Process Analytics Glossary

Key Terms and important information about Process Analytics
Process Intelligence is a growing trend in continuous improvement

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I. Other Terms
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The Bottleneck of a process is the event that stalls production. The bottleneck is the event that
requires the longest amount of time. The bottleneck holds back the whole process. The goal for
many organizations is to remove or minimize the effects of the bottleneck in order to increase
efficiency. In process discovery tools there are unique features that allow for bottleneck analysis so
that people do not need to manually determine where the bottleneck is.

### Core Terms

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th>Activities are the subparts of a process. It is an event that has a distinct beginning and ending. The activity usually results into an output.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Time</strong></td>
<td>Active Time is the amount of time spent on the activity explicitly.</td>
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<tr>
<td><strong>Attribute</strong></td>
<td>An Attribute is a dimension of a record.</td>
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<tr>
<td><strong>Bottleneck</strong></td>
<td>The Bottleneck of a process is the event that stalls production. The bottleneck is the event that requires the longest amount of time. The bottleneck holds back the whole process. The goal for many organizations is to remove or minimize the effects of the bottleneck in order to increase efficiency. In process discovery tools there are unique features that allow for bottleneck analysis so that people do not need to manually determine where the bottleneck is.</td>
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<tr>
<td><strong>Case</strong></td>
<td>A Case is one instance of an event.</td>
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<tr>
<td><strong>Case ID</strong></td>
<td>A Case ID a unique identifier of one case. A Case ID is associated with each record within the event log. This is what ties together all of the events related to one case and allows for processing.</td>
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<tr>
<td><strong>Data Attribute</strong></td>
<td>Data Attribute is a characteristic of a piece of data.</td>
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<tr>
<td><strong>Digital Twin</strong></td>
<td>Digital Twin is the online documentation of something that occurs in real life. A duplicate of the process is then stored electronically, making a digital twin.</td>
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<tr>
<td><strong>Dimension</strong></td>
<td>A Dimension is an event’s attribute which is declared as dimension. The declaration could be automatic or manual by the user. The automatic declaration is based on the series of rules such as: • The type of the data in the attribute is String or Number, and • The count of unique values of this attribute is between 2 and 2000. If both conditions are met, the attribute is considered a dimension. This happens during the post-load analysis.</td>
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## Core Terms

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<thead>
<tr>
<th>Event Name</th>
<th>The Event Name is the text that identifies what happened within the process. This could be something such as “Patient Discharged,” “Form Created,” etc.</th>
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</thead>
<tbody>
<tr>
<td>Filtering</td>
<td>Filtering puts a set of if statements onto a set of data. Filtering only outputs data that follows the terms. Filtering is a good way to find anomalies within the data and focus on the data that you want.</td>
</tr>
<tr>
<td>Financial Analysis</td>
<td>Financial Analysis focuses on the cost of the process. Financial Analysis can be useful to determine what processes are costing the most for the business. Financial Analysis can help be a good start to the analysis process in order to find opportunities to cut costs.</td>
</tr>
<tr>
<td>Frequency Analysis</td>
<td>Frequency Analysis focuses on the number of times an event is performed in a particular order. Frequency Analysis can be useful to determine how often processes that do not apply to conformance or other problems. Frequency Analysis can help be a good start to the analysis process.</td>
</tr>
<tr>
<td>Performance Analysis</td>
<td>Performance Analysis focuses on the results of a process. This could be a positive or negative result.</td>
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<tr>
<td>Process Analysis</td>
<td>Process Analysis is the step after Process Discovery. In Process Analysis the processes executed in the company are analyzed in order to understand where and how improvements are possible. Analysis consists of analyzing the “as-is” process, finding problems, and optimizing the process.</td>
</tr>
<tr>
<td>Process Animation</td>
<td>Process Animation allows for simplistic visualization of a process. Process visualization shows the process flow through animation such as dots that follow the process to show speed, lags, and flow.</td>
</tr>
<tr>
<td>Process Compare</td>
<td>Process Compare allows for multiple processes to be placed side by side and analyzed. This allows for process analysis between similar processes.</td>
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</table>
# Core Terms

