadmap with dates based on team velocity - 8
- Product owner who motivates team - 10

Question 5 - Product Backlog

- No Product Backlog - 0
- Multiple Product Backlogs - 1
- Single Product Backlog - 3
- Product Backlog prioritized by ROI - 5
- Product Owner has release plan based on Product Backlog - 7
- Product Owner can measure ROI based on real revenue, cost per story point, or other metrics - 10

Question 6 - Estimates

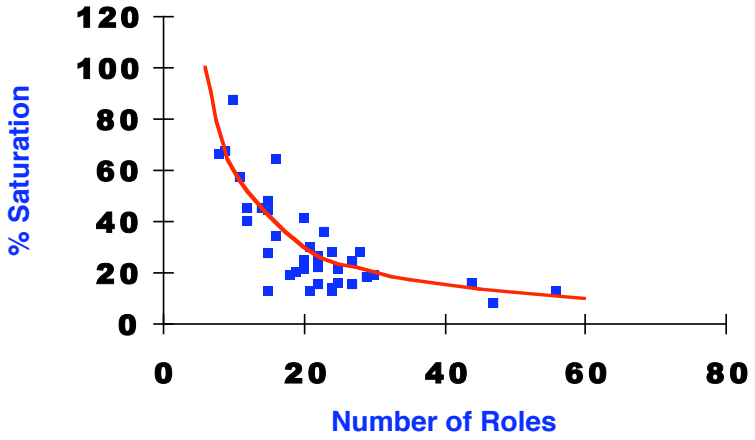
- Product Backlog not estimated - 0
- Estimates not produced by team - 1
- Estimates not produced by planning poker - 5
- Estimates produced by planning poker by team - 8
- Estimate error < 10% - 10

Question 7 - Burndown Chart

- No burndown chart - 0
- Burndown chart not updated by team - 1
- Burndown chart in hours/days not accounting for work in progress - 2
- Burndown chart only burns down when task in done - 4
- Burndown only burns down when story is done - 5
- Add 3 points if team knows velocity
- Add two point if Product Owner release plan based on known velocity

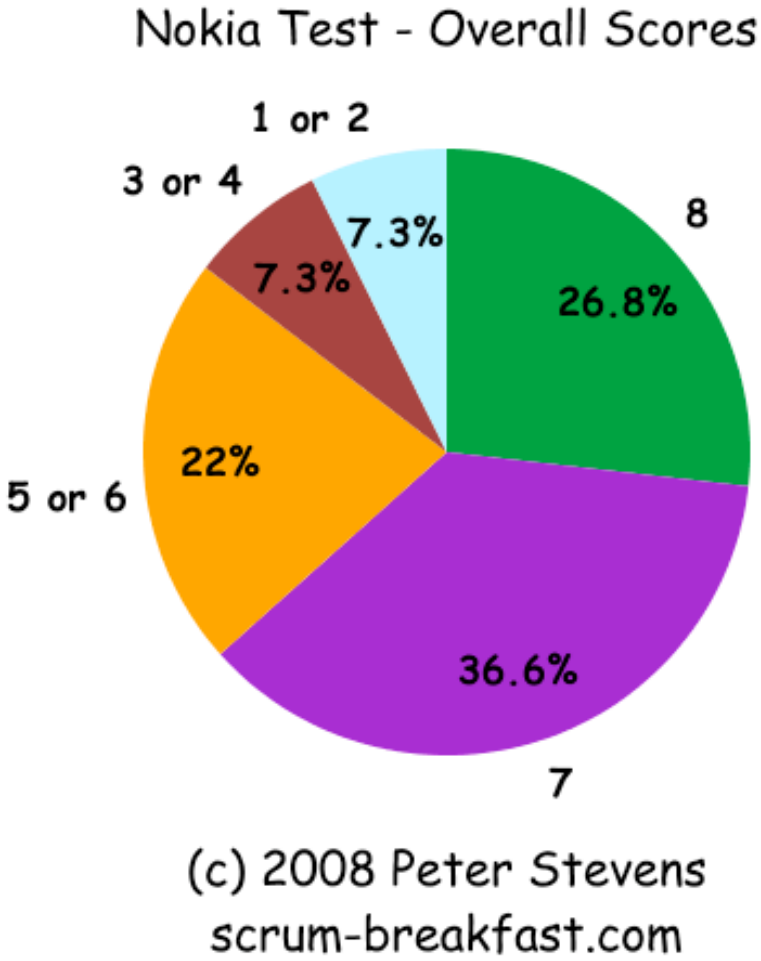
Question 8 - Team Disruption

- Manager or Project Leader disrupts team - 0
- Product Owner disrupts team - 1
- Managers, Project Leaders or Team leaders assigning tasks - 3
- Have Project Leader and Scrum roles - 5
- Noone disrupting team, only Scrum roles - 10



Organizational Patterns of Agile Software Development by Coplien and Harrison (2004)

ScrumButt
74% of Scrum teams



Design goals for Scrum:

Alan Kay's innovation strategy at Xerox Parc

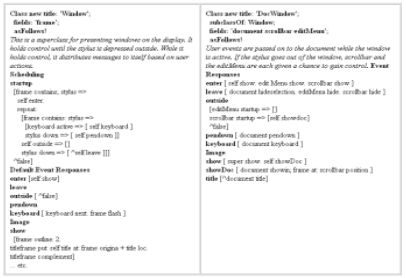
Personal Workstation

Mouse (SRI)

