

Acumen Fuse Boot Camp Series: Quick Start

Activity Guide

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Table of Contents

Activity 1.1: Introduction to Acumen		
Activity 1.1.1: Loading a Schedule for Analysis		
Recap	10	
Activity 1.2: Performing a Basic Diagnostic	11	
Activity 1.2.1: Performing a Basic Diagnostic	11	
Activity 1.3: Schedule Quality Analysis	13	
Activity 1.3.1: Excluding Missing Logic Activities	13	
Activity 1.3.2: Examining the Metrics	16	
Activity 1.4: Scoring Options	19	
Activity 1.4.1: Scorecard Settings in Acumen	20	
Activity 1.5: Reporting the Results of Your Analysis	23	
Activity 1.5.1: Publishing and Reporting	23	
Summary	28	

Step

Activity 1.1: Introduction to Acumen

Activity 1.1.1: Loading a Schedule for Analysis



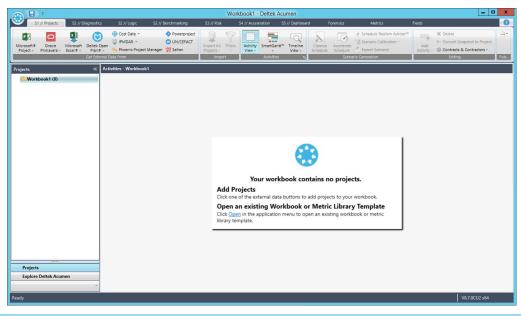
1 Double-click on the Acumen Icon to run the program.



Action

If you have a different version than this, don't worry, the functionality you will be using today is virtually identical in all current and previous versions of Acumen.

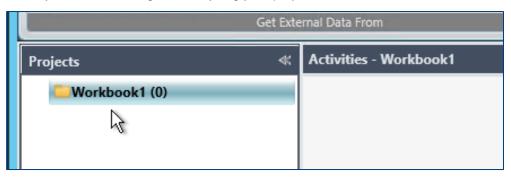
2 Upon opening, **Acumen** appears as follows:



Activity 1.1.1: Loading a Schedule for Analysis, continued

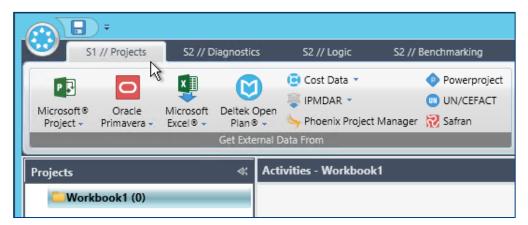
Step Action

In the **Projects** area to the left, note there is a default **Workbook1** listed with a folder icon. This Workbook is where you will be loading and analyzing your project.

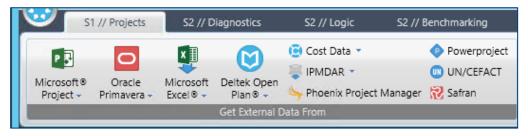


Note the zero at the end of the name, this is the number of activities in the workbook.

4 Look at the ribbon above the Projects area and note the **S1 // Projects** tab is selected. This is default when you first open Acumen.



Note also the various buttons arranged in the **Get External Data From** tool group. We will be using these shortly to import project schedules to Acumen.

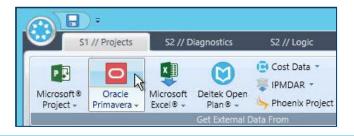


Action

Step

Activity 1.1.1: Loading a Schedule for Analysis, continued

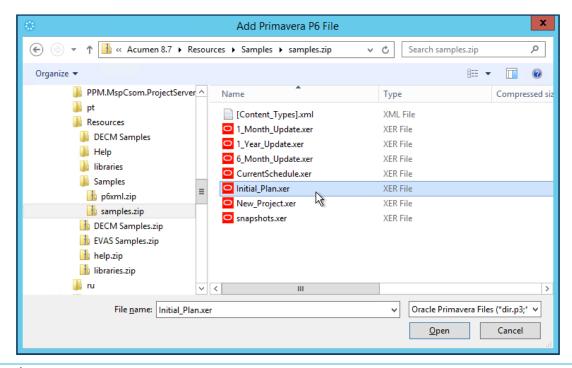
- In the center of the Activities area is a prompt that will help guide you through your first steps in Acumen. Our 6 first step is to Add a Project.
- 7 Click on the Oracle Primavera button in the Get External Data From section of the S1 // Projects ribbon.



