DRIVING ORGANIZATIONAL IMPROVEMENT USING COST OF QUALITY: SUCCESS FACTORS FOR GETTING STARTED

Nick A. Shepherd
ASQ Quality Costs Committee
President EduVision Inc.
2006 Waters Edge Drive
Oakville, Ontario, Canada

SUMMARY

In order to provide organizational benefits, the cost of quality initiative must complement, support, and advance the organization's performance goals and objectives. Through considering these issues at the beginning of the process, management can support and steer the efforts in a way that will have longer lasting benefits. This paper outlines some of the approaches and critical success factors required to achieve this.

KEY WORDS

costs, measurement, performance

INTRODUCTION

Most organizations have trouble either knowing where to start their cost of quality initiative or in maintaining the interest and momentum once the initial work has been completed. While the techniques to get started can be simplified there also needs to be a road map to ensure sustainability. The quality costs committee carried out a survey some years ago (QMD-QCC) that identified some of these critical issues and still provides a good reference point; however since that time management systems have been developed that provide additional support to cost of quality initiatives if embraced and integrated. These actions will further enhance the application of cost of quality and bring the approach more into the mainstream of management reporting for both manufacturing and service organizations (in both the public and private sectors).

INTEGRATION WITH ORGANIZATIONAL GOALS AND OBJECTIVES

Building on traditional knowledge of quality management and cost of quality, we know that there is a key linkage between cost reduction and/or profitability and a lack of quality. In addition, we know that delays caused by substandard or delayed work in both service and manufacturing creates client dissatisfaction. In today's environment of "lean" operations, resources are not being assigned to cover up these defects. Thus ineffective processes by definition will have a negative impact on an organization's external performance.

The growth in the adoption and implementation of international standards is encouraging managers to start defining the linkage between the goals of their quality systems and measurable performance. This is being further enhanced by the proposed new ISO/DIS 9000:2000 currently being circulated for final approval and adoption. This update

requires a definition of key quality objectives but the ability to actually measure against these, as well as cascading them down to operational levels in the organization, and comparing them with the performance of others.

> A cost of quality system will be encouraged and sustained when those implementing it can link their efforts to key improvements required at the organizational level to achieve strategic goals. Management must define and communicate these.

This approach will also help organization use their cost of quality initiatives as a mainstream approach to support the "Balanced Scorecard."

LINKAGE WITH THE BALANCED SCORECARD

It matters little what name we assign to this process; the key is that progressive organizations are at last recognizing that measurement systems that are heavily biased on traditional financial reporting are inadequate. While this in itself will not drive a cost of quality initiative, it does provide a framework that focuses on the linkage between resource utilization (cost and/or profitability), client satisfaction, process performance, and organizational learning.

Initial cost of quality implementations must focus on understanding where failures are taking place; traditionally this could be obtained in fairly neat packages of cost data as most failures related to remediation to, or losses of product—even though the process may have caused them. In the current environment, the gap is widening between cost management and failure cost tracking, because product costing is declining in application as nonmanufacturing activities grow in importance. Thus the convergence of the "process focused" balanced scorecard concept and the needs to identify failure costs in terms of process failure.

> A cost of quality system will be encouraged and sustained when the metrics used—initially costs of failure, are integrated into the balanced scorecard, and support process performance, which drives costs and profitability, as well as ultimately client satisfaction.

To support this, management should be looking at a cost of quality pilot program as a supporting metric that will complement parallel activity to identify, collect, and report other nonfinancial metrics to complement the traditional financial one's. However, even the financial measures will be evolving in this process.

APPLICATION OF A PROCESS BASED CULTURE

Many new tools are converging around the concept of process management. These include process re-engineering, quality systems structures (ISO/DIS 9000:2000; BSI update bulletin), benchmarking, process management (owners and/or cross-functional process management teams), intellectual capital/knowledge management, Enterprise Information/Management systems, and all of the other aspects of Activity Based Management including ABC, ABB, and others. We will look at the support that four of these will bring. Figure 1 shows the outline of process management and thinking and its relationship to activities and resources.

Process thinking will encourage the connection between process and resources, and given that process is the common denominator will also link process to quality management as shown in Figure 2. Every step that is defined through a process failure mode effects analysis (FMEA) can be correlated with steps at the activity and task level, which in every case are consumers of resources. Failures in the process must consume excess resources thus leading to a cost and competitive disadvantage.

