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## **Root Cause Analysis: Investment or Expense?**

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***Abstract:** In a year that promises to be a financial challenge for most corporations, we must make decisions as to where to invest our scarce dollars and where to cut from our current operations. When faced with these decisions, we must be realistic and pragmatic about how short-term decisions impact our long-term goals. Yes, times are hard now, but how well positioned will we be when the economy picks up (and keep the faith, it will pick up)?*

### **Short-Term Decision Making in a Recession**

If anyone has been in the position of reviewing a budget during a recession, they are familiar with the pressures to mitigate damage to our monthly financial statements. When faced with such prospects, we tend to nickel-and-dime our cost cutting efforts for the sake of improving the short-term financial reports.

The natural tendency is to first separate *wants* from *needs*. In recessionary times the *wants* are generally a target for cost cutting, and these often represent opportunities that are on deck for review in the current budgetary cycle.

After the *wants* are depleted, we then focus on the *needs*. Can we cut back on volumes of supplies, raw materials, etc.? Can we work with our vendors to get better per unit rates? Can we outsource some tasks, or in some instances, perhaps bring back tasks that we currently outsource (i.e. in-source)?

### **Paradigm: Letting People Go Saves Money**

Cutting head count is almost always a last resort, but it certainly has one of the greatest impacts on the short-term financials. The prospect of laying people off and having them lose their livelihoods is a very stressful one for most managements. The situation becomes even more stressful when the desired outcome is not achieved as a result of the reduction in head count. Letting people go not only demoralizes those let go, but also those that remain. While those that remain still have their jobs, they live in fear that they could be next. This distracts them from being focused on their tasks and increases the risk of human error.

The flawed thinking behind letting people go is that big money will be saved. This is true when looking at the short-term financial results. However, this may not be the case when looking at the long-term lifecycle of the business.

At any point in time in a work environment, there is a certain number (or range) of failures occurring. Some are more noticeable than others, but nonetheless they exist. When we let people go, especially indiscriminately, we have fewer people to recognize and solve problems. These problems do not just disappear with those we let go. Most of the time, the failures/problems we encounter in the workplace are caused by flawed systems (i.e. – policies, procedures, training systems, purchasing systems, etc.). Since the flawed systems do not go with those we let go, the flawed condition persists.

Consequently, an additional burden is placed on those employees remaining. This burden equates to additional work responsibilities and an increase in the number of failures on a per person basis. Because of the work overload the remaining employees face, they are more prone to commit human errors that will result in more failures. We can see how this vicious cycle spreads from this point on.

### **Is Root Cause Analysis an Investment?**

In a recession, virtually any cash outlay is viewed as an expense and needs to be evaluated as to whether it is a necessary expense or not. When we consider whether to purchase products and services such as Root Cause Analysis (RCA) during these times, we can immediately see that this would normally be viewed as not “necessary” by those who typically review the budget for cost cutting purposes. This is often because the reviewer does not understand what RCA is, and they group it into a commodity category as either Training and/or Software. Once viewed as an unnecessary commodity, it dies in the review process.

There is no rocket science behind the calculation that determines margin: revenue – expenses = profit/(loss). In good times when we can sell whatever we offer, we control margin on the revenue side by finding ways to produce more product with the same fixed assets. In bad times when we cannot sell what we are capable of making, we control margin by cutting expenses.

However, unexpected expenses arise from unexpected failures. In many budgets we account for these unexpected failures, to a certain degree, by embedding them in ambiguous categories on the financials sheet under General, Routine, Other, etc. These are essentially slush funds to cover unexpected occurrences.

As we mentioned earlier, those that remain after we reduce head count are more prone to commit human error. This leads to increased unexpected failures which in turn add unexpected costs to the short-term financials.

More sophisticated and complex working environments understand that RCA (when used properly) is not a commodity but rather a necessity to fight this cycle. This is a basic principle of Reliability Engineering. A good RCA system will provide an organization the methodology and tools to proactively identify the Significant Few failures. These are the 20% or less of the failure events costing an organization 80% or more of their losses.