Ethernet

Windows Interface

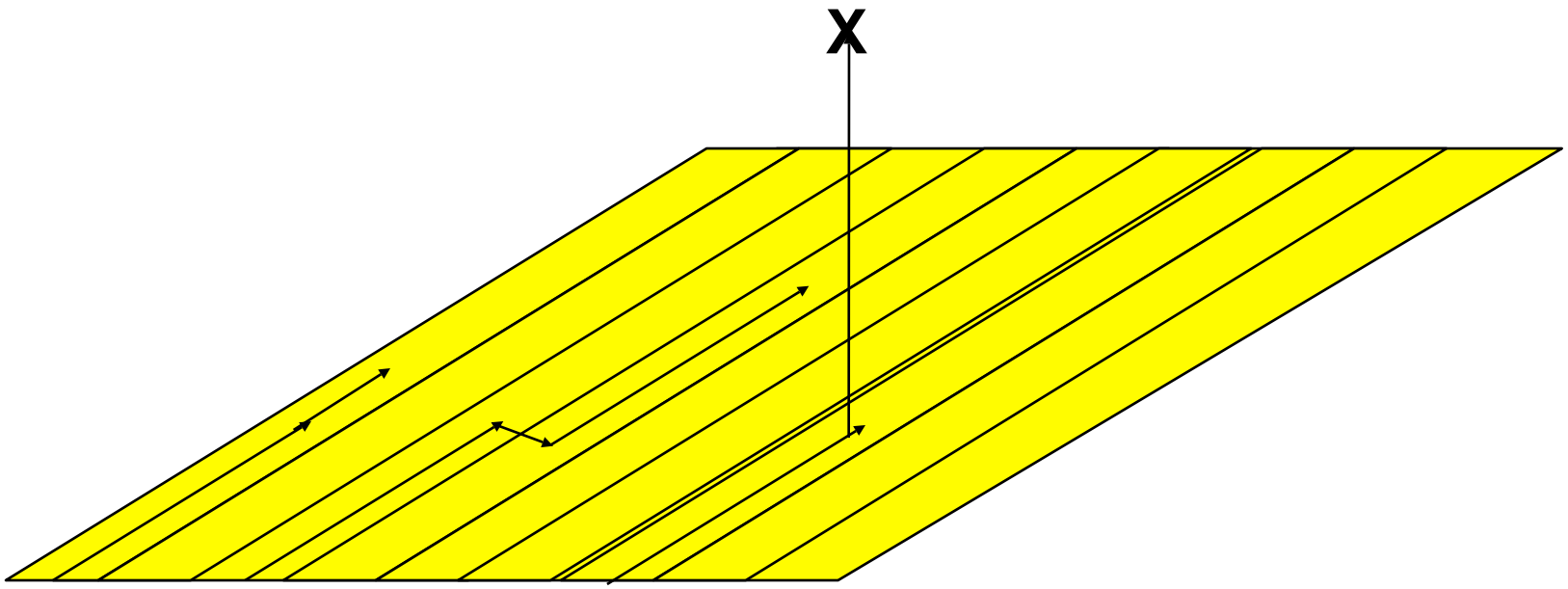
Laser Printer

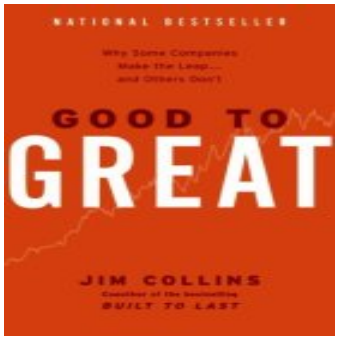


Smalltalk

Alan Kay's Innovation Strategy

- Incremental - NO
- Cross Discipline - NYET
- Extreme data points - YES

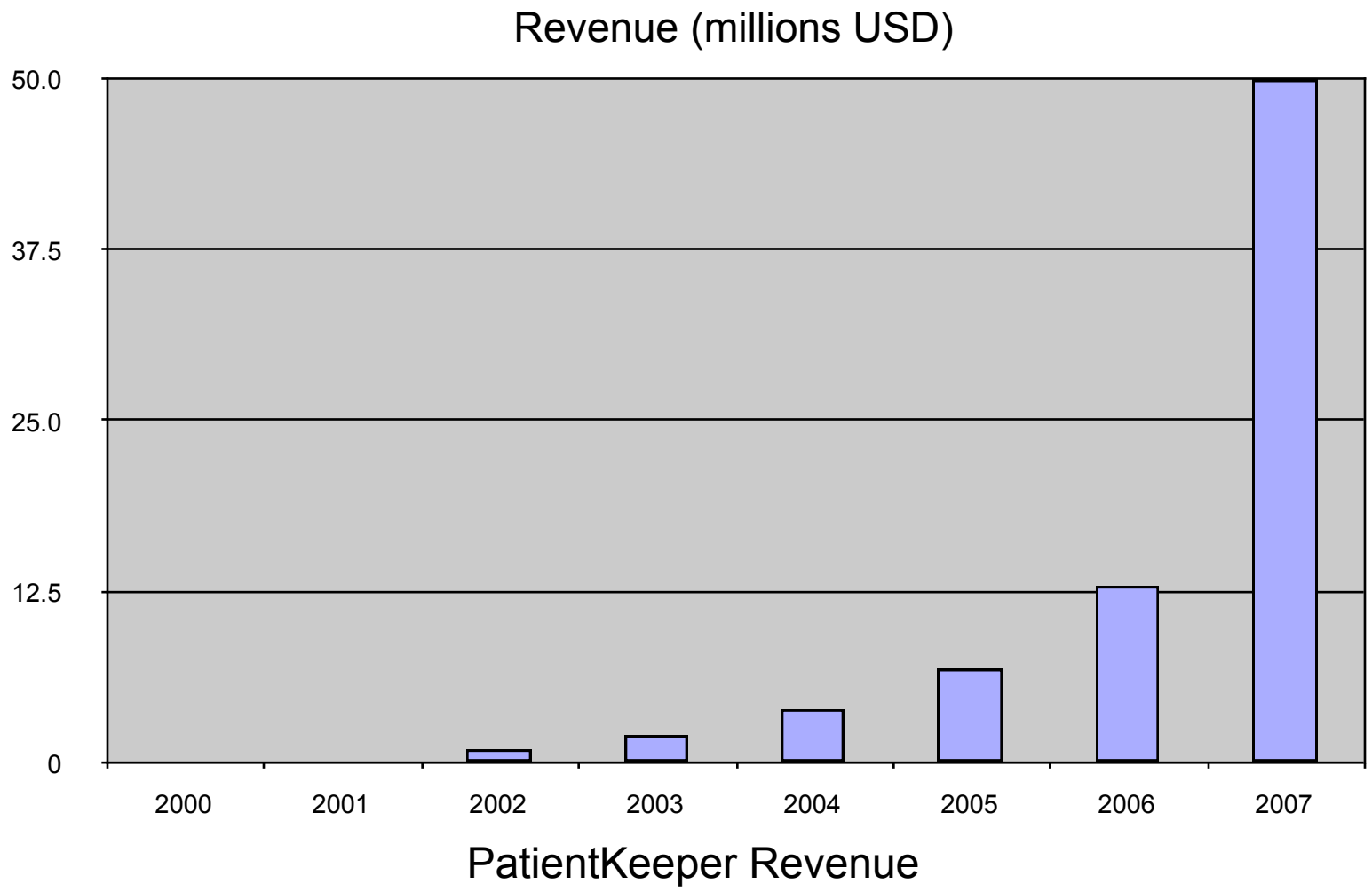




Out of the Box

- Scrum looked at projects that were off the chart
  - IBM surgical team
  - Takeuchi and Nonaka
  - Borland Quattro Project
- *Scrum: A Pattern Language for Hyperproductive Software Development*
  - By M. Beedle, M. Devos, Y. Sharon, K. Schwaber, and J. Sutherland. In Pattern Languages of Program Design. vol. 4, N. Harrison, Ed. Boston: Addison-Wesley, 1999, pp. 637-651.
- Going from good to great means Toyota or better.

Pretty Good to Great Scrum



Another way to measure ScrumButt

- Great Scrum - annual revenue up 400%
  - PatientKeeper
  - Others in Scandinavia I can't talk about
- Good Scrum - revenue up 300%
  - Companies in Scandinavia I can't talk about
- Pretty Good Scrum - revenue up 150% - 200%
  - Systematic Software Engineering - 200%
  - Google - 160%
- ScrumButt - revenue up 0-35%
  - Yahoo - average 35% productivity improvement
  - IDC 2008 study of Agile companies - 16% improvement

ScrumButt vs. Scrum Design Goal

Follow the money: Learn from venture capital investments

- Invest only in Agile projects
  - 1 hyperproductive company out of 10 is good enough to meet investment goals
  - Invest in Scrum training could get 2 hyperproductive
- Invest only in market leading, industry standard processes – this means Scrum and XP
- Ensure teams implement basic Scrum practices
  - Everyone must pass Nokia test
  - Management held accountable at Board level for impediments
  - Training in secret sauce for hyperproductive teams

openview venture partners

Velocity in Function Points/Dev month

	Waterfall[1]	Scrum[1]	SirsiDynix[2]
Person Months	540	54	827
Lines of Java	58,000	51,000	671,688
Function Points	900	959	12673
Function Points per Dev/Mon	2.0	17.8	15.3

1. M. Cohn, User Stories Applied for Agile Development. Addison-Wesley, 2004
2. J. Sutherland, A. Viktorov, J. Blount, and N. Puntikov, "Distributed Scrum: Agile Project Management with Outsourced Development Teams," in HICSS'40, Hawaii International Conference on Software Systems, Big Island, Hawaii,