APPLICATION OF ISO/DIS 9000:2000

Effective cost of quality systems must be driven by the need to support specific quality improvement goals that are

- Incorporated as part of the specific quality objectives and measurables in sections 5.3 (Management Responsibility)
- Monitored against as part of the management review process in 5.6

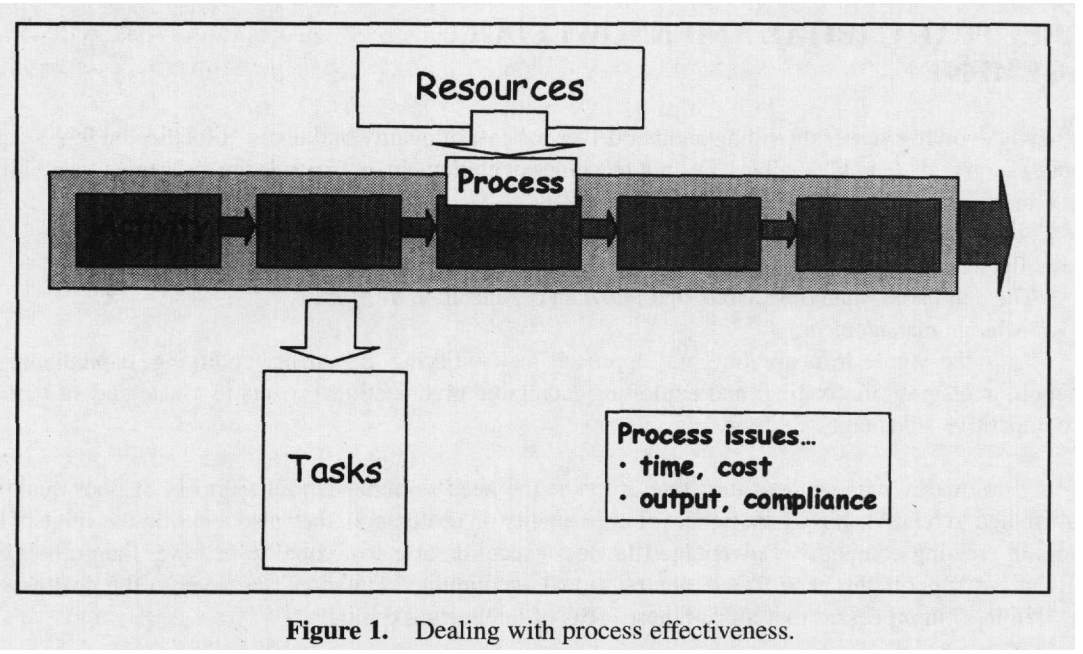

Figure 1. Dealing with process effectiveness.

- Cascaded and aligned through quality planning in section 5.4.1
- Used for strategic continual improvement through the measurement section 8.5

Management should be able to answer the question *"What is a lack of quality, and what is our current performance in these areas, so that we can monitor, track and trend these items to ensure we are improving."*

> A cost of quality system will be encouraged and sustained when the quality objectives defined by management and aligned through the organization as part of quality planning support the focus of the cost of quality metrics.

This should not be only focused on ISO 9000—any quality management initiative must be driven by "management measurables"—such that there is a defined connection between the anticipated benefits and the actual results achieved.

