



Agile 2014 Orlando - July 13, 2014



Presenter: Alex Brown

# SCIUMINC.: Who We Are

Scrum Inc. is the Agile leadership company of Dr. Jeff Sutherland, co-creator of Scrum. We are based in Cambridge, MA.

We maintain the Scrum methodology by:

- Capturing and codifying evolving best practices,
- Conducting original research on organizational behavior
- Adapting the methodology to an ever-expanding set of industries, processes and business challenges



We also help companies achieve the full benefits of Scrum through our full suite of support services:

- Training (Scrum Master, Product Owner, Agile Leadership, webinars, etc.)
- Consulting (linking Scrum and business strategy, customizing Scrum)
- Coaching (hands-on support to Scrum teams)
- Publishing and new content development

We run our services company using Scrum as the primary management framework, making us a living laboratory on the cutting edge of "Enterprise Scrum"

Find out more at <u>www.scruminc.com</u>.



### Agenda

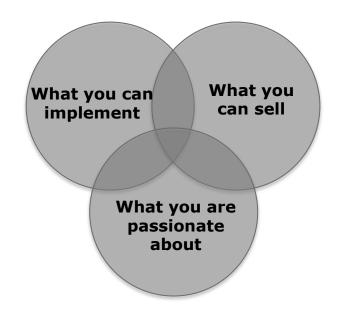
- What do we mean by business value
  - Sources of business value
  - Different ways to measure business value
- How Scrum Inc. addresses business value
  - Tiered work streams
  - Our cadence and approach
  - NPV per point as a unifying metric
- Deep dive into NPV/point analysis
  - Examples for different Epic types

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#### What Is Business Value?

### **Business Value results from the intersection of three dimensions**

- 1. What you can implement successfully and sustainably
- 2. What your customers want and will buy (even if they don't know it yet)
- 3. What your team is excited about creating



#### Should be an explicit consideration of the organization

- Estimate at Epic rather than User Story level
  - What is the source of value that will be created?
  - How much effort will it take to create that value?
- Prioritize Epics by ROI (most value with the least effort)
- Coordinate with your Finance Department
  - They already have a view of production function and ROI metrics
  - Engage them as an ally they will love that you are speaking with them



#### Sources of Business Value

#### Market Value

Will this feature allow us to:

- Sell more units?
- Charge a higher price?
- Reduce the cost of providing the product/service?

#### Risk Reduction

How will completing this story allow us to:

- Develop or refine hypotheses about the market?
- Prove technical assumptions?

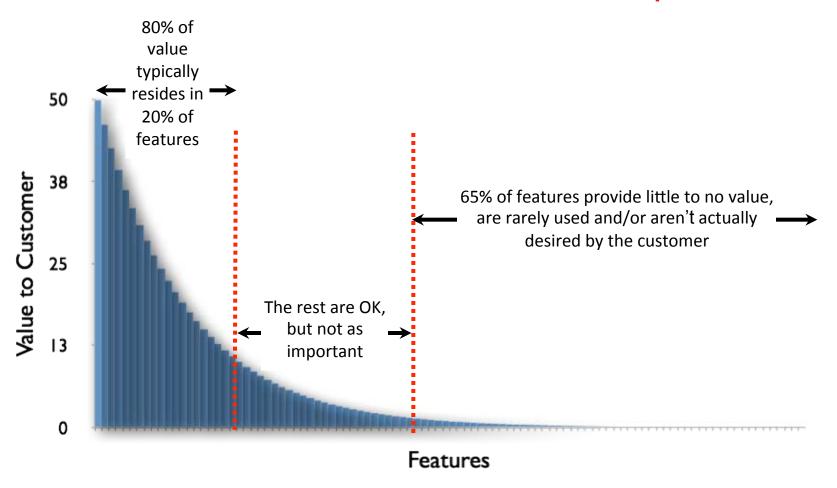
## Capability Building

Will completing this story:

- Enable our team to do something we couldn't before?
- Reduce or eliminate the need for low-value activity?