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<tr>
<td>Process Discovery is the first part of process intelligence. This step of the process discovers the “as-is” process execution and presents an intuitive visualization that is easily explorable. Discovery consists of extracting the data, mapping the events, and creating the “as-is” visualization. There are many software platforms that help with process discovery.</td>
<td>A Process Instance is one particular occurrence of the process.</td>
<td>A process map is a visualization of a process. A process map can map an actual process or of the standard process.</td>
<td>Process Mining is the process of extracting information from event logs and doing analysis in order to support the business processes.</td>
<td>Process Monitoring is a way of continuously evaluating a process without having to watch flashing monitors waiting for a change. Process monitoring allows a user to input protocols. As the data is uploaded in real time the program watches for these protocols. When the protocol is violated the violation can trigger alerts to a person’s phone or email.</td>
<td>A Protocol is a predefined sequence of activities typically in a prescriptive form, i.e. the protocols are supposed to be followed. One could think of a protocol as an instruction or a cookbook. The examples of protocols: Resuscitating a patient with a cardiac arrest; Onboarding a customer with 401K rollover; Selling a product to a new customer, Defending PhD thesis, and so on. A protocol doesn’t have to be a single linear sequence. There could be multiple protocols depending on the nature of the object (one for cardiac patient another for gunshot). There could be multiple branches within the same protocol: do something, check the result, if A – go one way, if B – go another way. There could be the protocols which happen within another protocol, for example, in the middle of patient admission process she developed the acute cardiac arrest. Moreover, the “inner” or “child” protocol could be triggered by some step in the “parent” protocol (a protocol to create new employee’s email account is triggered as one step in the overall employee onboarding process) or start completely independently by some external event, as in the case of the medical emergency during the admission process.</td>
</tr>
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## Core Terms

### Process Variant
Process Variant are the different unique paths that a process can take. Traditional process discovery will not take into account the unique process variants but rather just the most commonly followed path. TimelinePI uses its timeline analysis approach in order to show every single process variant in a timeline form.

### Timeline
A Timeline is the history of a process instance. It is the history of a sales order, an invoice, an insurance claim, a service ticket, or any other specific process over time. A timeline simply consists of events which state that something happened to this “thing” at specific time.

### Timeline ID
Refer to [Case ID](#)

### Timestamp
A Timestamp is a piece of information created with a record of information that indicates the time that the step occurred. This allows for the Timeline analysis of processes. With the timestamp the process is able to be tracked over time.

### Transaction Log
Transaction Log is the history of the processes within a business. These transaction logs are kept within systems used to do your processes

### Waiting Time
Waiting Time is the time that comes after one event has ended and the next event has not yet begun.
**Other Terms**

| **Benchmarking** | Benchmarking compares the business’s processes to industry standards. Different dimensions can be measured in order to do benchmarking. |
| **Business Analyst** | A Business Analyst is the person who analyzes the industry plane. The business analyst stands between the business and the technology. The business analyst serves as the expert to understand the problems and needs of the business. The business analyst will gather information and documents in order to assess these problems and needs. |
| **Business Analysis** | Business Analysis is the process of evaluating and recommending solutions. |
| **Business Architecture** | Business Architecture is the layout that the business follow in order to align with the business goals. |
| **Business Case** | A Business Case is a formal proposal of what reasoning there is to start a project or task. Formal proposals are typically used for more complex or costly matters. |
| **Business Goal** | A Business Goal is something that the company aims to achieve. This could be complex strategic goals or day-to-day operational goals. The goals are broad term outcomes that the business desires and states the what of what the business wants to do and not the how. Regardless of the goal each process done within the business should somehow relate to achieving one of the business goals set in place. It is important that the progress of these business goals are tracked and analyzed. *Example*) *Be primary loan provider for small businesses* |
| **Business Need** | A Business Need is the most fundamental high level goals of the organization. |
| **Business Objectives** | Business Objectives differ from Business Goals because they are specific and measurable in nature. They are a subset of the Business Goals of a business. *Example*) *Decrease time of loan application process by 15% by the end of 2018 fiscal year.* |
### Business Problem

A Business Problem is the issue that a company is facing that prohibits the company from achieving organizational goals.