8 In the Open dialog, locate the Samples.zip file below the Acumen installation folder under the Resources / Samples folders.

C:\Program Files (x86)\Deltek\Acumen 8.7\Resources\Samples\samples.zip

Select the **Initial Plan.xer** file within the zip file and click Open. 9

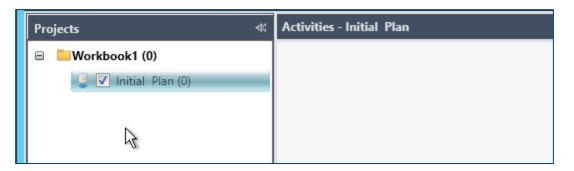


Action

Step

Activity 1.1.1: Loading a Schedule for Analysis, continued

10 The Initial Plan file appears in the Projects list. There is one more step to fully load this file.



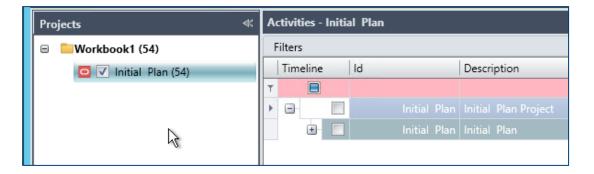
Click on the top part of the Import All Projects button. 11



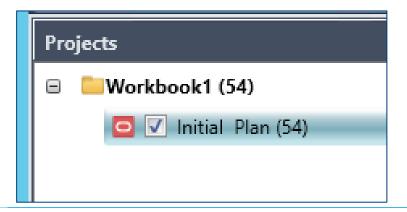
Activity 1.1.1: Loading a Schedule for Analysis, continued

Step Action

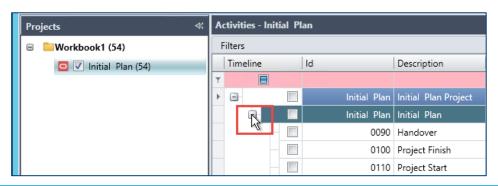
After a few moments the **Project** content appears in the **Activities** window and the **Oracle Icon** appears beside the **Initial Plan** list item.



The number 54 indicates the number of activities in the imported project schedule.



13 Expand some of the elements in the Activities window to the right of the Projects list.

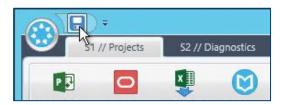


Action

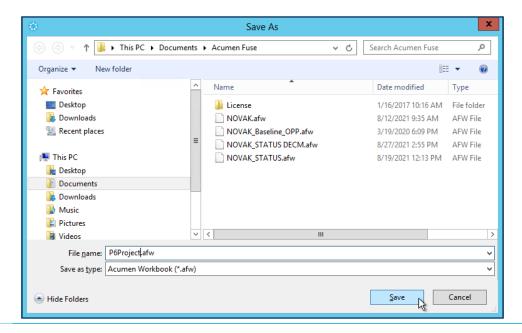
Step

Activity 1.1.1: Loading a Schedule for Analysis, continued

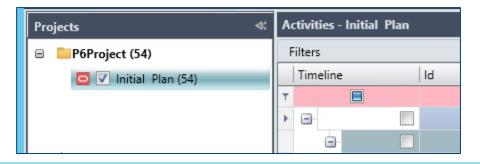
14 Click on the **Save** button on the **Quick Access Tool bar** to save the workbook.