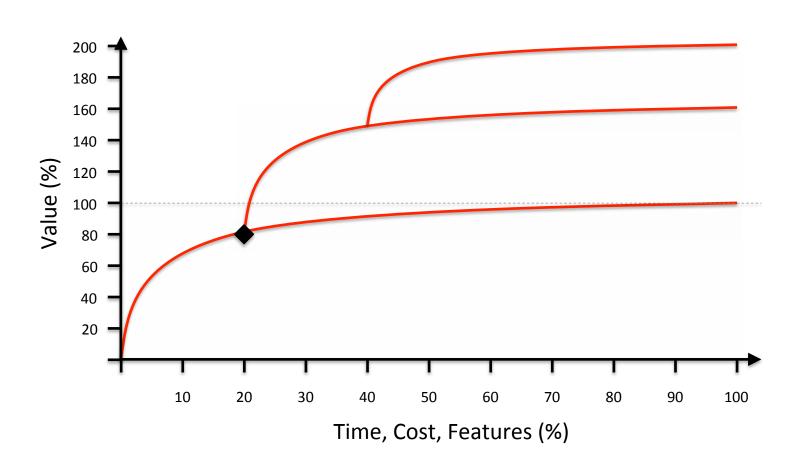
### Not All Features Are Created Equal!



How can you tell ahead of time which features add value and which don't?



# Prioritizing Features Effectively Can Deliver Radically More Business Value





**Bubble Sort** 

- Start at the top of a list of stories
- · Compare value of stories one at a time
- Move the lower value story down one place in list
- · Repeat until all stories have been compared

Planning Poker

- Pick a low value item and assign it 3 points
- Use estimation cards to independently estimate a story
- Show estimates, discuss highs and lows, estimate again
- When everyone is within three cards, average the estimates

Break-even analysis

- Compare cost of feature creation with expected incremental revenue of feature
- · How many incremental units would we need to sell to equal the development cost?

Cost of Delay

- Estimate in a lightweight way the opportunity cost of NOT completing a feature
   Often divided by feature size to get a "proxy" for ROI

Return On Investment

- = [Total expected revenue from new feature]/ total cost to develop feature] - 1
- · Expressed as a percent

Cash Flow Analysis

- · Over a reasonable planning horizon, what are the revenues and expenses associated for a feature in each month?
- What is the net effect on cash flow over that horizon?

Net Present Value

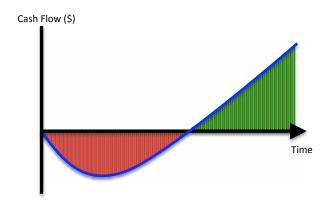
 Building on the cash flow analysis, what is the effect of including the "time value of money" in the calculation? (i.e. a dollar today is worth more than a dollar tomorrow)

Detailed

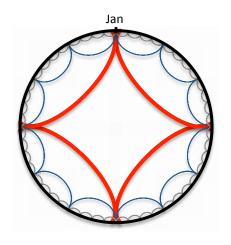
# Four Pillars to Scrum Inc.'s Business Value Process



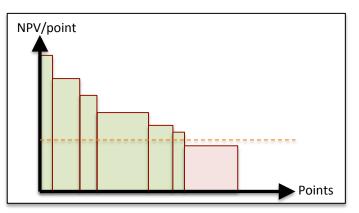
#### 1. Tiering Activity by Category



3. NPV/point for each Epic



2. Regular Quarterly Cadence



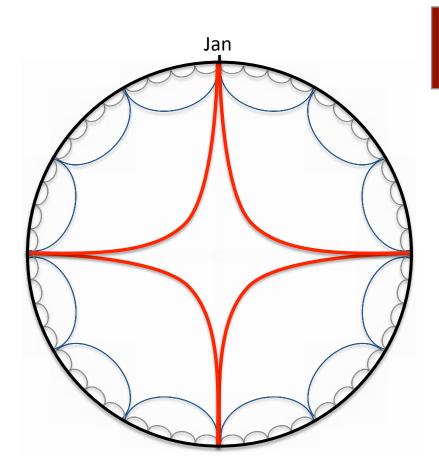
4. Prioritization of Epics

# Scrum Inc. Activities Tiered into Parallel Workflows

New knowledge Growth and creation innovation activities Efficiency improvements Micro-classes Online content Value and revenue creation activities Coaching Publishing Consulting CSM class CSPO class Mgmt. workshops IT, communications, and web Keeping the Lights On (KLO) **Invoicing** Expense processing Proposal response



# Business Value Vision Updated on a Regular Cadence



### Multiple parallel planning, review, and retrospective cadences

#### Yearly

- Strategic goals
- Financial estimates

#### Quarterly

- Epic definition/prioritization
- Release planning
- Financial Forecasts and goals