Russian Velocity = Dutch Velocity

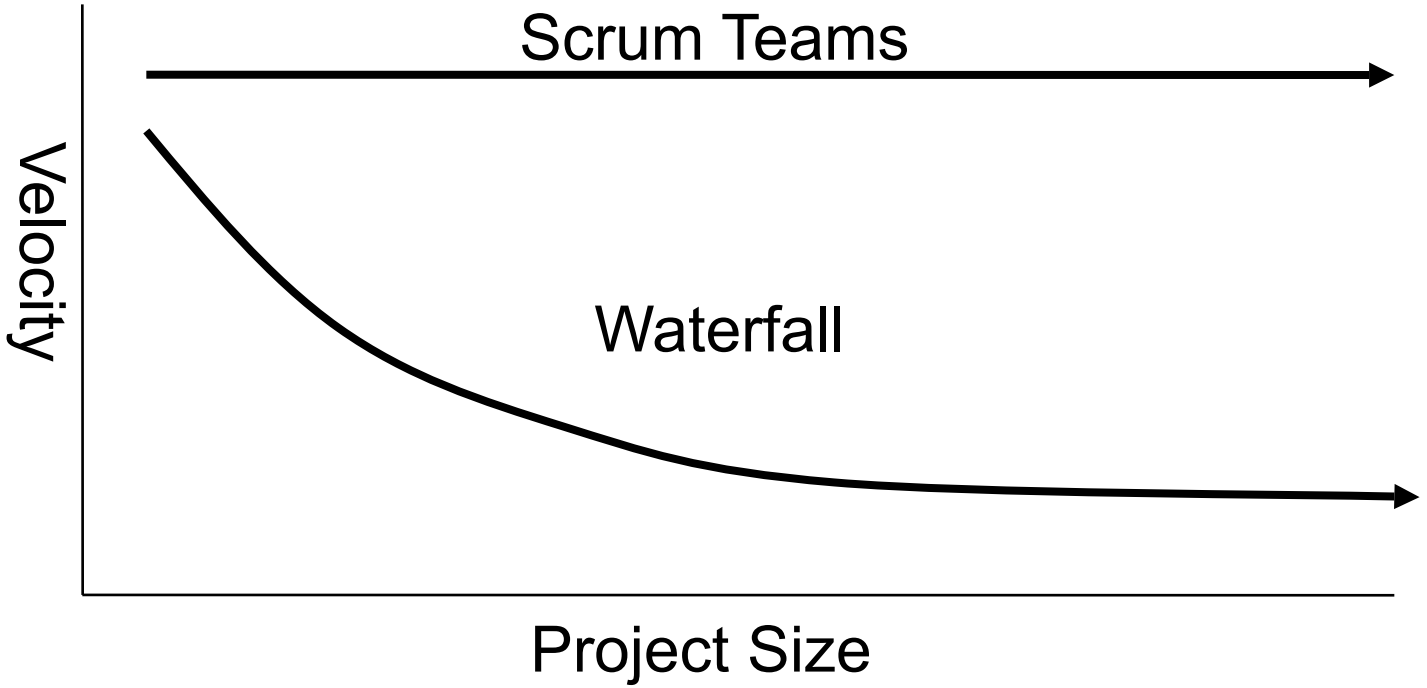
	SirsiDynix[2]	**Xebia[3]**
Person Months	827	125
Lines of Java	671,688	**100,000**
Function Points	12673	**1887**
Function Points per Dev/ Mon	15.3	**15.1**

1. M. Cohn, User Stories Applied for Agile Development. Addison-Wesley, 2004
2. J. Sutherland, A. Viktorov, J. Blount, and N. Puntikov, "Distributed Scrum: Agile Project Management with Outsourced Development Teams," in HICSS'40, Hawaii International Conference on Software Systems, Big Island, Hawaii,
3. J. Sutherland, G. Schoonheim, E. Rustenburg, M. Rijk. Fully Distributed Scrum: The Secret Sauce for Hyperproductive Outsourced Development Teams. Agile 2008, Toronto, Aug 4-8 (submission, preliminary data)

Comparison of Agile and CMM Results for an Application of 1000 Function Points - Capers Jones 2008

	Agile	CMM Level 3	Difference
Size in Function Points	1,000	1,000	0
Size in Java Code Statements	50,000	50,000	0
Monthly burdened cost	$7,500	$7,500	0
Work hours per month	132	132	0
Project staff	5	7	2
Project effort (months)	66	115	49
Project effort (hours)	8,712	15,180	6,486
Project schedule (months)	14	19	5
Project cost	$495,000	$862,500	$367,500
Function Points per Month	**15.15**	**8.67**	**-6.46**
Work hours per function point	8.71	15.18	6.47
LOC per month	758	435	-323
Function point assignment scope	200	143	-57
LOC assignment scope	10,000	7,143	-2,857
Cost per function point	$495	$863	$368
Cost per LOC	$9.90	$17.25	$7.35
Defect potential	4,250	4,500	250
Defect potential per function point	4.25	4.50	0.25
Defect removal efficiency	90%	95%	0.5%
Delivered defects	425	225	-200
High-severity defects	128	68	-60

Linear Scalability of Pretty Good Scrum Projects



•J. Sutherland, A. Viktorov, J. Blount, and N. Puntikov, "Distributed Scrum: Agile Project Management with Outsourced Development Teams," in HICSS'40, Hawaii International Conference on Software Systems, Big Island, Hawaii, 2007.
•J. Sutherland, C. Jacobson, and K. Johnson, "Scrum and CMMI Level 5: A Magic Potion for Code Warriors!," in Agile 2007, Washington, D.C., 2007.

If a company can deliver great Scrum, how can they monetize their performance?

- Industry incentives now are for projects to be late.
- Many vendors only make money if the project is late and over budget due to change requests and building functionality the end users do not want.
- CIOs participate in this disfunctional behavior using their current proposal and contracting process.
- The whole industry could be viewed as driven by bad incentives and faulty practices as 83% of waterfall projects over $3M fail - see Gartner Group summary of Standish data.