15 Save the workbook as **P6Project.afw**. (Where **AFW** is Acumen Fuse Workbook)



16 The project is now ready for analysis.



Recap

- The Acumen Workbook now contains a copy of the project's schedule data.
- The workbook will also store the results of analysis and other changes made to the workbook.
- You can share workbook AFW files with other users
- Once the project is loaded into the Acumen workbook, it is available to be analyzed by hundreds of different metrics. A metric is a named set of diagnostic tools that can be used to look for certain conditions within a project schedule.

Activity 1.2: Performing a Basic Diagnostic

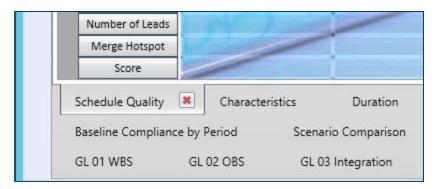
Activity 1.2.1: Performing a Basic Diagnostic

Step Action

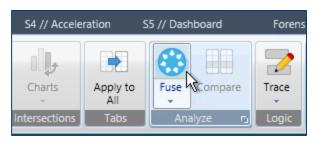
1 Click on S2 // Diagnostics.



In the S2 // Diagnostics tab, look toward the bottom of the screen to see the selected Ribbon view. By default in a new workbook this is Schedule Quality.



3 Click on the top of the **Fuse** button in the **Analyze** tool group.



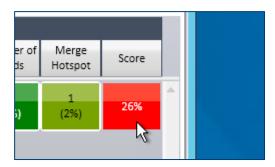
Activity 1.2.1: Performing a Basic Diagnostic, continued

Step Action

4 After a brief pause you will see the results of the **Schedule Quality** analysis.



5 Take a look that the **Ribbon Analyzer Score** to the far right.



According to the 9 standard Schedule Quality metrics, this project has a score of just 26%, meaning there are a few quality issues that will need to be addressed.

Activity 1.3: Schedule Quality Analysis

At this point we need to learn what this score means and how Acumen generated it. To do this we will be discussing each of the metrics that make up the schedule quality score.

Let's learn about the interface in order to get started.

As you can see, the screen is divided into three main areas. These are:

- Project / Snapshot this section is really a header column for the project name at the top, and the row headers for each metric in the lower half of the screen.
- Timeline a Time-phased set of columns that help us break projects down into years, months, quarters and so on. This project is currently set to be viewed in years. In the bottom of this section we can see the scores for the corresponding metric headers and project years.
- Ribbon Analyzer this section displays the metrics at the project summary level. If we click on any
 one of the colored boxes, details of the activities that are contributing to the score are listed in the
 lower portion of this section.

The colors for each metric result are important. Green is good, Red is bad and there is a range of colors in between these to help you quickly evaluate the general condition of our project.

Let's look at these various metrics in more detail.

Activity 1.3.1: Excluding Missing Logic Activities

The missing logic metric is yellow, and has two values displayed. The top value is the number of activities – in this case, the number of activities that failed the metric by having missing predecessors and/or successors.

The bottom value is the percentage of all activities in the project that have missing logic. In a small project like this, 11 activities out of a possible 54 is 21%.

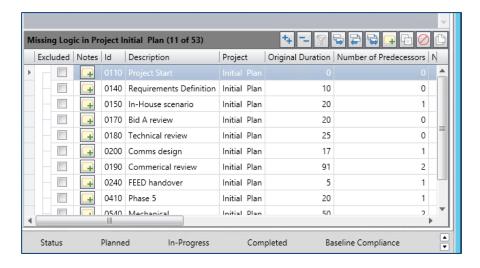
This indicates that smaller projects will have greater sensitivity and higher failure rates in this regard than would be true with larger projects.

1 Click on the Missing Logic Ribbon Analyzer value. Missing Logic Density™ Critical 11 (21%) 25 (47%)

Activity 1.3.1: Excluding Missing Logic Activities, continued

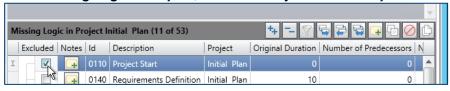
Step Action

2 **Observe** the list of activities that appears in the lower section of the window.