## Quantifying and Prioritizing Failure: Determine Qualified Candidates for RCA

The first step in a successful RCA is to only use this type of in-depth investigation on events that will yield an acceptable return. No organization can afford to do full blown RCAs on every failure that occurs. Therefore we must quantify and prioritize the impacts of such failures over a longer period of time, such as a year. Simply trying to pick off failures as they come will only yield a fraction of what can be returned by looking at the big picture. Prioritization insures that we control the fix, and that the fix does not control us.

A simple example of this would be a blood drawing process in an Emergency Room (ER). When someone draws blood from a patient in an ER and cannot draw it properly the first time (for whatever reason), they do not think twice about trying again. We have all been in the patient's seat when this has happened, and we have also become conditioned to believe that "it happens". We are frustrated that we have to be "stuck" twice because someone else did not do it right the first time.

When we look at a single occurrence like this, it really is an accepted practice. No one is hurt, there are no regulations to prevent a redraw, and the practice is not usually questioned by superiors. There is typically no category on the hospital balance sheet that will show an annual cost for blood redraws in the ER. The actual costs are embedded in various categories; so essentially no one sees them as a whole...they are stealth. Can you think of similar types of "chronic" failures in your workplace that suffer the same fate of invisibility?

We helped conduct an analysis with a client hospital using our PROACT<sup>®</sup> Opportunity Analysis tool on this very situation. We found at a single hospital ER (225-bed acute care hospital) that they were redrawing blood 10,013 times a year. After significant digging, we found the average cost of a single redraw was about \$300. Doing the math demonstrates that the annual cost of redraws was over \$3,000,000 for this facility alone. However, this long-term view is invisible, and all anyone sees is a single, unquestioned redraw.

Think about how many repetitive tasks we do in the workplace because it did not work out the first time. Whether we are replacing components for whatever reason (etc. failed parts, wrong parts, defective parts, poorly installed), idly waiting for the permitting process to complete, pulling a new pair of safety glasses from the free-issue bin because we misplaced our other ones and many more. On their individual occurrence we do not really care but when you sit back and look at how often they happen in a year and add them up, they are quite substantial.

Think about things in our daily lives that add up the same way. Perhaps any number of you enjoys sodas on a daily basis. For example's sake you might purchase four sodas per day. This costs about \$6 per working day. This averages 225 working days in a year; this comes out to \$1,350/yr. Surprising isn't it? For all you coffee drinkers how many Latte's do you buy per week?

## **It's all about the Return-On-Investment (ROI)**

In the generic examples above, if we were to employ the methods and tools of a credible RCA system, then we could analyze why we are having the need to redraw blood so many times on the same patient. Some situations are unavoidable, but usually, the majority of them are preventable. We just have to peel the onion back and look a little deeper into understanding why there was a need to redraw.

Typically, 20% or less of the reasons for the redraw will account for 80% or more of the costs to do so. We should focus our RCA efforts analyzing this 20% and seek to return 80% of the \$3,000,000 opportunity identified.

If we view RCA as an expense, we will not identify these opportunities, and they shall remain buried in the rubble of the financial reports. The \$3,000,000 opportunity above remains spread across numerous financial categories, and unless this situation is corrected, those departments will continue to absorb these costs masked under categories such as "routine" (unexpected costs).

If we view RCA as an investment, we will use the creativity and innovation of our employees to root out these opportunities, analyze them and prevent them from happening again. Overworked and understaffed organizations will be relieved of the burden of having to address unnecessary failures. Perhaps, the most important realization would be the true impact to the bottom-line financials due to the drastic reduction of unexpected failures. These significant cost reductions are but a fraction of what any RCA training or software would initially cost.

We have a challenge before us: to create a paradigm shift which views RCA as an investment in our business as opposed to an expenditure. Are we ready to accept this challenge?

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