The Personal Brilliance Innovation/Problem Solving Model

When you’re faced with a situation where you have to come up with, and implement, a great idea and you can… that’s Personal Brilliance.

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The Process

A number of formal decision making and problem solving methods exist, originating in the field of engineering and tailored to specific uses such as manufacturing, quality, and engineering. Our goal is to introduce a simple, yet practical approach to solving problems in a real-life work environment without requiring a company-wide formal model implementation.

The Personal Brilliance Innovation/Problem Solving Model takes advantage of the structure of other decision-making models while integrating the four catalysts of Personal Brilliance: awareness, curiosity, focus, and initiative. This mindset allows for a complete analysis of a problem while avoiding the requirement for a rigid, inflexible structure. If you can’t apply a model instantly for day-to-day problems the value of the model is minimized.

An integral part of the popular Six-Sigma quality program is a data-driven strategy for improving processes called DMAIC, pronounced duh-may-ick. DMAIC is an acronym for five interconnected phases – D-define, M-measure, A-analyze, I-improve, C-control.

The Personal Brilliance Innovation/Problem Solving Model closely follows the principles of DMAIC while integrating the mindset of the four catalysts of awareness, curiosity, focus, and initiative into the steps. Six-Sigma depends heavily on statistical analysis. While measurement and statistical analysis of data is critical, a majority of problems can be addressed completely with only basic math skills.

This model can be used to facilitate a group solving a specific problem. It can also be used as an ongoing, repetitive procedure throughout the organization.

The chart on the next page describes the process flow. The call out boxes with the (ACFI) notation indicates that the Personal Brilliance catalysts (awareness, curiosity, focus, and initiative) are being used within that step.

**Awareness** involves self-awareness, being conscious of your environment, and being cognizant of the problem at hand.

**Curiosity** is actively exploring the environment, asking questions, and investigating possibilities with a sense of both wonder and doubt.

**Focus** is giving 360 degree attention to what you are doing now, allowing access to any possible innovation.

**Initiative** is necessary to both allow innovation to work and to ultimately implement the solution.
**Define**

Understand the process effected, set parameters, set goals, and separate and group symptoms. Create a problem statement and foundation for change. (ACFI)

**Measure**

Measure current performance using actual data. Set benchmark for improvement.

**Analyze**

Search for the causes of the problem and prove the cause/effect linkage. (ACFI)

**Improve**

If applicable identify a temporary fix until a more permanent solution is identified. Ensure additional problems aren’t created. (ACFI)

**Control**

Engineer the solution to the problem. Create an action plan to implement the solution. Determine the return on investment. Obtain approval for funding. (ACFI)

**Action Plan**

Band-aid

Measure to verify improvement has taken place. Put controls in place to ensure gains are sustained over time. (ACFI)

**Symptoms**

**Personal Brilliance Innovation/Problem Solving Model**

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Model Components

1. Symptoms

Input to the Personal Brilliance Innovation/Problem Solving Model takes the form of a symptom. The desire to solve a problem usually starts with the emergence of symptoms such as, “The database is never updated on time” or “I’m beingpaged while I’m on vacation.” Symptoms are different from problems of course. We’ll get to the actual problem later in the process.

2. Define the Problem

When completing the description of the problem, be sure to consider the following:
- Provide as much detail as possible.
- Avoid suggesting a cause. Stick to facts rather than opinion wherever possible.
- Provide details such as work order or sales order number, model number, serial number, dates, names of people involved, document numbers, etc.
- Wherever possible provide measurement (e.g. On 4 out of 8 installations the site was not ready when the technician arrived to install the equipment).
- Give as much detail as possible on the circumstances surrounding the problem. If it is a product problem, does it happen only in humid environments or dry? When the equipment starts up or when it’s been running a while? Intermittently, constantly or at regular intervals? If it is a process problem, does it happen when the documented process is followed precisely or if there are deviations?
- The more detailed, factual, complete information provided, the more likely we will be able to identify the root cause.
Use the group Personal Brilliance Diamond Exercise to evaluate symptoms and help define problems. Question prompts for each catalyst are listed below:

**Awareness – The Prospector – Look for the gem**

Target your input to questions or solutions relating to:
- **Self awareness**, for example: What skills do you need to develop in order to accomplish your goal?
- **Awareness of the environment**, for example: How does this fit in with other things going on in the industry?
- **Awareness of the problem**, for example: What has contributed to the problem at hand?

**Curiosity – The Detective – Get the “why” of things**

Target your input and ask questions related to:
- **The problem**, for example: What caused the situation we are working on?
- **A sense of wonder**, for example: How much bigger can we make the application of this idea?
- **A sense of doubt**, Use skepticism rather than cynicism, for example: How would the biggest resistor to your idea react?