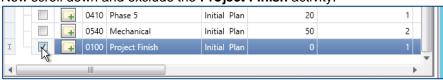


Because at least two of these activities cannot legitimately have and predecessor or successor, then they need to be excluded from the analysis. This will improve the score to a more realistic number.

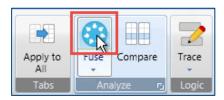
3 In the Missing Logic activity list, locate the Project Start activity and check its Excluded option.



4 Now scroll down and exclude the **Project Finish** activity.



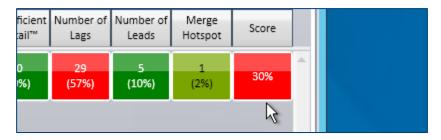
5 Click on the top of the Fuse button to recalculate the score.



Activity 1.3.1: Excluding Missing Logic Activities, continued

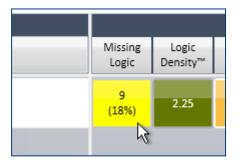
Step Action

6 Look to see if the overall **Score** for the project has changed.

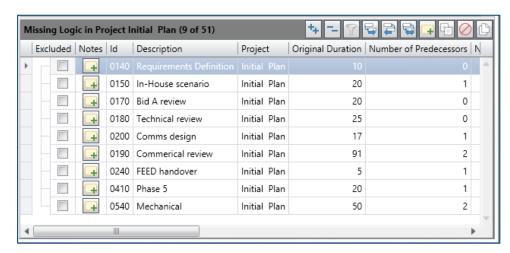


The Score has improved slightly to 30%.

7 Click on the **Missing Logic** button again.



Note that the **excluded** activities are no longer appearing in the list and that the numbers on the Missing Logic button have changed to 9 and 18 percent respectively.



Let's take a look at how the Missing Logic metric works.

Step

Activity 1.3.2: Examining the Metrics

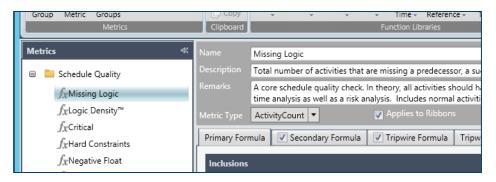


Click on the Metrics tab. 1

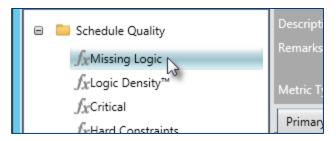
Action



2 In the **Metrics** tab we can see a **Metrics** list to the left of the screen.



3 Click on the Missing Logic metric item in the Metrics list.



To the right of the **Metrics** list is the **Metric** definitions.

At the top we see a Name field, a Description field, and a Remarks field. This is the metadata for the metric and the source of content for descriptions of the metric and its purpose back in the **S2** // **Diagnostics** tab.

Below these fields are the **Metric Type** selection, and some **Include** options to allow the metric to be included in certain Ribbons, Phases, Intersections, Workbooks, and so on.

The tabs below these options are where the functional criteria for the metric are defined. We will look at these very briefly. This will be covered in much greater detail during the First Analysis to Metric Details Acumen course – a follow on lesson to this boot camp lesson.

- **Primary Formula** is the options that generate the upper number in the Metric box typically an activity count.
- The **Inclusions** section at the top of the Primary Formula tell Acumen what activity types to analyze, chiefly the Activity Status, Activity Type, and Time Phase.
- Below inclusions is the **Filters** section. Not used for Missing Logic, but allows for filter criteria to be entered when looking for specific conditions.
- And finally there's the Formula section. For our Missing Logic metric, an advanced formula is being used to summarize a count of all predecessors and external predecessors, and all successor and external successors that have a count of zero: i.e. are missing one of both of these items.

Note: External predecessors and success are those that appear in a project that points to activities in another subproject.

