ITIL: Lost cause paralysis

by Mark Smalley

Are you spending too much time analysing problems instead of just fixing them?

Much of the thinking around Incident Management and Problem Management is based on the concept of Root Cause Analysis (often abbreviated as RCA). This is "a method of problem solving used for identifying the root causes of faults or problems. A factor is considered a root cause if removal thereof from the problem-fault-sequence prevents the final undesirable outcome from recurring; whereas a causal factor is one that affects an event's outcome, but is not a root cause. Though removing a causal factor can benefit an outcome, it does not prevent its recurrence with certainty[1]."

This is clearly based on a strong relationship between cause and effect. In other words, a deterministic system (in the broadest sense of the word) is assumed. But what if the system is non-deterministic and exhibits unpredictable behavior? Is Root Cause Analysis a Lost Cause?

Complex adaptive systems

These non-deterministic systems are often referred to as complex adaptive systems. One of the movers and shakers in this area is Dave Snowden, who's Cynefin framework featured in a highly-cited and Academy of Management award-winning article[2] in Harvard Business Review in 2007, and has been applied in many fields, including IT, since then. This sense-making framework offers different strategies for dealing with systems that are obvious, complicated, complex or chaotic. Or simply unknown. It often 'liberates' people from the shackles of traditional command and control-based thinking.

1 | Wikipedia: Root Cause Analysis

2 | A Leader's Framework for Decision Making - Harvard Business Review,
   https://hbr.org/2007/11/a-leaders-framework-for-decision-making

The Cynefin framework has five domains:

- Obvious, in which the relationship between cause and effect is obvious to all, the approach is to Sense – Categorise – Respond and we can apply best practice.

- Complicated, in which the relationship between cause and effect requires analysis or some other form of investigation and/or the application of expert knowledge, the approach is to Sense – Analyse – Respond and we can apply good practice.

- Complex, in which the relationship between cause and effect can only be perceived in retrospect, but not in advance, the approach is to Probe – Sense – Respond and we can sense emergent practice.

- Chaotic, in which there is no relationship between cause and effect at systems level, the approach is to Act – Sense – Respond and we can discover novel practice.

- Disorder, which is the state of not knowing what type of causality exists.

The first two domains are ordered. In other words, predictable. There is strong causality that is either directly obvious, or becomes apparent after some analysis. Here, Root Cause Analysis is a valid approach. But in the complex domain, in which causality exists only in hindsight, and is not repeatable, much time could be wasted on trying to identify a root cause.

Learning from DevOps

DevOps is a concept that is notoriously difficult to define, but I regard it as a professional movement based on an emerging set of technical, organizational and cultural insights for fast delivery of resilient IT services, leading to a healthy workforce and bottom line results. One of the assumptions in DevOps-thinking is that sometimes things just happen. This means that while you'll start by trying to determine the root cause of an issue, at the same time you should be considering whether a root cause actually exists. There might be a point where you'll cut your losses and focus on alleviating the symptoms instead. However frustrating, the optimal solution is to turn it off and on again.

Wikipedia: Root Cause Analysis

A Leader's Framework for Decision Making - Harvard Business Review, https://hbr.org/2007/11/a-leaders-framework-for-decision-making