Typical Fixed Price Contract

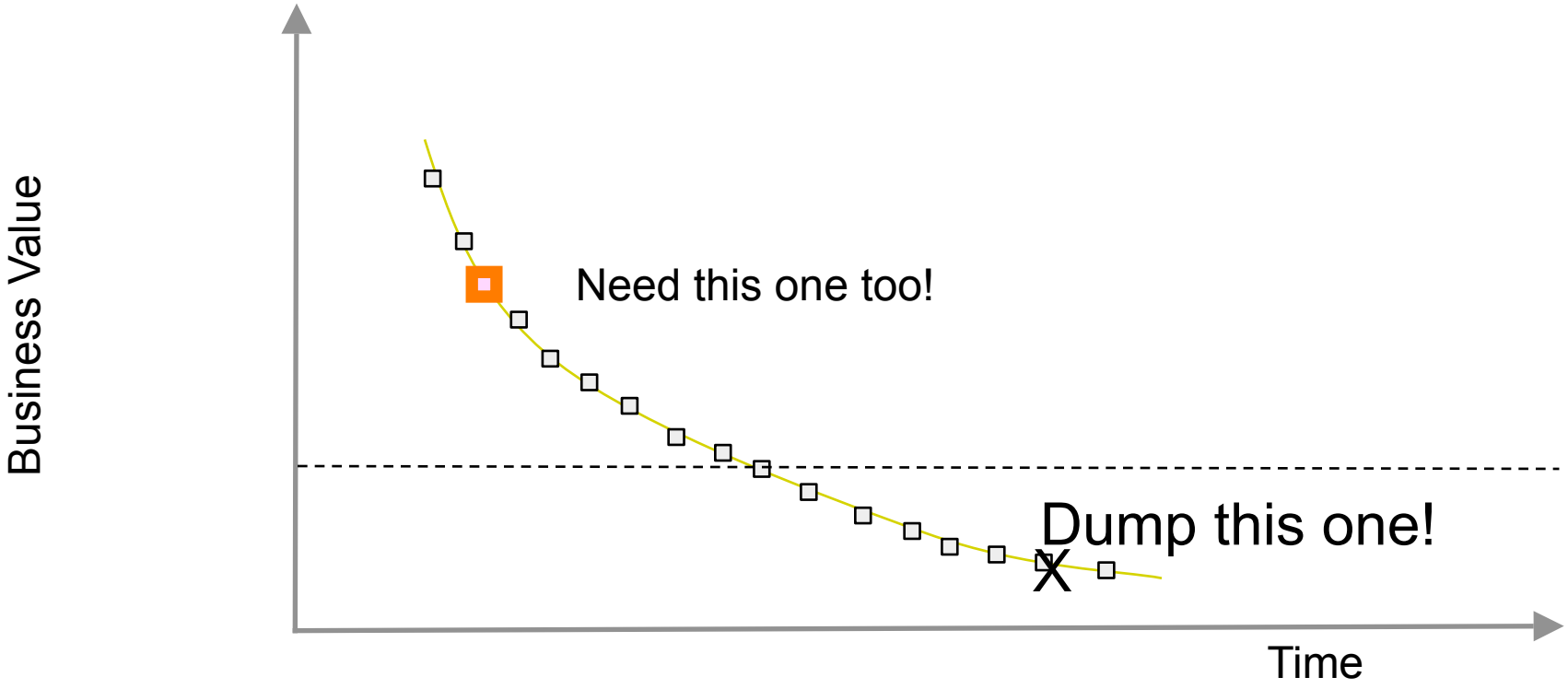
- Client sends out tender to 3+ potential suppliers. Everything is equally important. Assume total is $5M.
- All suppliers place a bid of around $5M.
- One supplier chosen and contract signed.
- Change requests start coming in from day one. All changes are expensive. Project ends up with millions of dollars in change requests.
- After acceptance there still are more work to do because of bugs and some functionality that is not really completed or useful.
- Project cost at end is $10M - delivered late.

Example project from National Public Radio in the U.S.

The Alternative - Change for Free

- Use a standard fixed price contract which includes time and materials for changes
- Insert the Change for Free option clause.
  - The customer must execute this option by working with the Scrum Team every Sprint.
  - Failure to do this voids this clause and the contract reverts to time and materials.
- The Scrum Product Owner reprioritizes the Product Backlog at the end of each Sprint.
- Changes are included with these rules
  - Changes in priorities are free if total contract work is not changed
  - New features may be added for free at Sprint boundaries if low priority items of equal work are removed from contract.
- Requirements of customer:
  - Features are prioritized by business value and implemented in order of maximum value
  - Users follows project closely and work with the Product Owner to produce a quality Product Backlog

Change for free!

