



EPICENTRAL

A Newsletter from Epicenter Development Group
highlighting ideas that improve organizations

Welcome to Epicenter Development Group's newsletter, EPICentral. The purpose of this newsletter is to highlight fundamental ideas that have helped organizations develop and maintain great manufacturing and service operations. We hope that you find our EPICentral newsletter helpful, and we would welcome your comments on its content.

The Delay Study Tool - Because Sometimes the Devil's in the Detail

I sometimes work with clients that can't understand why their expensive equipment is failing to produce enough product or why their staff is unable to keep up with the workload. The client's typical solution is to buy more equipment or hire more staff. My recommendation, however, is to first conduct a Delay Study to better understand **WHY** they aren't getting the expected results. A Delay Study is a great, structured approach for understanding an operation, and it produces a plethora of useful information.

Unlike a Productivity Study ([Newsletter June 2013](#)), a Delay Study is a detailed "deep dive" review of a single person or piece of equipment. Starting at the beginning of the day, each event that occurs is documented on a Delay Study form which is later used to quantify the results of the study. The general steps towards completing a Delay Study are as follows:

General Study Process

- **Select the Study Subject:** This might be a critical piece of equipment that is experiencing downtime or a key person of your team who moves around throughout the day (supervisor, forklift driver, inspector, maintenance technician, etc.).
- **Create the Form:** Identify the general events that you will likely see during the study and create a study check sheet form (see example below). Events will typically fall within one of the following categories depending upon the type of study
 - **Activity Type** - A value added or non-value added task (walk, assemble, stack, drive empty, inspect, paperwork, etc.)
 - **Downtime Reason** - A reason why the equipment is stopped (jam, misfeed, etc.)

- **Delay Type** - The reason that a person must wait (waiting for supervisor, waiting for paperwork to be completed, waiting for results of test, etc.)
- **Conduct the Study:** Starting at the beginning of the day or shift, shadow the person or watch the equipment. Every time the equipment status changes or the person starts a different activity, note the time that the switch occurred and the classification of the new status or activity. The "notes" column can be used to jot down improvement ideas for later consideration or for listing event categories that are not already listed on the form.
- **Summarize the Results:** Using an Excel spreadsheet, calculate the duration of each item seen during the study. In the example above, the first activity, "Search for Load" took 70 seconds (1 minute:10 seconds - 0 minutes:0 seconds). The resulting information can then be used in a variety of ways.

Item	Start Time (H:M:S)	Search for Load	Pick-Up Load	Stack Load	Travel Full	Drop Load	Paperwork	Travel Empty	Break	Idle	Notes
1	0:0:0	X									Difficult to find specific pallets.
2	0:1:10		X								
3	0:1:40			X							
4	0:1:55		X								
5	0:2:10				X						
6	0:2:55					X					
7	0:3:15						X				Electronic vs. paper?
8	0:3:30							X			Could this be eliminated?
9	0:4:30	X									
10	0:4:37		X								
11	0:4:45			X							
12	0:4:52		X								

An example form used to study a forklift operation.

Use of the Information

- **Labor Analysis** - A Delay Study can be used to identify, quantify and prioritize opportunities for improvement. Is the person using Best Practices? Could some activities or delays be eliminated through a redesign of their workplace or methods?
- **Downtime Analysis** - A Delay Study can be used to identify the specific areas where you lose equipment or personnel capacity. Is there a reoccurring issue or delay that is not being fixed properly?
- **Labor Standards** - Unlike Productivity Study data, Delay Study data can be used to create labor standards. How long does it take to load a truck or process an insurance claim? How much staff is required to handle next year's workload?
- **Documentation of the Process** - Because the entire process throughout the day is being studied, the results can be used as a basis for documenting the method and sequence of activities required to complete an activity. For this reason, it is sometimes helpful to videotape the operations throughout the study (to get more detailed information).

Next Steps

If you would like more information on this topic or other similar types of tools, please contact Bill Proctor with your request at wproctor@epicentergroup.com or 216-702-0952. You can also find previous issues of EPICentral at [Newsletters](#).

Mr. Proctor also speaks on a variety of problem-solving and system design topics that can help companies significantly increase the success and profitability of their businesses. If you are interested in having Bill speak at one of your upcoming meetings/events or would like more information on any of the speaking topics, please visit [Speaker Services](#) or you can email sales@epicentergroup.com.

Epicenter Development Group is a unique consulting firm that seamlessly integrates the disciplines of Systems Engineering and Organizational Analysis & Development to create practical design solutions to your toughest challenges. It is on the cutting edge of problem-solving solutions and the creator of a unique process called GreenRoom Engineering. This process adds greater value and cost savings for clients as compared to traditional engineering methods.

William Proctor, Epicenter's founder and president, has provided services around the country to more than 100 companies consisting of a variety of organizations; and Epicenter continues to grow as a resource for firms of all sizes.

To learn more about Epicenter Development Group, visit our website:

www.epicentergroup.com

Epicenter News

Epicenter is excited to be adding Kelly Casey to our listing of industrial engineering resources.



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Epicenter Development Group, LLC | 12111 Chippewa Road | Brecksville | OH | 44141

