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# A Guide To Writing Effective Problem Statements



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# First & Foremost



In our role as continuous improvement specialists, we are typically challenged to “solve” difficult problems for our respective organizations or clients. We have acquired a wide array of tools, methods and techniques for that purpose. If, in our role of project managers and seasoned facilitators, we are able to **establish the winning conditions** for change, we can look forward to successful outcomes. However, the “devil is in the details” and that is what makes our jobs both interesting and challenging.

This guide discusses one of those “little devils” that often gets overlooked, (at our own peril), and that is the need at the front end of any improvement project to construct an effective problem statement.

After reading this article, you may want to learn more about RPM-Academy's "[Mondai](http://www.rpm-academy.com/rpm-apps)" problem statement and solving app, available for FREE from Google Play and the App Store: <http://www.rpm-academy.com/rpm-apps>

Adapted from an article, authored by Alan Bryman, which appeared in “International Journal of Social Research Methodology” in 2007, “*A problem is a statement about an area of concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation.*”

# So, what IS in a Problem Statement?

A problem statement should describe an undesirable gap between the current state level of performance and the desired future state level of performance, include absolute or relative measures of the problem that quantify that gap, but should not include possible causes or solutions!

Key elements of an effective problem statement include;

**Gap:** Identify the gap (“pain”) that exists today.

**Time frame, location and**

**trend:** Describe when and where the problem was first observed and what kind of trend it is following.

**Impact:** Quantify the gap (cost, time, quality, environmental, personal, etc.)

**Importance:** To the organization, the individual, etc. to better understand the urgency.



A problem often presents itself in terms of symptoms, blame, causes, and solutions. What is vital is having the ability to sift through all of this "noise" and get to the heart of the matter... the "Real Problem" that needs to be solved. In the world of continuous improvement, the starting point for every project or event has to begin with a complete, accurate and concise description of the problem that is being addressed.

# Why is it so hard to write an effective problem statement?

One of the challenges in writing a great problem statement is the “distractions” that can come from a variety of sources;

**Symptoms** associated with the problem add to the confusion when trying to describe a problem. For example, arriving at the physician’s office and stating, *“Doctor, I am experiencing pain in the back of my thigh down to the lower part of my leg! I need you to ‘fix’ my leg!”* It is only after a thoughtful evaluation that the doctor proclaims that your problem rests with your sciatic nerve and originates in your lower back.

**Solutions** are often an early consideration when wrestling with a problem. When one is faced with a problem, alleviating that pain as quickly as possible would be a natural, almost reflex action. It is, however, extremely important to avoid jumping to solutions until a “profound” understanding of the current state is achieved.

The search for **causes** of your pain, like solutions, is a natural reaction that also needs to be avoided when first describing a problem. Establishing “root cause” will very much be a part of the ensuing investigative procedure but should be reserved for the appropriate time in the life cycle of the problem-solving method.

**Blame** is also a natural reflex when one is afflicted with a problem. A quote attributed to John Burroughs, American naturalist and nature essayist, may be all we need to state on this subject: *“You can get discouraged many times, but you are not a failure until you begin to blame somebody else and stop trying.”*

In short, a great problem statement must be free of causes, solutions and blame, and careful consideration must be given to ensure symptoms do not become a distraction.

# What methods can be employed to author a great problem statement?

**The ability to articulate** an effective problem statement is not simply a business skill... it truly is a life skill. How can children, youth, and adults begin to solve problems if they haven't been able to adequately describe them? This holds true for continuous improvement specialists.

**The method is deceptively simple.** Ask the right questions in the right order and let the answers lead you to a great problem statement. Let's walk through a manufacturing and call centre example right now...

**Question #1:** What is the problem you are trying to solve?

*Example 1 - Manufacturer: Window frames/parts are ending up in the assembly department missing required weep holes or slots.*

*Example 2 - Call Centre: The assessment call is too complex, time consuming and administratively heavy resulting in a diminished experience for the client as well as the staff member performing the work.*

**Question #2:** Why is it a problem? (Highlight the "pain")

*Example 1 - Manufacturer: If identified (visual inspection), the affected parts must be sent back for rework, thereby increasing the overall cost of manufacturing, creating higher inventory levels (WIP) and increasing risk since some of the defects may not be detected until later in the process or worse... may end up being shipped to the job sites.*

*Example 2 - Call Centre: This results in higher variability and length of call handling time, clients having to repeat their "story" as the move through the assessment and downstream case worker (meeting) process, client's providing more information than may be required, increased workload for the assessment worker, and increased wait times in the (telephone) queue. The overall impact is reduced service levels and diminished client and assessment worker experience.*

**Question #3:** Where do we observe the problem? (Location, products)

*Example 1 - Manufacturer: This problem is observed in the assembly department, downstream departments as well as ultimately in the field with customer complaints and costly field repairs/replacements.*

*Example 2 - Call Centre: This problem is observed in all assessment calls but will vary in magnitude depending on the client (needs and circumstance), assessment worker (experience), and other factors that contribute to variation in the handling of assessment calls.*

