Analytics Project Management

Dr. Christopher West
Institute for Advanced Analytics
NC State University

Purpose(s)

To learn how to develop/maintain a project work plan to support a small-team analytics project – an overview of *scrum-ish* project management

To be able to implement a scrum approach as desired by the team

NOT to become familiar with specific software

NOT to learn a specific internal administrative approach

Purpose(s)

Q: What distinguishes a small-team analytics project from others?

- Lightweight:
    - Extensive coordination not required
    - Extensive resourcing and subsequent logistics not required
- PM still must support planning, breaking-down, executing work
- It's a "research-y" project – not construction, not product development, not software development

IAA Scrum Risk: Having enough of a PM's conscience, if not experience, to support a scrum-ish approach

Traditional Project Spirals/Lifecycle

Initiation: project selection – scope documentation (proposa) – team selection – sponsor guidelines– internal working agreement – sponsor background research – NDA signing - kickoff meeting – transfer the data

Planning: scope elaboration/refinement – work breakdown structure (product backlog) – scheduling/assignment

Executing: <u>DO THE ANALYTIC WORK</u> – interim deliverables

Monitoring and Controlling: weekly progress reports – coaching staff meetings

Closing: report – presentation – other final deliverables – sponsor feedback

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That's all nice, so where do we start?

Your starting <u>product backlog</u> shell ready for incorporation of proposal objectives and further "grooming"

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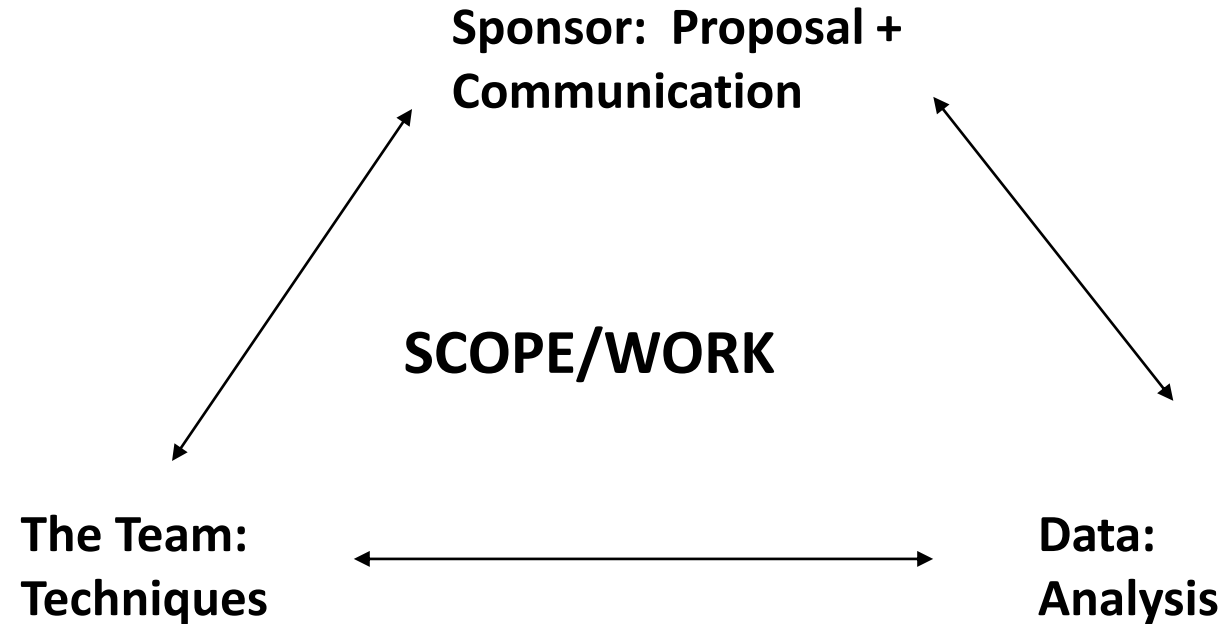Your starting product backlog shell ready for incorporation of proposal objectives and further "grooming"