#### **Monthly**

- Actual financial performance
- Epic progress check-in

#### Each Sprint •

- User story planning
- Backlog refinement
- Sprint goals

# Business Value Calculation Anchored to the "Production Function"

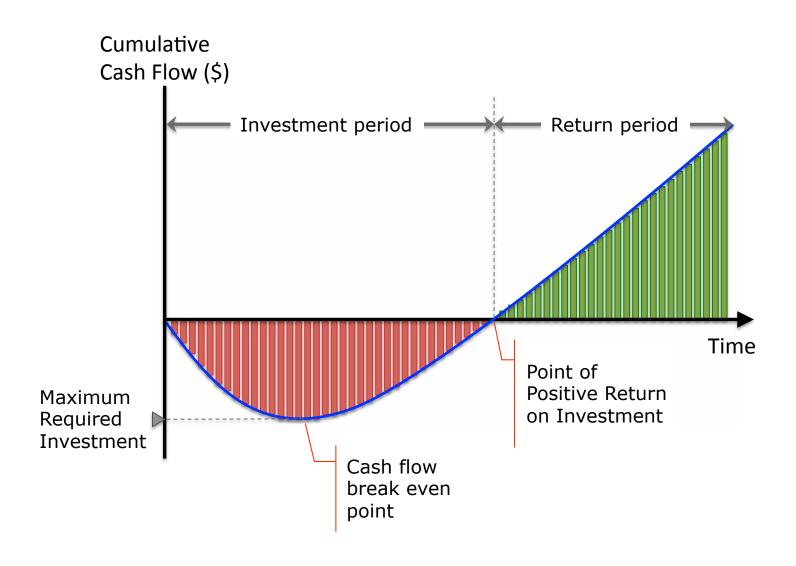
- Production Function describes the mechanics by which organization accomplishes its mission.
- NPV/point calculations should link to variables in the Production Function
- Agreeing on the Production function helps align the product vision

#### Some Examples:

- [Profit] = [Units Sold] x ([Price/Unit] [Cost/Unit]) [Fixed Cost]
- [Profit] = [Monthly Users] x [Member Fee] [Fixed Cost]
- [Impact] = [People Impacted] x [Magnitude of Impact]



### Cash Flow Profile for a Typical Epic





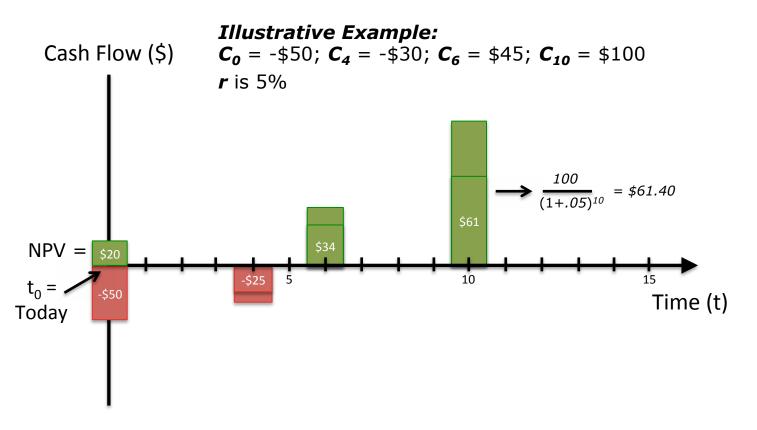
### Calculating Net Present Value

$$\sum_{t=0}^{N} \frac{C_t}{(1+r)^t}$$

#### Where

 $m{C_t}$  is the net cash flow in time period t  $m{r}$  is the discount rate  $m{t}$  is the time period

 ${\it N}$  is the total number of time periods considered



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### NPV/Point Drives Better Decision Making

#### One metric to encapsulate return on investment

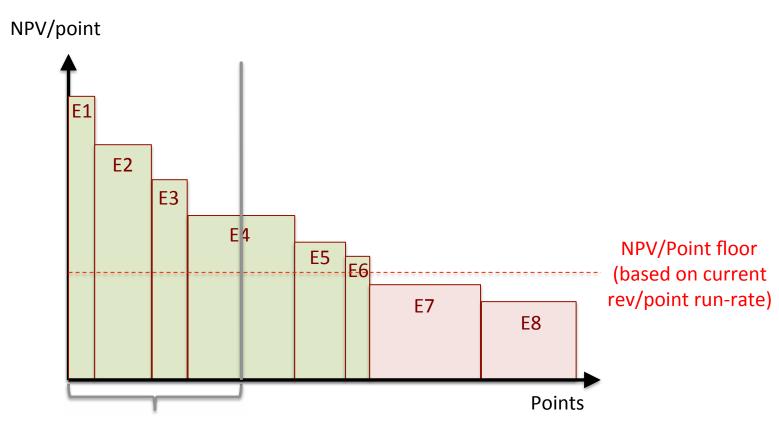
- 1. Calculate Epic NPV
- 2. Can also include "intangible" benefits
  - Use Planning Poker to estimate business value relative to reference activity with known cash flows
- 3. Estimate story points to complete Epic
- 4. Divide total NPV by estimate of points
  - Answers: How can we get most return with least effort?

