Beyond Agile Pilot Stage? Time to Embrace Agile Budgeting, Planning, and Cost Accounting!
London Scrum Users Group
February 9, 2016
London, UK
by Ken Rubin

Ken Rubin Overview

1st Scrum Project
1st Managing Director
Worked with 7 startup companies

1980’s 1990’s 2000’s 2010’s

NASA Goddard
ParcPlace
IBM
Georgia Tech
Stanford
Agenda

Traditional Budgeting and Planning

Agile Budgeting and Planning

Agile Cost Accounting
Issues with traditional budgeting

We need a detailed budget for each cost center. And, you’ll be measured against your budget!!!

Finance team

- Requires detailed up-front financial projections and business plans
- Promotes greed for finite resources
- Instills a use-it-this-year or lose-it-next-year mentality
- Leads to utilization-based planning and execution
- Fosters rigidity – budgets can be hard to change
- Complicates things in a project-based environment where projects touch many cost centers
- Biases teams towards least-risky solutions
Annual planning assumes long-term stability in a complex world

Planning the entire next fiscal year up to 15 months in advance!

Belief that planning in one large batch has economies of scale

And, we are doing all this work when we have the worst possible information

- Danger zone! Trying to estimate and plan the entire project early on when we have bad information is risky!

<table>
<thead>
<tr>
<th>Early</th>
<th>Time</th>
<th>Late</th>
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- Front-end loaded estimating and planning
- Cumulative knowledge
- Our cumulative project knowledge grows over time
Assumes we got it right!

To derive master budget/plan, we need to understand complete resource allocation.
Assumes utilizing people 100% is economically sensible

Watch the Baton Not the Runners†

And, it’s expensive to maintain all of that budgeting/planning inventory

†Source: Larman & Vodde
Assumes budget and plans are correct, so stick with them

- Plan deviations are result of poor management and execution
- Ignore insights that are generated as conditions constantly change
- Experimentation might show initial assumptions about cost and value are wrong
- Following an original plan – no matter how well conceived and how skillful its execution – can be a recipe for disaster

Leads to time consuming and often misfocused variance analysis

- Reactive – only takes place if variance is large enough
- Forces an explanation for why things are varying from a presumed correct original target
- Not a value-adding activity
- Slows down rapid response

Do you want to be “right” or successful?
Budgets often align with cost centers – but projects can span cost centers

Product / project spans all three cost centers

Agile Budgeting and Planning
### Agile budgeting/planning – dealing with uncertainty

- Can’t get budgets and plans right up front
- Up-front budgeting and planning should be helpful without being excessive
- Keep budgeting and planning options open until the last responsible moment
- Plan roughly for the long-term and more accurately for the short-term
- Prefer experimentation (knowledge acquisition) over a desire for precision
- Focus more on adapting and re-budgeting and re-planning than conforming to the original budget or plan

### Agile budgeting/planning – batch size

- Budget and plan in smaller batches with horizon-adjusted precision
- Correctly manage budget and planning inventory – reduce costs
- Budget and plan in more frequent increments (releases)
- Optimize budgeting and planning at levels above teams and projects
Agile budgeting/planning – decentralized decision making

Empower “mission command” – fast, additive, decentralized decision-making rather than having teams delay waiting for permission to proceed

Trust replaces need for wasteful and ineffective top-down command and control

Culture of transparency regarding what we know and what we don’t know

Fast and flexible resource allocation to swarm to emergent value

Focus on removing bottlenecks rather than explaining variances to original effort estimates

Different levels of planning
Elements of a “budget”

Strategic initiatives drive filtering and resource allocation

- Strategic Initiatives
  - Initiative 1
  - Initiative 2
  - Initiative 3
  - Initiative 4
  - ...

Resource Allocation

- Initiative 1
- Initiative 2
- Initiative 3
- Initiative 4
Resource allocation

Allocate funding at the value stream or product level

Allow for dynamic reallocation of budgets across value streams / products

An approach – rolling budgeting

100% of available funding is allocated

80% of available funding is allocated

60% of available funding is allocated

40% of available funding is allocated
Strategic planning outputs feeding a portfolio kanban system
We need an economic framework

Sequence portfolio to maximize portfolio-wide lifecycle profits

Portfolio Lifecycle Profit = X  Portfolio Lifecycle Profit = 3X

Cost of delay is the time dimension

Cost of delay is not the only factor to consider when prioritizing items in the portfolio.