**Question #4:** Who is impacted? (Customers, businesses, departments)

*Example 1 - Manufacturer: This problem affects the assembly department who is tasked with trying to inspect for the error and react accordingly, rework occurring in the department/work cell responsible for weep holes and slots, our company as a whole in terms of cost, brand and reputation and, most importantly, the customer who is affected by this problem if it makes it to the field.*

*Example 2 - Call Centre: This affects the client associated with the call, clients waiting in the queue, client's families, our organization, and employers in the community we serve.*

**Question #5:** When did we first observe the problem?

*Example 1 - Manufacturer: This has been an ongoing issue going back as far as memory serves in our long-term employees but with increased volume and more customization and higher complexity in design, the impact and severity of this problem has increased rapidly over the last two years.*

*Example 2 - Call Centre: This is a latent problem that has always existed but has become more evident with recent changes, including changes in funding, legislation, demand for services, client demographics, and recent integration efforts in our organization as part of their ongoing commitment to continuous improvement of service pathways and client experience.*

**Question #6:** How do we observe the problem? (Symptoms)

*Example 1 - Manufacturer: Customer (in-field installation and service complaints), increased warranty costs, manufacturing non-conformance reports (NCR), complaints from assembly department team, increased costs in fabrication.*

*Example 2 - Call Centre: This problem is observed in the variation in call handling times (AHT), wait times in the (telephone) queue, call abandon rates, increased stress in front-line staff (workload and client anxiety/dissatisfaction) and ambiguity in call handling protocols.*

**Question #7:** How often do we observe the problem? (Error rate, magnitude, trend)

*Example 1 - Manufacturer: We have an observed 62,000 parts per million (PPM) for this specific defect, taking into consideration rework completed in-house and observed defects in the field. The PPM is derived from the number of weeping holes and slots required per unit assembly versus the actual number of deficiencies overall observed for the same number of units.*

*Example 2 - Call Centre: This is a daily operational occurrence but increases in call complexity related to changes in the knowledge base - multiple programs, changes in the environment (client demographics and needs/circumstances, legislation, etc.) - has resulted in an increase in severity and stress on the system.*

# Your Turn to Try It!

Think of a problem you have encountered in your personal or professional life, or a problem you are currently tasked to solve. Employ the preceding method of asking seven simple questions and see where it takes you.

Consider teaching this simple and effective method to your clients, students, friends, colleagues and family. Writing problem statements truly is a life skill and, when employed correctly, will place anyone in good stead to start solving the problem.

What should be in that requisite tool box that ALL process managers should be trained in?... Here are my favourite "vital few";

- **Current (and accurate) process** flow map including relevant decision diamonds, delays, and (not so) hidden factories.
- **Standard work associated** with the process flow (and evidence these standards are being audited for compliance).
- **Current Failure Mode and Effects Analysis (FMEA)** with associated "action plan" which might serve as that manager's continuous improvement "strategy" if they don't already have one.
- **Control charts and Control Plans** in support of associated processes (and the team trained on how to use them).
- **Current capability studies...** KEEP SCORE! Know what your service level targets and how they are aligned with organizational strategy and voice of the customer.
- **Gemba walk:** Standard operating procedure for manager to routinely "walk the process", "observe" and engage with the staff. Let the staff know that the manager's role is to remove barriers that get in the way of the team's efforts (individually and collectively) to create value.

I can't help but think if organizations could deploy this as a strategy, similar to Lean's workplace organization (5S, standard work, visual workplace), whereby process managers are "certified" in this basic tool box, process capability would improve dramatically, firefighting and heroics would diminish, risk would go down, and a lot of freed up capacity could be reinvested in the customers and communities those organizations are in business to serve.

RPM-Academy has created a dedicated app, "[Mondai](#)", that can be downloaded to your phone or device that will allow you to easily Write, Edit, Solve, Save and Share great problem statements using the seven-question method described in this article.

Click here to access the FREE app: <http://www.rpm-academy.com/rpm-apps>

Wishing you all the very best of success in solving your problems!

Rod Morgan  
Head of Faculty  
RPM-Academy  
Ottawa, Canada

# About The Author

Rod is one of Canada's foremost Lean Six Sigma Trainers and practitioners. He draws on over thirty years of change management, quality systems deployment, project leadership, and organizational transformation, and has instructed and coached thousands of Black Belts, Green Belts and Champions in Canada and internationally. Mr. Morgan was a Founding member of e-Zsigma(Canada) Inc., Canada's first premier supplier of Lean and Six Sigma consulting and training, where he served as Vice-President, Program Management and senior consultant/trainer for fourteen years. For over 10 years, ending in 2017, Rod served as chief instructor for the Masters Certificate in Lean Six Sigma programs at the renowned Schulich School of Business and faculty for Schulich's Masters Certificate in Healthcare Management program.



Rod has managed hundreds of successful improvement initiatives and Lean/CI cultural transformations in some of North America's most notable companies and is frequently in demand as a speaker at conferences where he leverages his diverse experience in government, healthcare, supply chain, enterprise information technologies, retail, consumer packaged goods, manufacturing, and finance.

Over the last ten years, a significant amount of his work has centered on supporting management teams and the front-line staff in major hospitals, primary and tertiary care centers, mental health, long-term care and a variety of local and federal government healthcare agencies, advising on the strategic deployment of Lean and quality strategies and providing training, coaching and mentoring.