#### Focuses team on optimizing returns

- Eliminates most internal power politics
- Encourage teams to think in business case terms
- Highlights key assumptions and variables to confirm
- Supports after-action review to improve accuracy
- Improves ability to forecast financial results



# Prioritize Candidate Epics by NPV/Point Minimum level set by current Rev/point run rate



Available quarterly team capacity for Epics (based on yesterday's weather)



### Scrum Inc. Case Study: Setup

#### Publish a book

- New revenue opportunity
- \$400,000 advance, paid at key milestones
  - 25% at contract signing
  - 50% at draft delivery (+12 mo.)
  - 25% at publication (+9 mo.)
- Estimate \$5,000 in travel and research expenses
- Estimate intangible benefit of brand building at 2x reference story (reference worth \$30,000)
- Estimate 1,500 points of effort to research, write and edit

# Install videoconference system

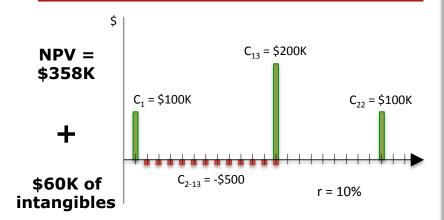
- Performance improvement
- No additional revenues
- \$5,000 in up-front expense
- Team estimates closer team integration will increase velocity by approx. 2%
  - Current velocity is 200pts/sprint
  - Current revenue "run rate" is \$250/pt
- Estimate 25 points of effort to research, purchase and install
- Assume system will need replacement in 3 years

Which project should we do first?
Should we do them both?



### Case Study: Calculate NPV/Point



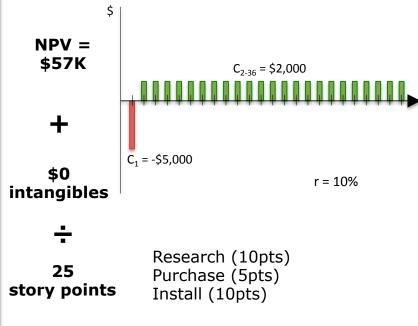


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1,500 story points

Research (300pts)
Writing (100pts/chapter x10)
Editing (200pts)

#### Install videoconference system



\$279/point

VS.

\$2,279/point



#### Exercise: Scrum Café

- You and your team recently opened a local restaurant. It has:
  - A small kitchen with sink, fridge and range-top
  - 5 café-style tables
- You have been serving soup and sandwiches at lunch, have attracted a small but loyal following, and are just breaking even with weekly revenue of \$5,000.



photo credit: \*Light Painting\* via photopin cc

- Since you use Scrum to run your restaurant, you know that team velocity is 100 points for each week-long sprint
- You have found a bank that will give you a loan at an interest rate of 7%, but they will want a compelling argument for how you plan to use the money

What should you do to grow your business?

#### Exercise: Scrum Café 2

- Your team has suggested five potential enhancements:
  - 1. Get a liquor license and start serving alcohol
  - Add ten tables of outdoor seating
  - 3. Stay open for dinner as well as lunch
  - 4. Advertise in the local paper or online
  - 5. Install a high capacity espresso machine
- 1. Using a "bubble sort" or "planning poker" approach, which of these improvements would you complete, and in what order?
- 2. Discuss each option
  - How does it create value?
  - What assumptions are you making, how could you verify them?
  - What is the estimated NPV/point?
- 3. Does this change the order in which you would implement?

#### Conclusion

- We spend lots of time in Scrum talking about maximizing business value...
- ...But most companies still use very qualitative processes to estimate business value
  - Creates unresolved arguments about one pet project versus another
- Using a more quantitative lens makes business value explicit, and is well worth added effort
  - Allows explicit comparison of feature vs. tech debt
  - Enables explicit consideration of risk
    - Done quarterly at the Epic level, not for every story and sprint

### **Questions?**







### **Stay Connected**

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