And that is how we count the number of activities that have zero predecessors, and/or zero successors.

- **Secondary Formula** this is the options that are generating the lower number on the Metric box, typically a percentage. In fact if we look at the formula for this Secondary Formula tab, we can see similar syntax in the formula area as we see in the Primary Formula, with the additional 'divide by SUM' formula that is generating the percentage value of 18 in our example.
- **Tripwire Formula** this is an optional tab, used to determine the individual exception that are listed in the Activity Browser.
- Tripwire Thresholds define the colors when metric scores fall within certain ranges.
- **Define Columns** Control the columns that appear in the Activity list below the Ribbon Analyzer.
- Detail Report controls content in the Detailed Metric report.

These tabs are covered in greater detail in the Acumen Fuse Boot Camp Series: Analysis and Metrics course.

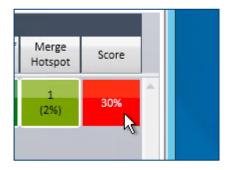
Let's click on the **S2** // **Diagnostics** tab and continue our analysis of the project.

- Logic Density is reporting just one number, and this is an average number of relationships, or logic links per
 activity in the project. Ideally there would be at least two relationships per activity if logic and been applied
 correctly in the project. The score here is 2.25 so this is a good score.
 Hover your mouse pointer over the header of the Logic Density metric. Note the popup that appears and
 explains the purpose of the metrics. If you hover over the metric's box, it will quantify the meaning of the score.
- **Critical** this metric is counting the number of critical activities in the schedule. It also offers at count as a percentage of activities that are critical. This is reporting medium to low in the score box.
- **Hard Constraints** is showing 4 activities with this condition. As it is generally considered best practice to keep Hard Constraints to an absolute minimum in your project, even this low count has given a medium score it is

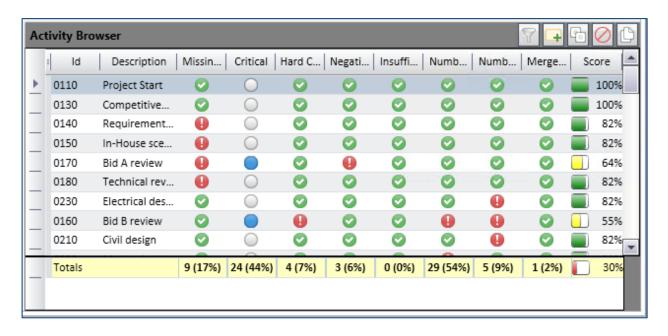
- definitely impacting the overall score. Hovering your cursor over the score reveals a comment that states between 5% and 25% of activities have hard constraints.
- Negative Float Three Activities have negative float, and again this has impacted the score down to medium.
- **Insufficient Detail** our sample project has a perfect score of zero no activities have a duration that is more than 10% of the duration of the project. This is indicative of good detail in the planning and will status more accurately as it's easy to understand when something is completed.
- **Number of** activities with **lags** is way too high. 29 out of 54 activities (57%) have negative lag, suggesting overuse of this relationship attribute. This could be pushing the end date for the project out to an artificially late finish date.
- **Number of Leads** is showing a similar issue. While it has a score of just 5, and is green, some contracts have now actually banned the use of Leads (a.k.a negative lag), so this would be a failing score in those circumstances.
- Merge Hotspot another very useful metric, merge hotspots appear in the schedule when one or more
 activities has a large number of predecessors. The theory is that the more predecessors an activity has, the
 more likely it is to be delayed because there's a greater chance that one of the predecessors will not finish on
 time.

Activity 1.4: Scoring Options

There is one more highly influential setting in Acumen that determines the way the project has been scored. Just before we look at this setting, let's click on the **Score** box.



This opens the **Scorecard** in the **Activity Browser** area. The scorecard shows the metrics listed in the columns, and the activities in the rows, and you can clearly see what metrics have passed, failed, or simply been counted by the Acumen metrics.