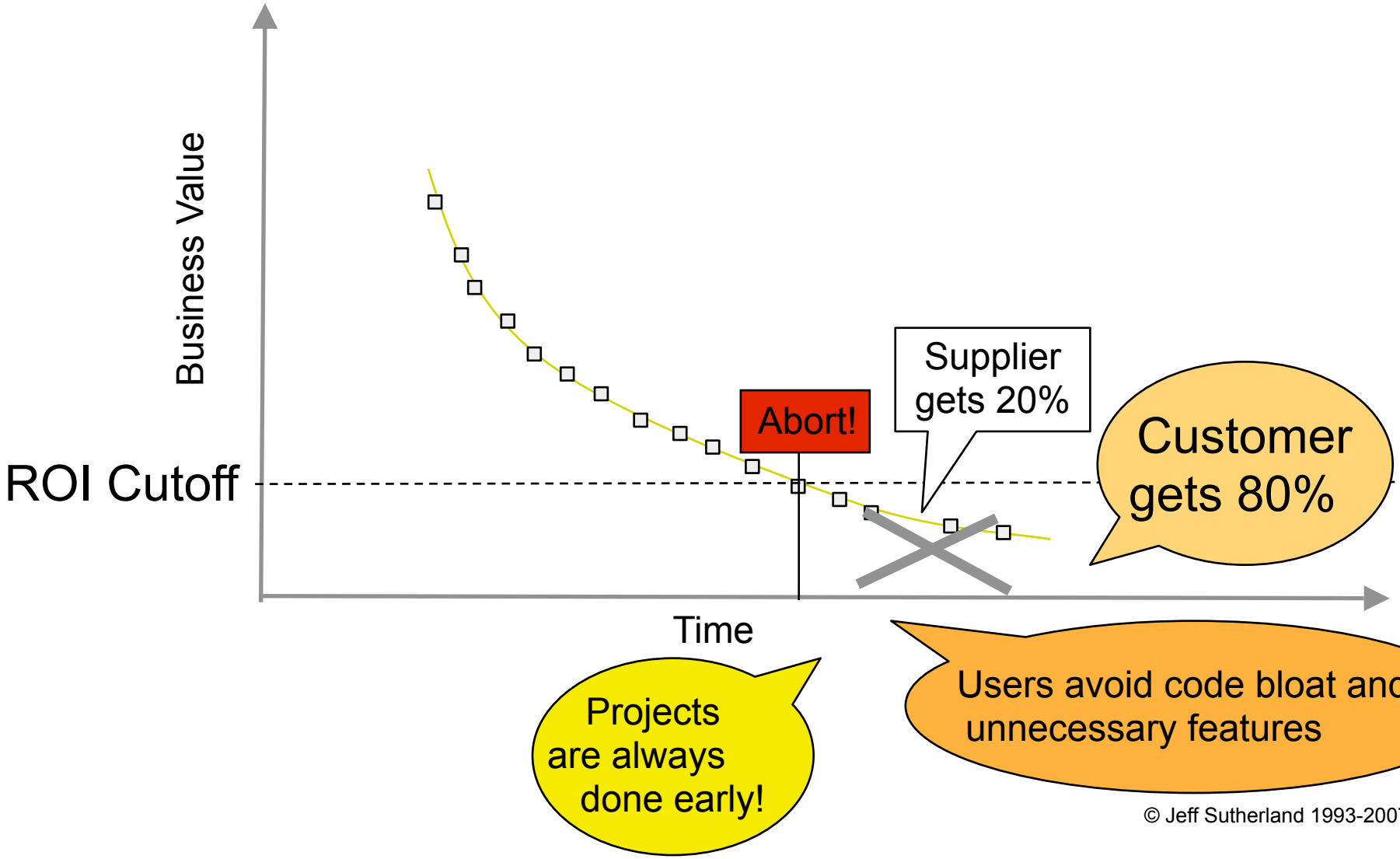


We can do better than Change for Free

Money for Nothing!

- Use standard fixed price contract
- Insert Money for Nothing clause.
  - Only operational if customer follows Scrum rules
  - Mutually agreed estimates for all work items
  - Otherwise contract reverts to time and materials
- Customer determines ROI cutoff where implementation of the next feature costs more than the value of the feature.
- Supplier allows termination of contract at any time for 20% of remaining contract value.
- Supplier assumes risk of late delivery of mutually agreed work.

Money for Nothing!



Fixed Price, Fixed Date

Money for Nothing and Change for Free

Contract provisions:

1. Customer involvement allows us to tune the system to the latest known business value.
2. Any requirement that hasn't already been worked on can be swapped out for another of equal value;
3. Priority of requirements can be changed by customer;
4. Customer may request additional releases at any time at prevailing time and material fees;
5. Customer may terminate contract early if value has been satisfied for 20% of remaining unbilled contract value

