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AGILE ESTIMATION

AN EVALUATION OF AGILE ESTIMATION BY SK CONSULTING

This research paper written in the form of Company review exploring the challenges and benefits of different Agile estimation methods.

INTRODUCTION

Development Teams at Company X for the past 6 months have provided inconsistent estimations, derailing project timelines and costing 175% of predicted expenses. To help regain control of project timelines and estimation practices, SK Consulting's team of Agile specialists have been working with the Company X delivery teams.

Before proceeding with our findings, it is imperative to establish a shared understanding of technical terminology. Please refer to the following terms that are used throughout the report:

> AGILE SOFTWARE DEVELOPMENT: The iterative development strategy focuses on incremental delivery of usable software ("What is Agile Software Development?", 2017)
>
> ESTIMATION: A quantifiable representation of the effort needed to complete a story ("What is Agile Software Development?", 2017).
>
> SPRINT: A predetermined time period during which teams commit to completing a certain amount of work, also referred to as an iteration ("What is Agile Software Development?", 2017)
>
> STORY: Desired functionality, described from a user's point of view. Stories drive the work for the team to complete. ("What is Agile Software Development?", 2017)
>
> STORY POINTS: Metric assigned to a story representing the amount of work necessary to meet the acceptance criteria and definition of done ("What is Agile Software Development?", 2017)

SK Consulting looks forward to continuing our partnership as Company X expands their Agile Development. Please see the enclosed report of our observations and recommendations to grow the success of Agile Estimation at Company X.

AGILE ESTIMATION AT COMPANY X

The principles behind the Agile Manifesto indicate that teams working in an Agile methodology should have the ability to, "maintain a constant pace indefinitely" ("Principles behind the Agile Manifesto", n.d). Accurate estimates must be provided for this principle to be attainable. Currently, estimations at Company X are not reliable indications of work effort duration. For Company X, estimations are completed by asking the lead developer to provide their thoughts on a story and assigning the provided number disregarding any further conversation. At the conclusion of a sprint work is often left uncompleted, most commonly due to these inaccurate estimations.

ESTIMATION AREAS OF OPPORTUNITY

SK Consulting observed behaviors during team meetings and estimation sessions and identified three tangible areas of opportunity for Company X. Allocating focus to these three areas will ameliorate the struggles faced during the estimation process.

EQUATE STORY POINTS TO EFFORT

The first opportunity is to be cognizant that story points are intended to be a measure of effort and complexity. While it may be natural to equate one story point to one hour, doing so can be cause for unreliable estimations. Company X should size stories relative to the complexity of work. For instance, while it may take a senior

developer a shorter time duration to complete a story than a junior developer, the complexity of the story will not change. As a result, team members of various backgrounds and skill levels can agree (Cohn, 2015) on the story points necessary for a feature. Stopping the incorrect behavior of equating story points to duration will yield accurate estimates regardless of which team member completes the work.

INCLUDE THE ENTIRE TEAM

The second area of opportunity for Company X is to include the entire team when reaching a consensus on estimation. To accurately reflect complexity for all team members it is important they are present and engaged. While we acknowledge it may be straightforward to make a decision with a smaller group, including the extended team may uncover work efforts previously unknown. Furthermore, a story rarely only involves the skillset of a single individual. Consider a piece of development work. In addition to developer time, testing and design input are potentially necessary for the feature. This group collaboration increases by-in and 5 ownership of the work. As a result, when stories no longer serving as siloed functions they transform into features the team feels accountable for.

FOCUS ON INDIVIDUAL TEAM VELOCITY

The final area of opportunity for Company X is to stop the deleterious practice of comparing separate team velocities across the company. Velocity is the measure of the rate of business value delivered by a team (Tranter, 2016) and can be a powerful tool for project managers. When looked at over time, velocity provides a guideline indicating how many story-points a team consistently completes per sprint. However, it is not accurate to compare the velocity of teams with isolated estimation processes. When Company X participates in this “Agile AntiPattern” teams are compelled to inflate their estimations to adhere with the desired velocity from management (Tranter, 2016). Consequently, project managers can no longer accurately plan for future development efforts. Concentrating on individual team velocity will allow groups to focus on their own estimations and ensure they are accurate, without outside pressure from management.