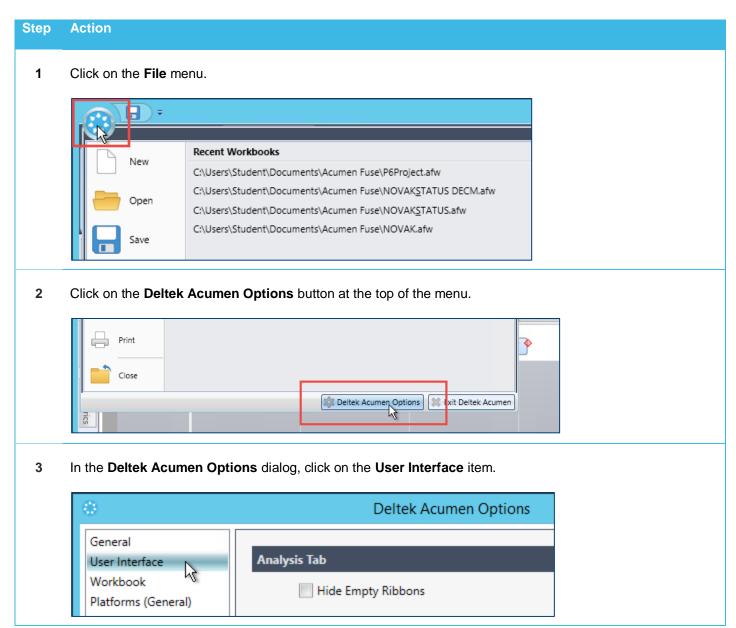


If we look to the right of this scorecard we can see how each activity affected the score.

Scroll down and look at the scores for each of the activities. But wait a minute, most of these are scoring in the 80s, 90s, even 100% - the lowest one in there being 55%. So how come the score is only 30%? That's not even close to the average.

Activity 1.4.1: Scorecard Settings in Acumen

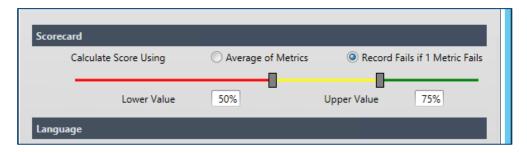
This highlights a very important setting that we will now explore.



Activity 1.4.1: Scorecard Settings in Acumen, continued

Step Action

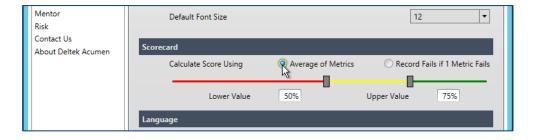
4 Look at the settings in the **Scorecard** section.



Currently the **Calculate Score Using** option is set to **Record Fails if 1 Metric Fails**. This means that for every activity in the scorecard that isn't scoring 100% is not counted at all in the overall Score.

We have just 16 activities that have a passing score of 100%. The rest of the activities - however close to 100% they are – are not contributing to the score. And so - if we divide 16 by 54 – (the total number of activities), we get 29.6% which explains our rounded up score of 30%.

- 5 The alternative is to select the **Average of Metrics** which will give the score we were expecting in the first place.
- 6 Click on the Average of Metrics option and close the Acumen Options dialog.



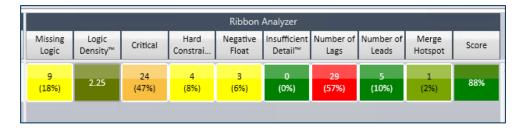
7 Now return to the **S2** // **Diagnostics** tab and click the **Fuse** button again to update the score.