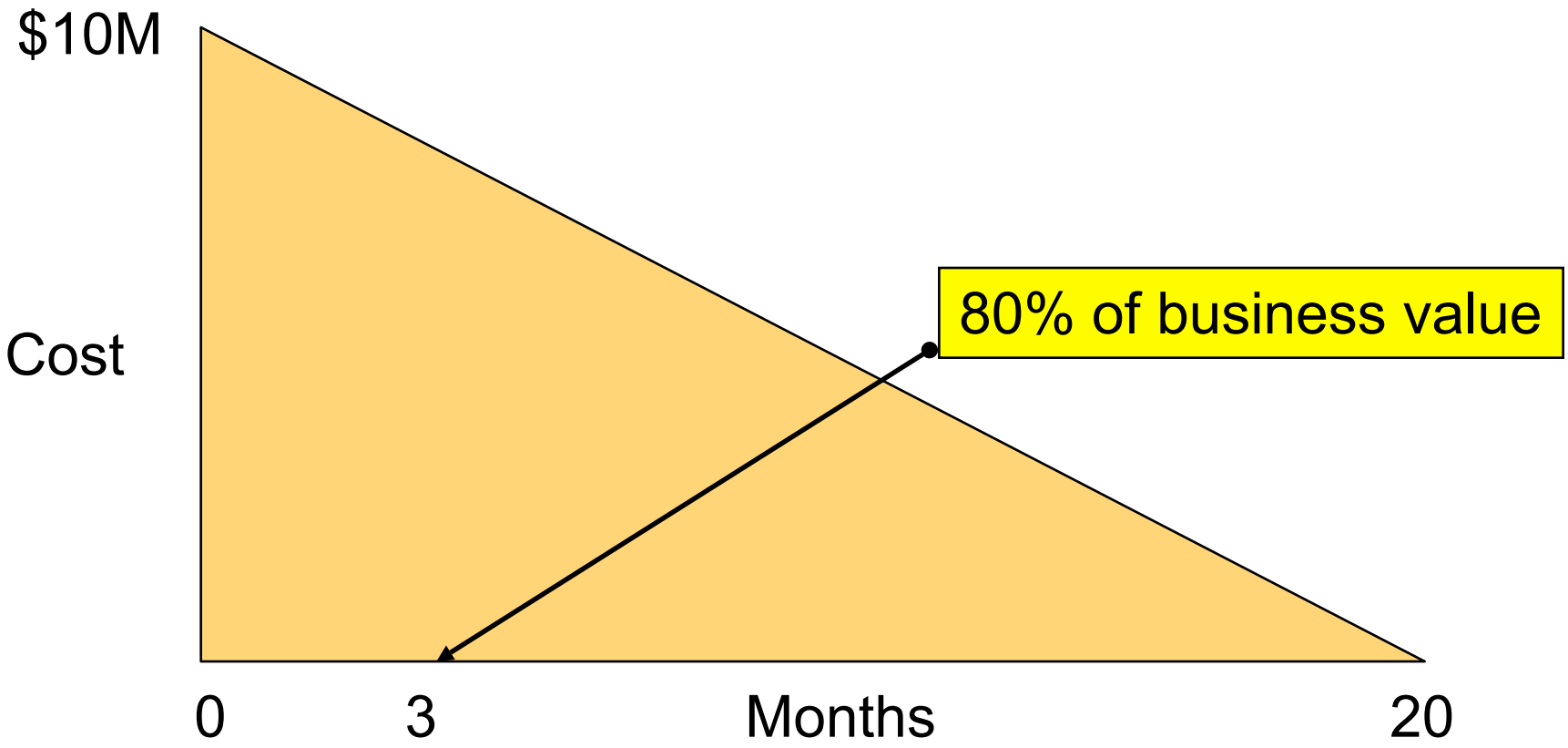
Fixed Resources, Fixed Date

Money for Nothing and Change for Free

Development plan:

1. Product Owner involvement allows us to tune the system to the latest known business value.
2. Any requirement that hasn't already been worked on can be swapped out for another of equal value;
3. Priority of requirements can be changed by Product Owner;
4. Product Owner may request additional releases at any time at prevailing time and material schedules;
5. Product Owner terminates development and releases product as soon as value of next feature is less than cost of not shipping early.

