

Case Study Monitoring Project Performance



Software Measurement Services Ltd.

Consultancy and training in the management of Information Systems.

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The Question

How reliable is our functional size measurement? The answer to this question was highly significant to a Government department, their software supplier, and to the taxpayer served by this partnership. Under the terms of the output-based customer contract between the department and a major software supplier, the supplier was paid on functionality delivered. Both parties needed assurance that the measurement programme used to quantify the work expended, cost incurred and value delivered was providing true and objective measures.

The Project

The contract required the supplier to provide measurements using Function Point Analysis and related measures to track staff effort, time to delivery, defects and fault. FPA provides a “unit price” on which the supplier’s payments were based.

SMS provided an independent third party view over a long-term relationship with the customer, auditing the function point counts in terms of the methods and processes followed to verify and validate the results.

We were able to identify where standardisation of practices could reduce effort expended on data collection and improve both the accuracy of the count and the inter-counter consistency.

The key variables used to quantify overall performance are:

- Productivity = size / (effort or cost) - 'software size' being the measure of work output
- Speed of delivery = size / elapsed time; also called 'velocity'
- Product Quality = defects / size; often terms “defect density”
- Number of changes required per period; also called 'requirements volatility'

Quantitative and qualitative control

Building on foundations established during the '90s, in 2004 SMS partnered with strategic IT Management Consultants, Nixon Brook, to provide a comprehensive package of IT support services to the customer organisation. This included monitoring the supplier’s performance and verifying the measures used and the results achieved.

Having established the accuracy of the functional size measures collected, the data was analysed to produce an independent benchmark of the value for money delivered by the supplier.

Understanding performance factors

To obtain an accurate assessment of project performance, various aspects or “cost drivers” must be measured. SMS were able to take into account the constraints imposed on the supplier by the customer’s requirements and environment when comparing their performance against industry standards. This provided both parties with a true assessment of the supplier’s price performance.

The key variables which affect performance are tradable, and priority should be assigned in accordance with business goals. For example, it may be possible to deliver a system faster than normal by adding extra personnel, resulting in lower productivity and higher cost. Product quality can suffer in the process, but if the priority is to derive the benefits of the system quickly, this might be acceptable. Conversely under-staffed projects may be efficient, but take a long time to complete

The benefits of effective customer-supplier partnerships.

SMS worked with the customer and the supplier to identify opportunities for improvement. This produced benefits to both parties.

Improvements implemented to estimating and project management enabled the supplier to gain better control of risk.

The customer was able to improve the method used for producing requirements, when it became clear that poor definition and management of the requirements was detracting from the supplier’s performance. This reduced wasted effort by enabling the supplier to better align their development practices with the customer’s business goals.

A better relationship was established between the customer’s requirements and its cost of supply. Once it was clear what the customer was getting for their money, the customer could trim needs to meet budgetary constraints rather than make impossible and unreasonable demands of the supplier. Essential performance factors were therefore not put at risk by cutting costs without an understanding of the impact.

Both customer and supplier appreciated the integrated team approach to addressing the issues. This included a dedicated web-based workspace for all contributors to share data and work in progress.

By focusing on the customer’s business objectives, both sides of the relationship gained a better understanding of each other’s contribution.



Continuous Improvement

SMS and our partner, Nixon Brook, have a continuing relationship with both customer and supplier organisations to provide on-going support, training, auditing and advice on quantitative and qualitative project control. Both parties, and the UK taxpayer, are assured of independent monitoring of project performance, focussed on the business needs.

New developments and political initiatives frequently present a challenge to the management of development and maintenance processes for software support systems. Using SMS’s expertise ensures our clients apply current best practise to solving the problems arising from the increasing size and complexity of software intensive systems.