### Business Process

A Business Process is all of the linked tasks that contribute to the operations of a business.

### Business Process Re-engineering

Business Process Re-engineering involves the radical redesign of core business processes to achieve dramatic improvements in productivity, cycle times and quality. In Business Process Re-engineering, companies start with a blank sheet of paper and rethink existing processes to deliver more value to the customer.

### Business Requirements

Business Requirements are the necessities that are essential to the business running and meeting objectives.

### Business Process Management (BPM)

Business Process Management is a subsegment of operations. BPM seeks to measure, analyze, and optimize business processes within an organization. BPM is used continuously to achieve business process improvement.

### Business Process Modeling Notation (BPMN)

Business Process Modeling Notation is a way of illustrating business processes.

### Data Mining

Data Mining is the process of gathering information from various platforms. Data Mining can be taken one step further by discovering patterns within these large data sources. When using a manual approach a programmer is often required to sift through vast amounts of data and perform statistical analysis.

### Decision Analysis

Decision Analysis is the systematic approach to evaluating the choices that the business has made.
Other Terms

Elicitation
Elicitation is the process of gathering of information from human sources. This is done to discover subtleties of the process from informed parties.

Extract, Transform, Load (ETL)
Extract, Transform, Load is the process of pulling data from one database so that it can be used by another application.

Forecast and Prediction
Forecasting is using historical data in order to guess the future outcome of an event.

Internet of Things (IoT)
Internet of Things is what allows for everyday objects to be connected to the Internet through embedded technology.
Example) Tracking codes on packages allow for these packages to be tracked online

Metadata
Metadata is data about data. This data describes the data in the table. This is typically in terms of the structure of the data such as numeric or text.

Predictive Analytics
Predictive Analytics takes historical information in order to make predictions of events.

Prescriptive Analytics
Prescriptive Analytics goes one step further than predictive analytics. Prescriptive Analytics not only will predict what happens next but will also find the best course of action to lead to a better result from the previous inputs.

Process
A Process is a string of actions that has a beginning and an end.

Process Improvement
Process Improvement requires identifying, analyzing and improving a specific business process. A company should always strive to have continuous process improvement.
Other Terms

Process Model

See Business Process Modeling Notation

Repository

A Repository is an abstract container which is similar to a project. A repository is the location in which data is stored and managed.

Robotic Process Automation (RPA)

Robotic Process Automation is a type of automation where a machine completes a task that was traditionally done by a human by following rule-based tasks. RPA is not to be confused with Artificial Intelligence (AI) that can be self-taught and learn. RPA will only follow a predetermined set of rules. Once RPA is implemented, it is able to reduce costs and increase accuracy all while improving service delivery and maintaining compliance.

Root Cause

Root Cause is an event or process that is causing problems (such as compliance violations) with an overall process. The root cause is the very first thing within the process that causes this problem. There may be other factors that contribute to the problem. However, the root cause is the very initial start to the problem.

Root Cause Analysis

Root Cause Analysis is the method of discovering the root cause. Some common manual approaches for this are the Five Whys where a person asks why something happened five times. There are also software products that allow a user to upload process data and the software will analyze what the root cause is.

Saved Sets

A Saved Set is a collection of timelines or timeline fragments defined by the set rules. A set is defined by:

- Time window
- Fragmentation (all timeline fragments starting with N and ending on M)
- Milestones (events to show)
- Ignore events (events to hide)
- Any search criteria (timeline has N, them M, and no L in between)
- Collapse rules – ignore the repetition of a particular event
- Parallelism rules – ignore the order of some events which are performed in parallel

It is the full combination of rules which defines a set.
Six Sigma

Six Sigma is a method for quality control. A process only qualifies for Six Sigma if only 3.4 or less defects are made in one million.

Stakeholder

Stakeholder is someone who holds an interest within a business. 
Example) Employees, stock holder, and customers

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