Forecasting of Agile Deliveries

Based on Intelligent Data Analysis

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CGI
From Technical Agility to Business Agility

- Agile started with single Agile Dev teams
- Scaled Agile moved from single Agile Dev teams to multiple Agile Dev teams
- The focus moved from Dev to Ops in DevOps
- The next step is towards Business Agility

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Business Agility

• Iterations in multiple teams and multiple disciplines
• Teams operate in a same cadence to be able to integrate the results
• For the forecast of a team, information is required from each individual team
• For an overall forecast, performance information is required from all teams

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The Challenges?

• Teams use different instances of an Agile tool
• Teams on different locations
• Combining this data can result in misalignment

Questions to be answered:
• What is the performance of the individual teams?
• What is the performance of the overall program?
• How to take care that senior management gets an overall reliable view?
• How to take care that every stakeholder is using the same information?
  • Internal – (senior) management
  • External – client / 3rd party
Time Stamped Data Analysis of Multiple Teams

Creation of a Single Source of Truth

- Data collected in a central databases
- Analysis of time stamped data
- Data analyzed in a central BI system
- Reporting to stakeholders (internal / external)
From Performance to Forecast

• Measuring the actual performance is required to be able to make a reliable forecast

• Forecasting requires information with request to:
  – Size
  – Effort
  – Duration
  – Defects

• Measuring this on a team level is quite common in Agile

• The challenge is to measure and combine this across teams in a single program
The Team View
Overall Summary of The Progress

1. Information about the results of the last sprint. Performance indicators on the velocity fluctuation, forecast accuracy and scope change. The colors of the performance indicators depend on the result.

2. Bar chart showing the closed and not-closed story points for defects and stories within the active sprint.

3. Bar chart showing the closed and not-closed number of tickets for defects and stories within the active sprint.

4. The regression results visualized as bar chart.

5. The percentage of Story points closed within the Sprint.
Fluctuation of Story Points per Team for Last 4 Sprints

1. Indication of the average closed story points in the last 4 sprints.
2. Bar graph showing the closed story points in the last 4 sprints. The line shows the rolling average of 4 sprints.
3. The story points shown as a percentage compared to the last 4 sprints.
4. Rational behind the colors, which are used as performance indicators.
Fluctuation of Story Points per Team for Last Program Increment (PI)

1. Indication of the average closed story points in the last program increment (PI).
2. Bar graph showing the closed story points in the last PI. The line shows the rolling average of the sprints in the PI.
3. The story points shown as a percentage compared to the PI.
4. Rational behind the colors, which are used as performance indicators.
1. The filter is used to show the Story Points or the Number of Tickets.

2. The percentage of story points / number of tickets achieved. Shown per team for multiple sprints.

3. Rational explaining the color indication in the graph.
Story Points per Day in a Sprint

1. The total story points of stories and defects in the sprint.
2. The yellow line indicates the total story points with status ‘closed’.
3. The red dashed line indicates the story points when the current velocity within the sprint is continued.
4. The blue dotted lines shows the expectation bandwidth. Based on the velocity of the last 4 sprints of the team.
Program Increment (PI) View
Story Points Achieved in a PI

1. The red lines indicate the amount of story points finalized in PI compared to the planned story points.

2. The yellow line indicates the total story points with status ‘closed’ at the end of the PI.

3. Rational explaining the color indication in the graph.
Story Points per Day for Sprints in a PI

1. The total story points of stories and defects in the sprint.
2. The yellow line indicates the total story points with status ‘closed’.
3. The red dashed line indicates the story points when the current velocity within the sprint is continued.
4. The blue dotted lines show the expectation bandwidth. Based on the velocity of the last 4 sprints of the team.
Ticket Status per Day within a Program Increment

The bar graph shows the number of ticket per day.
The colors indicate the status of the ticket.
The graph can be filtered on PI, assigned team and Story or Defect.
Planned and Actual Story Points per Epic per Program increment

Graph showing the total number of planned and actual story points for an epic within the selected PI.
The red bar shows the number of story points assigned to the PI for that epic.
The orange bar indicates how many of these have a status closed.
The Release View
Development Cycle Time per Release

Graph showing the median and upper/lower margin of days it takes to develop an X amount of work per release.

The bars in the bottom indicates the amount of work is in the specific release.
Actual Progress Versus the Cadence Calendar

1. Overview of the current phase of a release and its cadence calendar/phases.
2. Top right graph shows the current and historical amount of work per cadence phase.
3. Bottom left graph shows the current amount of work per cadence phase, and marks it in- or out of cadence.
4. Bottom right graph shows the current amount of work per acceptance status.
Overall Dashboard

The dashboard measures the release on several KPI’s. These KPI’s help the organization to ensure the quality standards and operational excellence.
Conclusion

• A team analysis is required but not enough to analyse the performance of a program
• To analyse the performance of a program a total overview is required (incl. all teams)
• A program based performance analysis requires a Single Source of Truth
• This requires combining the data in one single database / BI environment
• Provides the ability for forecasting the delivery and determine improvements
• Forecasting is also important for client organizations in case of a supplier situation
• Measured KPIs can be included in the supplier contract
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Questions?