ISQ analysis - Improving Software Quality

SYSTEM VERIFICATION

When we realise the complexity of software quality assurance, the main benefit of a quality process analysis becomes clear: what seems obvious at first glance may have other causes. A quality process analysis creates awareness and provides insight into how the organisation really operates; it also identifies bottlenecks. As a result, future investments in quality assurance will be spent on the most efficient measures for improvement.

A reliable basis for further improvements

System Verification offers a quality process analysis that covers the entire process, ensuring that you receive cost-effective proposals for improvements in line with your business goals. The quality process analysis can also be useful for meeting external supplier acceptance requirements, giving new managers a better understanding of the quality process or measuring general organisational efficiency.

Do any of the following problems look familiar?

- Receiving low-quality code for testing
- Late deliveries
- Unstable test environments
- Limited test coverage
- Requirement changes late in the development process
- Old defects showing up in later releases and spending time on regression testing instead of testing new functionality
- Large numbers of customer or end-user complaints
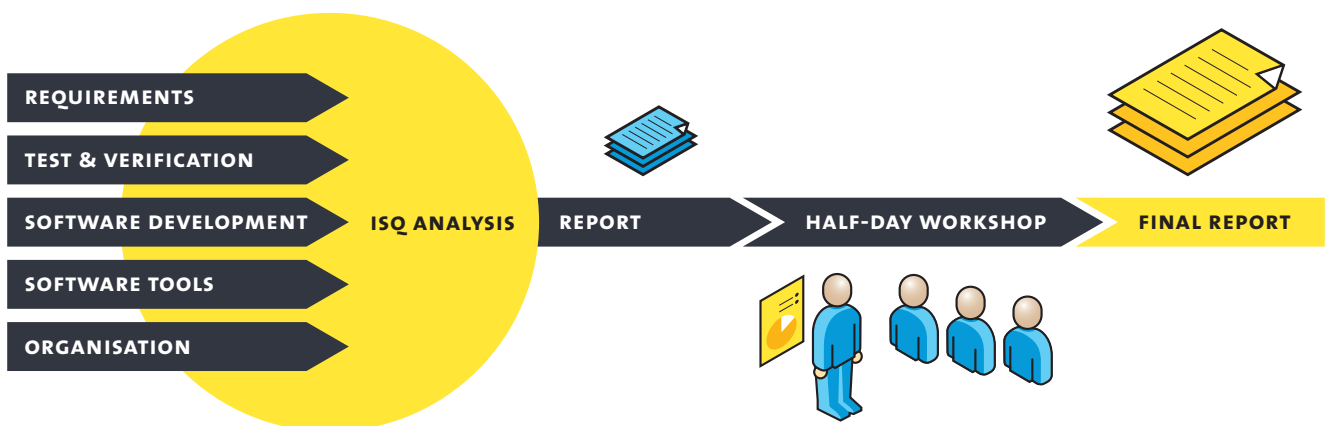- Resource and competence bottlenecks

The quality process analysis can also address other challenges which are not directly related to testing, but which definitely influence the effectiveness and efficiency of quality assurance. Our quality process analysis is designed to discover all kinds of issues, for which we can suggest effective improvements.

Covering the entire quality process

System Verification's approach for conducting a quality process analysis is called ISQ (Improve Software Quality). This powerful, proven and comprehensive model focuses on five key areas:

- Requirements
- Test & Verification
- Software Development
- Software Tools
- Organisation

If needed, we incorporate frameworks and concepts such as TPI NEXT, ISO/IEC/IEEE 29119, ITIL and SOA. This means that we are flexible and not limited in our ways of working - we make it possible to capture quality aspects which using these models alone can miss.

REQUIREMENTS
TEST & VERIFICATION
SOFTWARE DEVELOPMENT
SOFTWARE TOOLS
ORGANISATION

ISQ ANALYSIS → REPORT → HALF-DAY WORKSHOP → FINAL REPORT

The advantage of ISQ is that it covers the entire quality process and includes organisational as well as business aspects.

The ISQ step-by-step procedure

Our procedure for the ISQ analysis is straightforward. It normally involves seven steps, concluding with a final report that contains suggestions for action.

Business benefits

• Includes organisational as well as business aspects
• Increases awareness about the issues in the organisation
• Provides the basis for further improvement
• Leads to increased test and system quality

| Start up and define scope | Conduct interviews and reviews | Analyse artefacts | Write report | Conduct workshop | Prioritise improvements | Create final report |

Interviews

ISQ interviews are based on open-ended questions posed to stakeholders within the organisation, such as line managers, project managers, test leaders and developers. The number of people invited to interviews depends on the scope of the analysis.

Final report

The main outcome from the ISQ analysis is a report that identifies strengths and improvement areas related to the five focus areas described above. The report also contains improvement proposals. The exact content of the report depends on the scope of the analysis. We often find things outside the focus areas which are important to highlight because of their effect on quality and the organisation's capabilities for carrying out quality assurance-related activities.

Workshop

The report is presented at a half-day workshop where findings are discussed and any questions addressed. Short- and long-term improvement proposals are discussed and prioritised. The workshop results are compiled in the final report, which serves as the foundation and guide for future improvement.

Time frames and prices

Every ISQ analysis is unique, and the time frame for completing it depends on the scope involved. A brief analysis can be carried out within a couple of weeks but a more extended analysis can require several months to complete. The price for the analysis depends on both the amount of QA specialists involved and the time needed; the price of the analysis can be credited against further assignments.

Why System Verification?

We are Sweden's largest independent provider of software testing and quality assurance for IT systems, with approximately 185 highly specialised QA experts serving clients in a variety of sectors such as finance, IT, telecom, life science, security, retail, defence and the automotive industry. We have Scandinavia's highest certification rate in ISTQB® and we are certified according to ISO 9001.

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