

Title

Making Problem Analysis & Resolution a Success

Speaker(s)

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To whom is the presentation addressed?

The presentation is addressed towards business, quality, test and development managers and decision makers who are responsible for decision-making in the process of analyzing and solving product quality problems. In addition, practitioners involved in problem root cause analysis may get an increased insight into the issues presented that they may use in their daily activities.

Keywords

root cause analysis, product quality problems, testing

Abstract

Problems with product quality can haunt a company still for long after initial release of the product. One possible way of reacting to a product quality problem, is to perform a structured analysis of the problem at hand. For decennia, tools for problem analysis, the identification of root causes and the resolution of problems have been developed and are in existence (examples include CE graphing, 5Why, Fault Trees, Matrix Diagrams, structured brainstorming, NGT and many others) . Though many of these tools might seem simple from a theoretical perspective, within many branches of industry their application and adoption is not widely spread.

Quite often, companies took up the tools with enthusiasm having the expectation that the problems they were facing, would soon have disappeared. Instead, the analysis and resolution activities did not bring the anticipated benefits and the analysis initiative came to a disgraceful end. All resulting in late (or no) problem solving, wasted effort or additional rework costs.

Existing tools for problem analysis and resolution are not limited for application to products only. They might as well be applied to subjects other than products, at multiple levels and from multiple viewpoints. Yet, a significant amount of companies fails to see the strength of proper problem analysis. One reason for this is that the entire spectrum of tools is a quagmire and the freedom of interpretation leads to confusion about when, how and by whom a specific tool should be applied. For instance, some of the tools can only be applied after an incident has happened, while other tools should be used upfront to prevent the occurrence of incidents in the first place. Consequently, in today's industries problem analysis is still not a routine practice, although problems of whatever kind continually pop up as candidates for analysis.

The presentation reports on a large-scale industrial research study, and is one of the few contemporary studies focusing on how companies in various industry branches (like consumer electronics, industrial electronics, medical devices and telecommunications) deal with problem analysis. It reports on the critical success factors that determine the outcome of a problem analysis. In addition, the research yielded remarkable data on the usage and effectiveness of problem analysis across 50 mid-to large-sized industry projects. Though the presentation touches upon some tools and techniques for problem analysis and resolution, it is not the intention to dig into these. The presentation is to trigger the audience on common pitfalls when analysing problems, and to facilitate them in working towards a solution in a very pragmatic and practical manner. This is done by providing real life data from projects, supported by anecdotes and practical (anonymized) examples from industry.

Biography

Jan van Moll studied Technical Physics and started his career as a research assistant in Philips Electronics. He holds a PhD in Technical Sciences from the Eindhoven University of Technology. The subject of his research was an industry-based study (2002-2007) on the adverse effects of distributed (global) development on the quality of the developed product. Jan has a fifteen year background in software engineering, verification & validation and has wide experience in test engineering, test architecture and test project management in various product domains. He was responsible for the design and improvement of the verification & validation process in many, internationally distributed development projects for consumer electronics, medical systems and industrial equipment. Jan is a lead assessor in test process maturity assessments according to various maturity models like TMM and TPI. He is a member of the examination committee of the ISTQB-affiliated Belgium & Netherlands Testing Qualifications Board (BNTQB), ISTQB and of several professional interest groups. He is a frequent speaker at international seminars and conferences on Product Quality, Verification and Validation. Currently, Jan is Group Manager SW Verification at Philips Healthcare - MRI (Best, The Netherlands), a leading company specialized in the development of medical imaging systems. Next to this, he is an independent software forensic expert on request by special boards, investigating major (software-induced) system failures that have impact on security, welfare, social or general national interest.