MSA Analytics Projects Life Cycles

Stage	Result	Rough Timeline
Exploration	Descriptives/Questions	Present to ~11/1
Understanding	Answers to support scoping elaboration	Present to ~11/15
(Re)-scoping	Agreement with sponsor (re-accomplishment of proposal)	10/15 to ~11/20
Posturing Data	Ready for application of methodologies	~10/15 to ~1/15
Analysis	Findings	~12/1 to ~4/1
Drafting Deliverables	Recommendations/Presentation	~2/10 to ~4/10

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Scoping Cycle

**Sponsor: Proposal +
Communication**

SCOPE/WORK

The Team:
Techniques

Data:
Analysis

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Drive Toward The Midpoint Review Objectives

- Demonstrate Understanding of Data (Dictionary to Descriptive)
- Demonstrate Business Process/Context Understanding
- Walk thru of initial, prototype inferential product(s)/model(s)/app(s)/demo(s)/
- Feasibility analysis: Relate first three bullets to original proposed scope
- Provide recommended scope, method, schedule for remainder of project

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The Tension in Project Planning Approaches
Traditional vs. Agile

Where to spend the team's time?:

- Developing the perfect plan/structure at the expense of creativity/execution

- Diving-in in the interest of getting something done but with no order – winging it

- Just enough planning to support *iterating* to excellence

Why should this matter to you the IAA student?

The great benefit in a scrum-ish approach is it's a very natural light approach to framing problems and organizing work for light, creative teams.

The IAA student team risk with Scrum is the level of experience required - a) to provide good estimates of work complexity and b) for appreciation for PM necessity (what can go wrong) -i.e.: the Project Manager's conscience

What Is Scrum?

...an approach to organizing project work for small project teams by designating...

- Specific roles/responsibilities for team members

- "Time-boxed" event driven methodology to support the _explicitly separate_ acts of organizing work (limits time spent) and doing work (values iteration)

- Artifacts and glossary of terms that define/support the methodology

- Will facilitate your breaking-down/execution-of the analytic work but won't do the work for you

The Formalized Scrum Roles
to designate and appreciate

Product Owner (Team Leader)

✓ Owns the product backlog, ensures it is clear/visible to all

✓ Leads the product level backlog elaboration and prioritization process

✓ Ensures the work provides value (to the stakeholders and/or team)

✓ Will probably need to have and be afforded some level of detachment

The Formalized Scrum Roles
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Development Team (IAA: the *whole* team) - **self-organizing (creative mosh-pitting)**

- ✓ Figures out HOW to turn product backlog into a sprint backlog/plan and…

- ✓ …in the process defines "Done" for individual items

- ✓ Accountable as a whole but specific in assigning work to get done – "be careful of sub-clic'ing"

- ✓ …and, oh yeah, DOES THE WORK

The Formalized Scrum Roles
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The Scrum Lead

- ✓ Focuses on team health and keeping them on task

- ✓ Ensures clarity of Product Owners direction

- ✓ Removes impediments to team progress

- ✓ Leads the time-boxed post-sprint reflection discussions

West's theory of any Hollywood movie's team dynamics development

Leader

Process focused

fighting

Texas   +   Brooklyn

comic-relief

others ... ... …

~~Grizzled~~
~~Profane~~
~~Mean~~
Focused on task
Focused on team/individual health
Ensures Clarity of thought/direction
Ensures Procedural Discipline
Smooths our causes of friction
Ensures lessons are learned
(positive and constructive)

The Scrum Events
Organizing the work then doing the work

The Sprint

- A time-boxed event when a "DONE" interim product is completed

- Recommend 2-week sprints (12 could be done by April)

