ISO9001 - The good, the bad and the ugly

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Abstract

As one of the first UK Companies to become assessed to ISO9001 against the UK TickIT criteria, an assessment is presented of the strengths and weaknesses of the scheme together with metrics for Oracle’s assessment and how ISO9001 is viewed in other Oracle companies worldwide.

Introduction

In the 80’s Oracle Corporation was renowned for its high growth rate with annual increases of 100% in revenue and staff terms for 12 of its first 13 years. Having captured a large slice of the market attention has turned from growth to a new aim - that of becoming recognised for the Quality of Oracle Products and Services during the 90’s. With this aim in mind and a recognition that the marketplace is becoming increasingly aware of Quality and beginning to cite ISO9001 in contracts, Oracle decided in 1990 to seek certification for the UK Company. The programme to gain certification included a pilot scheme to test reaction in the Shipping "Supply Line" of Oracle, assessment of the UK Consultancy Organisation together with related Training and Support Services, followed by certification of the UK Product lines at the European Development Centre in Chertsey. At time of writing a similar programme to that run in the UK is under "test" in the United States with a certification programme in the Manufacturing and Distribution Company, with various other programmes under consideration or already under way within other locations throughout the world.
The TickIT Assessment Scheme

The market for assessments to ISO9001 in the 70's/80's within the UK had become almost a monopoly with the lion's share of assessments conducted by the British Standards Institute. In 89 however a study showed that for software, special considerations were needed. This study resulted in a joint approach to software certification between software suppliers, customers and assessors that was to become the UK TickIT accreditation scheme. The main attributes of the new scheme were the provision of suitable guidance material to be used by assessors, suppliers and purchasers; with a set of criteria to ensure that assessors are knowledgeable in software subjects, having received suitable assessment training.

Because the criteria for assessment were new, competition has been strong for potential assessment bodies with currently a choice of four organisations that have become accredited through the national body (NACCB). Competition has itself provided choice to organisations seeking assessment. However, using software credible assessors has lead to an increase in assessment cost balancing the effect of competition.

Additional benefits of the TickIT scheme are the three year recertification period, the review body set up to refine the guidance material, and monitoring of the assessors through the nationally recognised quality and computer institutes; the Institute of Quality Assurance and British Computer Society.

Assessment Programme - Oracle UK

Using one of the strengths of the TickIT scheme, competitive tendering was employed to select an assessment body. The flexibility of the assessment body to work in some eight offices and visit client sites throughout the UK, was important to Oracle, particularly for the Consultancy operation which involves some 14 Business Units spread across six locations. A contract was eventually let with Bureau Veritas which also offered to Oracle the potential to use a worldwide organisation for other than UK certifications.

The programme included an initial assessment of the Shipping Organisation to ISO9002, then a further pilot to the full TickIT criteria within the Defence Business Unit of Oracle, followed by progressive assessment of the other thirteen units on six sites over a three month period. Support and Training Services were included at the end of this part of the programme, while certification of Product Development in the UK has been tackled at a slower pace to enable product development issues to be resolved alongside the introduction of a quality system.
The Good

There are a number of reasons why ISO9001 has become such a world wide success. The reasons I would cite from experience at Oracle are as follow:

* it provides a goal based programme
* it is recognised throughout the world - increasingly so!
* it involves most parts of the organisation
* it involves independent assessment and monitoring
* it involves continued monitoring through Surveillance
* it provides opportunity and baseline for improvement
* has communication benefits for distributed organisations - enables companies to speak the same language
* helps prevent "reinvention of the wheel"

The Bad

There are a number of things that are not guaranteed through the implementation of an ISO9001 programme, including:

* it does not provide quantitative assessment of one supplier against another
  poor quality products can still be produced
* the assessment process does not get very deeply into the Technical Quality of IT processes - eg was the review effective raising all technical issues?
* despite the TickIT guidance material the Nonconformances are raised against the base standard - which still leaves coverage of the base standard as a criterion
* the standard is based on conformance rather than effectiveness of an organisation
* documentation of the Quality System doesn't necessarily mean Understanding or Commitment
882 Software Quality Management

The Ugly

There are not many ugly points about the standard but I would cite the following from a Quality Practitioner viewpoint:

* people thinking that ISO9001 is an ending rather than a beginning
* some people still get away with paying "lip service" to the procedures created to satisfy the standard
* are a lot of the records that constitute Quality records just records to prove a point to assessors?

Metrics - UK Assessments

From the various assessments conducted so far using for the most part the same assessment team of three people, the figures shown below represent the various Nonconformances raised.

8 sites assessed around the UK - with 14 Business Units
1100 staff involved in the assessment programme so far

Shipping Department Metrics - ISO9002

31 Nonconformance Reports raised - including 3 major on a subcontractor
5 in Purchasing/Supplier Assessment
5 in Process Control
70% in the areas of 4.1 to 4.5

Consultancy Metrics - ISO9001

122 Nonconformance Reports raised - ranging from 0 in one Business Unit to 28 in another
21% of errors in Document Control (4.5) - errors to a prescriptive documentation standard
16% of errors in Management Responsibility (4.1) - terms of reference missing

Total of 70% in sections 4.1 to 4.5 of ISO9001
Several observations arise from these "metrics":

* there will always be a number of unpredictable faults found during the assessment
* between Organisation and Documentation some 70% of Consultancy errors were recorded
* for Shipping a much wider spread of faults occurred
* Oracle got better as we went through the programme

Some other observations about the process are:

* don't forget about training - this should be on the project plan.
* TickIT has improved the assessment process for software
* there is still room for more improvement
* the programme in Oracle has been successful
* its proving more difficult to keep the momentum going in some areas

Assessment Programme - Oracle Worldwide

There is currently activity within a number of other Oracle organisations worldwide aimed at achieving certification to ISO9001. This includes the programme in the United States for Manufacturing and Distribution together with programmes for consultancy within Holland, Switzerland, Malaysia, and New Zealand. In Australia, although assessments are conducted to ISO9000 series of documents, there is a Software Quality Assurance Standard - AS3563 - that has been mandated by the Queensland Government, forcing the certification standard for potential suppliers. The current version of AS3563 adopts the paragraph numbers of ISO9001 but uses terminology familiar to the software professional, rather than the "generic" terminology of ISO9000.
Oracle Sites around the world involved in ISO9001/2 assessments, include:

* Australia - which is committed to Australian Standard AS3563
* New Zealand - going for ISO9001 for the consultancy business
* Malaysia - going for ISO9001 in consultancy
* Netherlands - expecting to complete certification to ISO9001 by the end of 1993
* United States - going for ISO9001 in M&D then progressively in product areas
* Switzerland - going for ISO9001 for IT related Services
* United Kingdom - extending certification to product development groups in early 1993.

Conclusion

Oracle has benefited from its ISO9001 programme that is now being extended across other parts of the world.

There are improvements that could be made to the ISO9000 assessment process, including:

* there needs to be more emphasis on effectiveness and less on conformance
* a greater appreciation of the people factor would benefit the standard
* more prominence to "technical quality" factors - software development has a strong technical focus
* ......possibly a separate Standard for Software like AS3563....