**Focus – The Chief Executive – Use a 360-degree focus**

Provide input that helps keep the group focused on the problem, while keeping the big picture in mind. Target your input and suggestions to a diverse view of the problem:
- **A microscope**, for example: If you pay attention to the details, what are the benefits and drawbacks of the solution?
- **A telescope**, for example: If you take a step back, how will the solution be received?
- **A wide angle lens**, for example: How does this issue and possible solution(s) fit within the big picture?
Initiative – Action Hero – Make it happen

Target your input to an exploration of the actions to be taken:

- **Getting started**, for example: What is the first step to take in order to move forward on the idea?
- **Pilot quickly**, for example: What kind of small trial will help identify the benefits and drawbacks of the idea?

Determine the “owner” of the problem. Usually, it is an individual who owns the process in which the problem resides. The owner will play an important role in the project to implement the solution.

The output of the define the problem step is a clear problem statement and the beginnings of a foundation for change document. The foundation for change (see *Change Project Management – The Next Step* [www.corpchange.com](http://www.corpchange.com)) includes:

- The purpose of the proposed change
- The result achieved based on the proposed change
- A tie to the organization’s strategy
- An approach to implement the change

3. Measure

Identify measurements that help define the problem. The idea is to identify measurements of current performance using actual data. This initial measurement sets a benchmark for improvement. Later when a solution is identified and implemented, these measurements will be important to define results.

Many times problems are ignored when using a formal problem solving methodology simply because it is difficult to measure activities related to the problem.

Although Albert Einstein once said, “Not everything that can be counted counts and not everything that counts can be counted,” we can usually find a residue of the problem that can be quantified.

Many problem methodologies require advanced statistical analysis, but simply identifying the business aspects of the problem are all that is necessary. Identify how often the problem occurs. When the problem occurs, how much does it cost? How much revenue could be made if the
problem wasn’t there? How much time does the problem require to fix? What are the related labor costs? Are there any costs that aren’t financial?

In the Analyze step below, root cause analysis is used to identify the cause of the problem. Wherever possible the impact of the root cause should be measured (e.g. Of 10 incorrect shipments, 4 had an inaccurate shipping address in the system, 6 had special shipping requirements).

4. Analyze

The purpose of the analysis step is to search for the causes of the problem and prove the cause/effect linkage so that a solution can be identified.

There are many forms of Root Cause Analysis. Many depend heavily on statistical data analysis. For most purposes the “5 Why” method of root cause analysis is extremely powerful and yields results. The goal is to seek objective evidence that either confirms or eliminates a possible root cause.

It is possible that a single problem can have multiple root causes. Identifying all of them is critical to creating a successful, innovative solution. See *Personal Brilliance* pages 79-82 for an explanation and examples of root cause analysis.

This is a time-consuming process that can be performed by an individual or a group. The key is to complete the task. It is more important in the long run to be thorough than to get done quickly.

Once the true root cause of the problem is identified solutions are obvious. For example, if the root cause of a process problem that results in poor quality is that the products are exposed to the elements in the shipping phase, the solution to create a protective covering or store the equipment indoors becomes obvious. But when starting with the problem statement that x% of our customers are dissatisfied without identified root causes, the solution is not quite so obvious.

5. Band-aid

Determine a temporary solution (if applicable). Where the problem is affecting customers, is a safety issue or urgent for some other reason, implement a temporary solution to protect the customers. Typically a temporary solution does not prevent recurrences of the problem, but provides a means to identify occurrences and take action before the problem affects the customer.
6. Improve

In the improvement step, solutions to the problem should be engineered. A return on investment should be calculated based on the return expected and the development of the corresponding action plan to implement the solution. Utilize the four Personal Brilliance while evaluating a proposed solution to ensure that it is viable. Some tips for the Improve step:

- Document your plan for implementing a solution most likely to eliminate the root cause(s) of the problem and prevent recurrence.
- Be sure to consider other areas where the problem may be occurring (e.g. if the root cause is a design flaw in the product, could that design flaw be present in other models of the product?)
- Ensure that any planned solution is acceptable to other departments affected by the problem or the process in which it resides; and that action to correct one problem does not create another problem.
- Wherever possible the solution should be process-oriented, not people-oriented. "Told operator to be more careful" is NOT acceptable corrective action. Lack of training is rarely the true root cause—training is often relied on to overcome a process flaw. Wherever possible the corrective action should eliminate the process flaw.

7. Control

Validate that the solution implemented was indeed effective. Using the return on investment calculations, test to be sure the solution is actually working. Has an improvement occurred?

Controls should be put in place to ensure gains are sustained over time, that there is no slippage into the old process, and that downstream functions are not impacted in a negative way.

Utilizing the comprehensive Personal Brilliance Innovation/Problem Solving Model and making it a habit will help you and your organization build a habit of innovation that can be applied in many different ways.

Contact Personal Brilliance Advisors at 800.370.7373 to schedule a one-day workshop to introduce and implement the Personal Brilliance Innovation/Problem Solving Model in your organization.

This workshop can be used in support of the comprehensive Personal Brilliance training program for all staff.