1. Sprint planning meeting (recommend time box < 4hrs)

2. Daily Scrum (could range to twice a week but no less frequent, time box < 15 min)

3. THE WORK

4. The Sprint Review (look back at the work)

5. The Sprint Retrospective (look back at the team)

Planning Meeting	huddles		huddles		huddles		huddles		Review + Retrospective
			THE WORK						
M	T	W	H	F	M	T	W	H	F
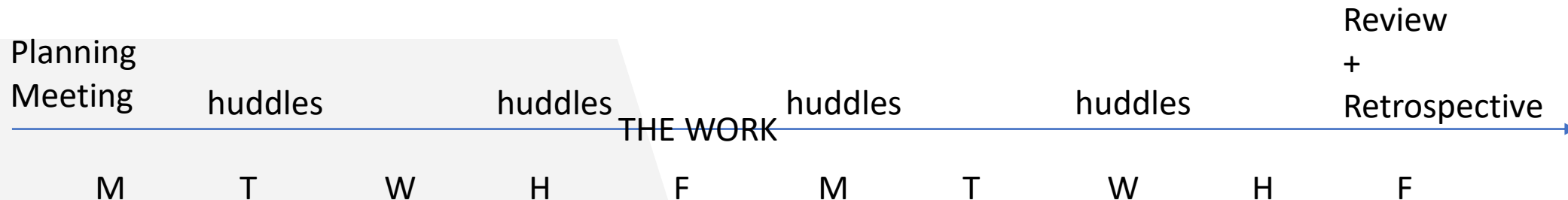
The Sprint Planning Meeting

1. What will be delivered at end of sprint (<2hrs):

Inputs: Product backlog revision, the last interim deliverables/sprint results, projected team capacity, past pace performance.

Outputs: What "DONE" looks like

    1) What Product Backlog can be accomplished
    2) Craft a verbal Sprint Goal

2. How will the work be done (< 2hrs):
    Decompose Product Backlog into assignable chunks specified in terms of scrum level contributions or complexity points.

    A Plan for how to get it done (chunk + verbs + assign)

3. Articulate the plan: what (Goal + "Done"), who, when, how, restate Goal

The Daily (or so) Huddle Scrum Agenda

< 15 minute huddle (stop talking and get to work)

Each team member:

What got done since last time

What will get done by next time

What obstacles are in the way

Stop talking (about organizing the work) and start *doing* the work (ok, this might involve some talking – but its focused on execution)

Sprint Review Agenda

Focused on the work (<2hrs)

- What got "DONE" and what did not

- Revise the product backlog accordingly

- Note the performance pace (complexity points achieved)

- Project pace across remainder of project (how are we progressing)

- What *work* problems occurred how were they overcome

- Focus on creating inputs for the next Sprint Planning Meeting

Sprint Retrospective Agenda

Focused on the team dynamics(<1.5hrs)

- People/Relationships internal/external

- Process (adherence and or usefulness of scrum)

- Administrative processes

- Identify improvements to implement next time

Scrum Artifacts/Terms/Ideas

- Product Backlog: A living, ordered list that is NEVER done:

    - Order – priority, value, risk, etc…

    - Description – story approach, requirements approach

    - Estimate – complexity points, labor hrs, t-shirts/animals, literature categorization (decomposition helps estimation)

    - Work on highest order first, period.

    - Highest order more decomposed, lower order more general

    - Decompose as needed but at least down to the upcoming sprint length level

- Grooming – adding/updating the backlog – anytime but best at sprint bookends (it is not execution)
- Sprint Backlog: Product Backlog selected for sprint + a sprint plan
- Increment – work done to date
- "DONE" – agreed upon definitions/standards of backlog completion
- Velocity/Pace: Complexity points/sprint – useful for projecting schedule evaluating performance

Some Work Breakdown Structure Ideas

- Principal of WBS complete decomposition (MECE)

  - Subordinate task groups do not cover the same work twice

  - Summing up all the subordinate task groups adds up to the entire project work - no less, no more

- Decomposition can still be hard/creative/iterative – the mosh pit – yellow stickies – whiteboards – TV screens/spreadsheets – one person creates straw-man to support discussion

- Prioritization of work

  - The critical path first

  - The best value first

  - The hardest first

  - The low hanging fruit first

EXAMPLE: Bi-weekly Progress Report
Teams can use this template and adjust it to their needs as long as it meets requirements below…

OR

Create their own bi-weekly progress report as long as it meets requirements below

- Contains detailed, decomposed wbs/backlog of all work (progressively elaborated)

- With an estimate of effort/complexity involved for all tasks/task sets

- Assignment of individual/group task responsibility for upcoming two-weeks (note: must capture distribution of workload across teammates)

- A progress visualization tool showing work done to date from beginning and work remaining to be done

- Transparent to all and is easy for all, especially me, to understand

Points to Remember

…the work product is more important than the method

- Use scrum as a tool to get the work done

- …not a theological religion to adhere too!

- Time-box limit all effort that supports the analytics work

- …but more importantly the client cares only about useable results to support their business – they don't care how it got done –

Its about the analytics!

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