Activity 1.4.1: Scorecard Settings in Acumen, continued

Step Action

8 The score has now risen to 88% for our project.



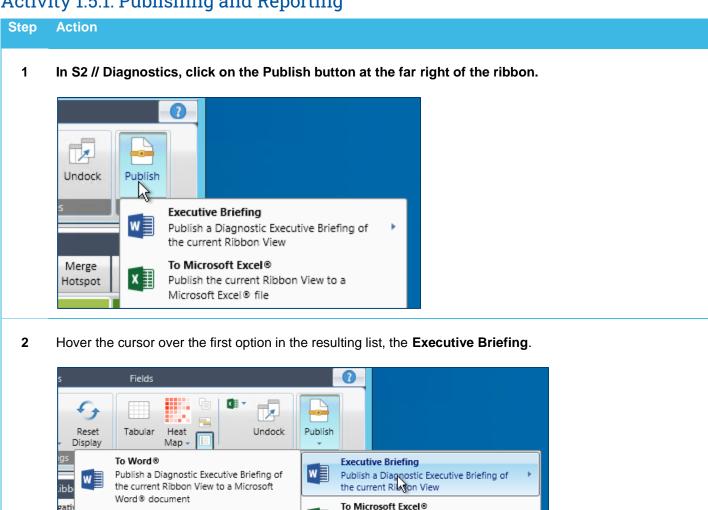
What scoring mechanism you choose to use in Acumen will largely depend on company requirements, contract stipulations, and other variables too extensive for discussion in this training module. For now it's important to understand how it works, rather than when to use the setting.

Activity 1.5: Reporting the Results of Your Analysis

Having completed your first analysis of a project in Acumen, it's time to share what you've learned with the project team.

For this you can use the Publish features of Acumen.

Activity 1.5.1: Publishing and Reporting



Publish the current Ribbon View to a

Publish the current Ribbon View including

Microsoft Excel® file

Fuse® Analyst Report

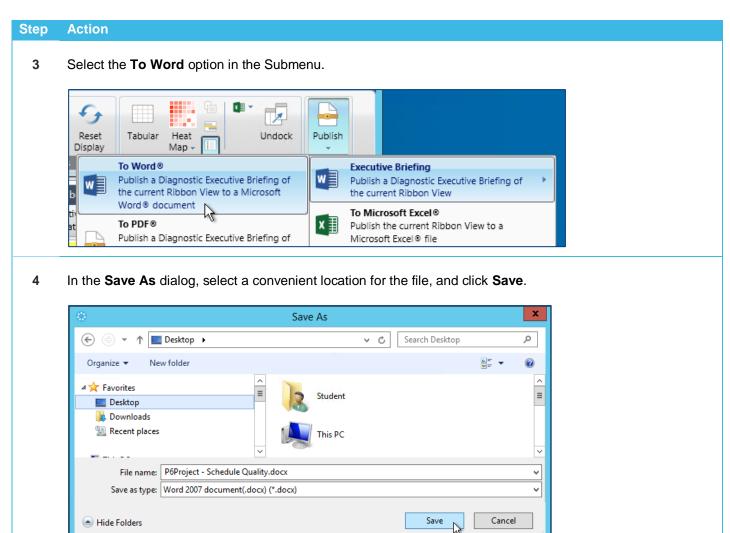
Continued on next page

Publish a Diagnostic Executive Briefing of

the current Ribbon View to an Adobe

Acrobat® document

Activity 1.5.1: Publishing and Reporting, continued



Activity 1.5.1: Publishing and Reporting, continued

Step **Action** 5 The resulting report will open in Microsoft Word. Deltek.Acumen Powered by Deltek Acumen Fuse®

Acumen Fuse® Diagnostic Executive Briefing

www.deltek.com

Report Generated On Tuesday, September 7, 2021 Created by Student

P6Project Summary

An Acumen Fuse analysis was conducted on Tuesday, September 7, 2021 on the P6Project workbook. It contains 1 project: Initial Plan, modeled in Oracle Primavera P6.

This project represents a total cost of \$195.57MM of which \$195.57MM are remaining with \$0 spent as actual cost. The earliest start date is Friday, January 1, 2010 with the latest completion date being Thursday, January 31, 2013.