It is the time dimension that must be considered because it affects all other prioritization variables such as cost, benefit, knowledge, and risk.

Estimate for accuracy not precision

T-shirt size estimating

<table>
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<th>Size</th>
<th>Rough Cost Range</th>
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<tr>
<td>Extra Small (XS)</td>
<td>£10k to £25k</td>
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<td>Small (S)</td>
<td>£25k to £50k</td>
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<td>Medium (M)</td>
<td>£50k to £125k</td>
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<td>£125k to £350k</td>
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<tr>
<td>Extra Large (XL)</td>
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(an example)
Need to balance portfolio inflow and outflow rates

Most companies violate this in Q3 of their fiscal year

Deal with emergent opportunities quickly

Emergent opportunities arrive continuously and randomly

They are perishable—their values decay over time (frequently exponentially)
Size affects performance

Product/project size affects overall portfolio performance

What happens if you get behind the large farm vehicle on a single lane country road?

How do the lifecycle profits of a product compare between one large release and multiple, smaller releases?

The importance of a WiP limit

Why should a good restaurateur not seat paying customers at an available table if 30% of the servers called in sick that evening?
If you start working on a product/project and you subsequently decide it is not worth finishing it, will you kill it?

- Start
- Next investment justified? Yes → Persevere
  No → Have minimum releasable features?
    Yes → Deliver
    No → Another path to try?
      Yes → Pivot
      No → Terminate
Misalignment with Finance team on classifying development costs

Don’t understand that Agile stuff, so to be safe, let’s expense (vs. capitalize) everything!

Classifying everything as expense results in overpaying taxes and understating value

Accounting standards use Waterfall examples to explain capitalization rules

If agile projects are expensed and waterfall projects are capitalized, this a major impediment to adopting agile!

Standard software capitalization process

Achieved technical feasibility
Written managerial approval to develop
Committed development resources
Management confident of success
Agile teams are units of capacity

We favor long-lived teams that as a unit have a known capacity to deliver value
Do we need to track individual task hours?

The issues with hours

- Individual contributors HATE it
- People often fill out their time card at the end of the week to achieve the target number
- Hours above threshold limit (e.g., 40 hours/week) may or may not be accounted for
- Gives the illusion of precision
- Ignores the fact that the team is the unit of capacity
Use “story points” (product backlog size estimates)

Addresses cost at a much more meaningful level

Many teams already use them

Simple, reliable, and easily verifiable

Example using story points

Has a fixed cost per sprint (e.g., £20,000/sprint)

Bring 40 points of work into sprint

Capitalize = £20k * (30/40) = £15k

30 points are new features

5 points are defects

Expense = £20k * (10/40) = £5k

5 points are knowledge acquisition
**Challenge Question #1**

How do you account for people who work across Scrum teams (i.e., one person on multiple teams)?

Track at the aggregate level instead of how many hours did a person spend on each team.

Typically the DBA spends 40% on Team 1 and 60% on Team 2.

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**Challenge Question #2**

How do you keep up with team composition changes that could occur from sprint to sprint?

Unit of capacity is the team so the economics favor long-lived teams.
**Challenge Question #3**

Auditor wants to pick a developer and ask what he was doing on September 12th! If there is no timesheet with hours, how can we answer this?

Would you really get written up for this? Validate the assumption!

Developer X acted as member of a Scrum team where he worked along with his colleagues doing whatever needed to be done on September 12 to help his team accomplish its goal!

Re-asserting that the unit of capacity in agile is the team and not the individual, so the auditors should be focusing on how the core assets of the company (high-performance agile teams) are being utilized (cost) to deliver business value (benefit)

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**Challenge Question #4**

How do you do the math when the same team has people who reside in different countries?

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<tr>
<th>Country</th>
<th>Percentage of Cost</th>
<th>Points</th>
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<tr>
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<td>60%</td>
<td>30</td>
</tr>
<tr>
<td>Europe</td>
<td>40%</td>
<td>20</td>
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Team 1

- US: 18 points
- Europe: 12 points
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