Project Management Software for Construction Company - $10M

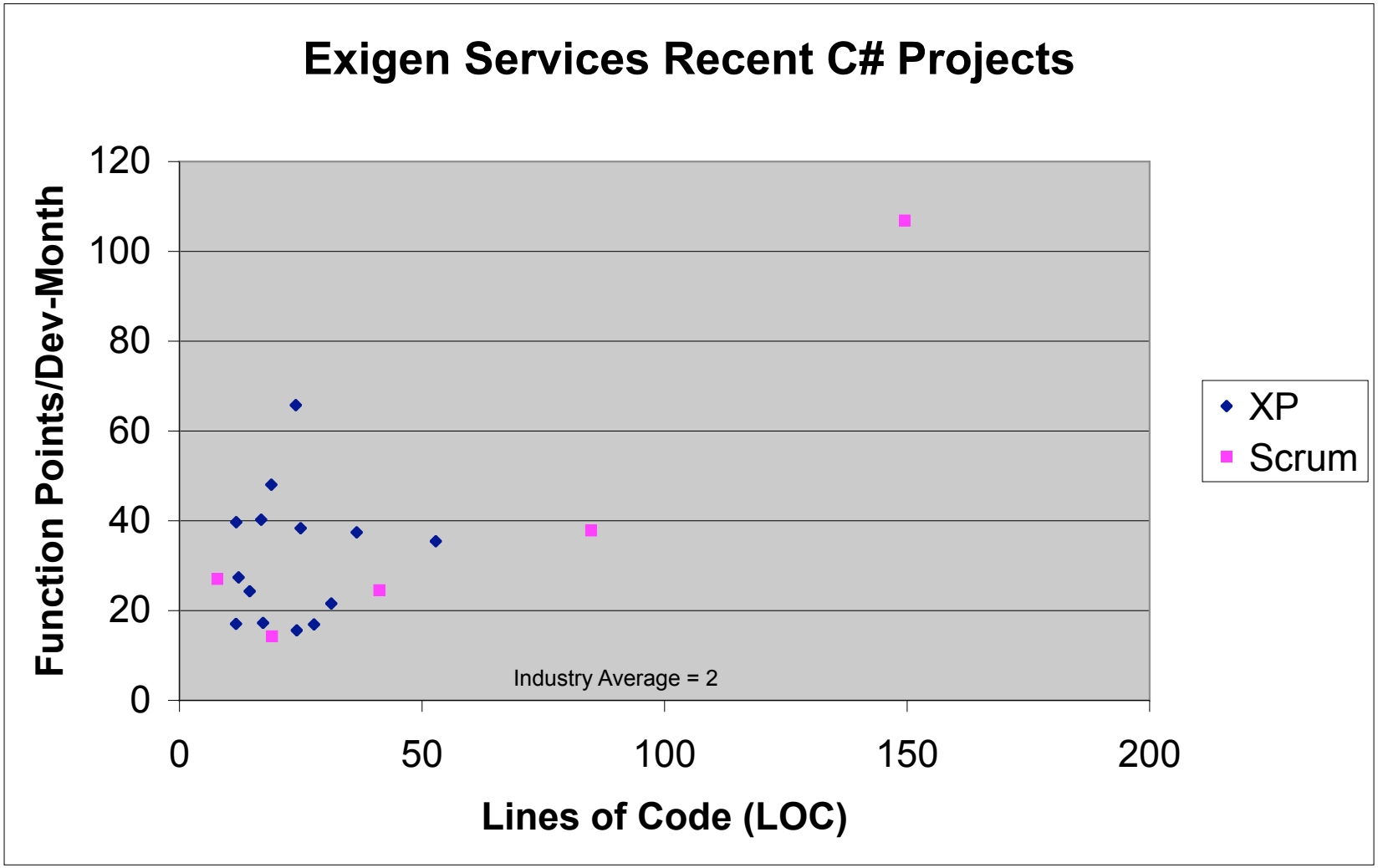


Early Termination

Money for Nothing!

- 15% of $10M = $1.5M
- 20% of $8.5M = $1.7M
- Total = $3.2M
- Cost to build = $1.3M
- Margin 15% ⟶ 60%
- Earnings increase by 400%
- Early retirement strategy

Russian projects velocity data suggests high velocity is not an accident



Exigen Services

- Over 2000 developers
- Agile division in St. Petersburg has virtually all hyperproductive teams
- “Money for Nothing” is strategic imperative to capture value of high velocity production
- Requires major training and upgrade of procedures for engaging with customers in management, marketing, and deployment groups.
- ***Disruptive technology*** for dismantling worldwide waterfall market of late projects over budget with unnecessary features, poor quality, and huge staffs of unnecessary overhead.

Results of Customer Research

- Set up CIO dinners in London and New York for 50 people.
- 1/3 of attendees ready to start contracting using “Money for Nothing” strategy.
- 1/3 ready to start talking about using this strategy and wanted sales team engagement.
- 1/3 said their organizations were too dysfunctional to execute this strategy
  - could not get good product backlog
  - could not prioritize features by value
  - lack of trust between management, development, and vendors

CIO Requests

- CIOs want to know velocity of vendor teams before committing to long term project
- Early short term engagement to develop product backlog and validate development team velocity was viewed as desirable.
- Long term contract negotiations based on real velocity of early teams.

EXIGEN services

Example: Flex-Agility 2.0

- Flex-Agility 2.0 is a premium product
  - It is not the lowest cost way or even the quickest way to conduct a project with Exigen
  - It does not fit all contracts
- It is a way to guarantee a delivery and still have the option for a high degree of change
- It is not for all customers
  - We may say “no” and work on T & M
- T & M is low risk so standard T & M is OK
- Flex-Agility 2.0 is more shared risk and so commands a premium
- We deliver highest business value first and so early termination with value is a real and desired outcome

Flex-Agility 2.0 Value Proposition

- Larger projects (>500K) where customer wants guarantees or shared risk with Agile flexibility
- Buy vs. Build
  - Certainty of Buy but with bespoke Build
- Guaranteed velocity and estimates
  - Commercial penalties for underachieving velocity
- Best endeavors to correct problems
- Business value rather than head count tracking and billing
- Option of closing early should enough business value be achieved – this is “Money for Nothing”
- Option of adding new requirements into scope during project by replacing with lower priority requirements of equivalent “size” – this is “Change for Free”

Exigen Services White Paper Outlining Next-Generation Outsourcing Engagement Model

San Francisco, July 8, 2008 – Exigen® Services, the leading next-generation application outsourcing provider, today announced the availability of a free white paper that details how fixed price Agile in a distributed outsourcing environment works. The white paper, titled “Unlimited Change for A Fixed Price: the Next Generation of Outsourcing Contracts” provides the framework for establishing a truly collaborative model that further aligns IT and the business with their outsourcing provider. Download the paper here: www.flex-agility.com.

Recommendations

- ScrumButt
  - Stick to time and materials body-shopping with low margins
  - Work hard for the rest of your life

- Hyperperforming teams
  - Monetize your performance
  - For five times the velocity, get five times the margins
  - Use “Money for Nothing and Change for Free” strategy
- Make the world a better place by altering the fundamental structure of the IT industry
  - Implement the design goal of Scrum, bring all projects in early, disrupt waterfall competitors, and execute the early retirement plan!

Questions?