Ribbon Browser

Ribbons \ Phases	2010	2011	2012	2013
Initial Plan				

Trend Analysis

The following section details how the characteristics of the workbook vary over time. This provides useful insight by showing improving/worsening trends. The analysis was conducted using years as time

- Missing Logic: decreases over time with the best period being 2011 (1) and the worst period being 2010 (7).
- Logic Density: decreases over time with the highest period being 2011 (2.30) and the lowest period being 2010 (2.25).
- Critical: decreases over time with the highest period being 2011 (12) and the lowest period being 2013 (0).
- Hard Constraints: decreases over time with the best period being 2012 (0) and the worst period
- Negative Float: decreases over time with the best period being 2012 (0) and the worst period
- being 2011 (2). Insufficient Detail: remains constant over time
- Number of Lags: decreases over time with the best period being 2013 (0) and the worst period being 2010 (13).
- Number of Leads: decreases over time with the best period being 2011 (0) and the worst period being 2010 (5).
- Merge Hotspot: decreases over time with the best period being 2010 (0) and the worst period being 2011 (1).

Projects Summary

Initial Plan Project

The Initial Plan project has a start date of Friday, January 1, 2010 and has Thursday, January 31, 2013 as the completion date. The project is currently planned with a status date of Friday, January 1, 2010 has 49 normal activities of which 0 (0%) are complete, 0 (0%) are in progress and 49 (100%) are still planned. It contains 4 milestones, 1 summary and no LOEs.

[Initial Plan] [Schedule Quality] Executive Briefing 1

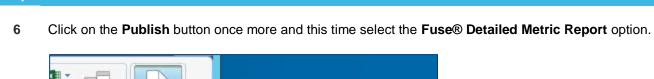
Acumen uses data and scores to generate this summary of the project's status.

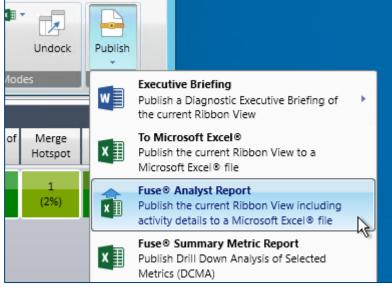
Take some time to look over the output of this report. It will help you learn what Acumen is doing, and how it is interpreting the results of the Fuse diagnostic.

Action

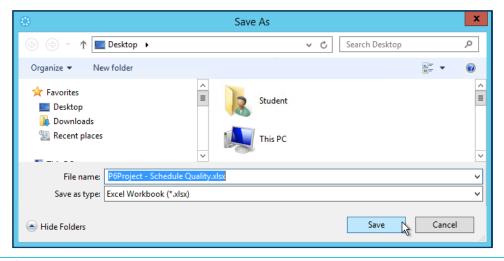
Step

Activity 1.5.1: Publishing and Reporting, continued





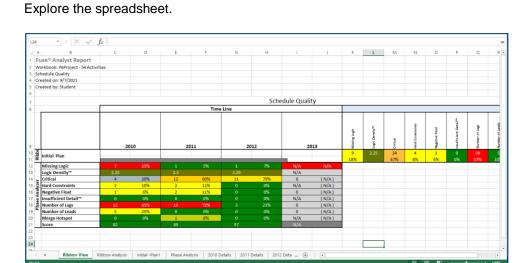
7 Select a location for your report and click the **Save** button.



8

Activity 1.5.1: Publishing and Reporting, continued

Step Action



Click on each of the workbook tabs to view the ribbon analysis report's content.

This is an excellent example of a report that you can share with other project team members to help them improve the schedule quality based upon the scores for the various activities.

Summary

So there you have it – from loading a project, to analyzing the results, to sharing the results with the project team, you have just taken your first steps into Deltek Acumen Fuse.

Subsequent courses will take a deeper dive into the software, its metrics, and other analytical tools such as Logic and Forensics. Other Acumen Courses to take in this series include:

- Acumen Boot Camp Series: Analysis and Metrics
- Acumen Boot Camp Series: Logic and Logic Trace
- Acumen Boot Camp Series: Forensics
- Acumen Boot Camp Series: Reporting