AGILE ESTIMATION TECHNIQUES

With the root-causes of discrepant estimations identified, the next step is to redefine Company X’s estimation process. Currently, Company X struggles to organize efficient estimation sessions. SK Consulting has prepared three estimation techniques that are a natural fit for both the organizational structure and culture at Company X.

PLANNING POKER

Planning Poker is a system built on cross-collaborative team consensus to size a story (Cohn, 2012). Just like in a poker card game, all team members hold cards representing story points in their hands. The product owner leads a brief discussion about the story, ensuring all questions are clarified before the estimation round begins. Next, simultaneously, each individual reveals a privately selected Planning Poker card. All team members, even product owners or managers at the meeting should participate. Note that in the first round, estimations may differ. The product owner should use these differences to engage in discussion answering any remaining questions for the story. The group can then re-estimate reaching a more accurate estimation for the feature (Cohn, 2012). Planning Poker provides an answer to the challenge Company X faces of reaching a decision within large groups, and specifically takes care to consider all perspectives within the group. There are several online options available for Planning Poker, increasing participation and inclusion of Company X employees who may be offsite.

T-SHIRT SIZING

The second recommendation for Company X is T-Shirt Size estimation. This technique is a way to identify the size of a story as it relates to a size of a t-shirt (Extra Small – Extra Large. Known terms of t-shirt sizes help to anchor estimates and reduce the tendency to overanalyze an issue. Contributors can agree on a relative size of a story quickly and in a cost-effective manner (Popli & Chauhan, 2013). A product owner should use the sizes of Large or Extra Large as an indication the story may need more decomposition before being pulled into a sprint. The T-Shirt size format allows for creativity across teams. SK Consulting has seen local Seattle teams use Starbucks drink sizes (Short – Venti). Alternatively, teams with animal lovers assign dog sizes to stories (Chihuahua - Mastiff). Not only does this allow team members to enjoy the process more, but it also translates sizes into more consumable terms than an abstract number (Cohn, 2015).

AFFINITY MAPPING

The final recommended Agile estimation approach for Company X is Affinity Mapping. Best used for Product Owners with an onsite team, this method will be a great fit for the larger local teams at Company X. The result produces a transparent map of story sizes, facilitating conversations between group members with an easy to interact with visual (Sterling, 2008). Product owners should first break down large stories into small feature cards, written onto post-it notes or index cards.

There are four main steps to the Affinity Mapping Process:

1. SILENT WALL MAPPING: The team silently arranges the feature cards from smallest to largest based on perceived effort on a wall. It is important to refrain from speaking during this step so powerful opinions do not intimidate the placement of cards.

2. EDIT THE WALL: Together the team should discuss where cards have been placed, and more importantly, why they are in the particular position. During this step, stories may need to be decomposed further, or new stories created to represent newly thought of work.

3. BUCKET THE ITEMS: Divide the feature cards into “buckets” of sizing based on their position on the wall. Being similar in many ways to t-shirt sizing this technique helps provide more consumable estimations on feature cards.

4. PRODUCT OWNER CHALLENGE: The role of the product owner throughout this exercise is to promote conversation between the delivery team. However, this last step allows the Product Owner to challenge the thinking or decisions of the team. As a consequence of discussing these flagged stories the team may have to resize and realign the stories on the board. Once these steps are completed, the team can be confident in their estimations and sizings have addressed all the Product Owners concerns.

RECOMMENDATION

SK Consulting recommends Company X work to implement these estimation techniques at their upcoming backlog grooming and estimation sessions. SK Consulting will work with product owners to facilitate a training, ensuring full understanding and knowledge by the management team before beginning the process. Paying close attention to the areas of opportunity and recommended approaches to estimation as outlined above, Company X will enhance their estimation proficiency therefore delivering increased business value on time and on budget.

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