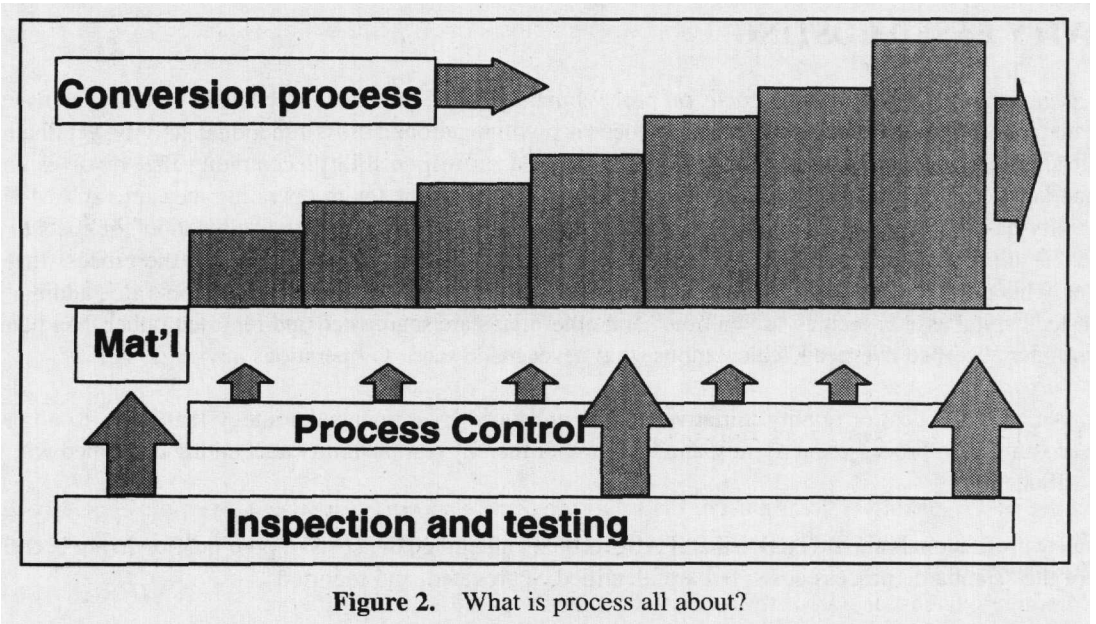

Figure 2. What is process all about?

INTELLECTUAL CAPITAL AND KNOWLEDGE MANAGEMENT

This newly evolving area is providing another driver for cost of quality initiatives. It focuses on those capabilities of the organization that are not "tangible," i.e., not machines or equipment, but knowledge, processes, capabilities, relationships, brands, reputation, and others (Shepherd 1999).

> Intellectual capital:
> The combined intangible assets that allow an organization to operate.
> Knowledge management:
> ". . . the whole infrastructure and approach to identifying, capturing, codifying, capitalizing upon, managing, motivating, and exploiting intangible organizational assets to create and sustain competitive advantage . . . "

Not only do quality management initiatives support the need to understand the impact of poor quality on the "value" attributed to relationships (e.g., impact of poor quality on customers), they also focus on the value of an effective process in creating competitive advantage (flawless execution at a cost equal to or lower than others). Cost of quality initiatives support the need to use nontraditional accounting "valuation" methods to the costing of losses related to "failures" in processes that impact these areas of intellectual capital.

> An effective cost of quality initiative will be enhanced by the need by management to understand the financial impact of poor quality on the declining value of its relationships and of the excess costs on its processes through which it executes design, production, and delivery of products and services.

ENTERPRISE INFORMATION SYSTEMS

Quality management systems in general require and organization to define compliance (by training, specification, procedures, etc.) and then creating an information system that records cases when the required compliance is not achieved. As organizations move toward enterprise-wide management systems (the concepts such as data warehousing, user-driven inquiry and analysis, and the ability to capture and store the intellectual capital/corporate knowledge defined earlier), then the need to fully align measures consistent with process management will become more critical.

ACTIVITY BASED COSTING

As organizations move toward a focus on process management, financial—especially costing—tools are shown to be inadequate. More and more of the business focus is revolving around cross-functional activity, yet financial management and cost accounting in particular remains focused on responsibility accounting that revolves around the "command and control" structure; in effect cost measures are misaligned with operating measures (CAM-I).

Activity based costing, in its simplest approach, helps to move away from the "allocation" of costs to products and services on some "fair and equitable basis" toward a clear assignment of *all* costs to the process that uses the resources. This quickly identifies wasted resources when process steps are identified as "non-value adding." In addition, wasted capital assets, such as "down time" and other items are segregated and reported rather than being buried in "over/under absorbed overhead" calculations (that never made sense to operations anyway).

> An effective cost of quality initiative will be enhanced by a financial strategy that seeks to align costing with processes, activities, and tasks rather than by responsibility accounting combined with allocations.

Quality professionals should ensure that if ABC is being attempted the costs of poor quality do not become buried as part of the "standard" process costs, but are identified, segregated, and reported.

OTHER SUPPORTING SUCCESS FACTORS

In addition to the "newer" management tools and approaches that are supporting the tide of progress and can be used and linked to cost of quality initiatives, there remain many factors that are not new but which must continue to be focused on by management in order to create a successful initiative. These areas of focus include:

- Training of employees on the concepts of quality costs
- Keeping the involvement at the operational level
- Feeding back the results to those who can do something about it, i.e., the employees working in the area affected (Deming's 14 points)
- Involving finance/accounting in the process of identification and valuation of nonconformance
- Using the cost of quality process as an integrating tool that links to continual improvement efforts
- Encouraging/supporting the identification, reporting and actioning of areas of cost problems due to poor quality
- Integrating cost of quality measures into individual goals and objectives and through this to recognition and reward (including team rewards)

CONCLUSION

Cost of quality remains an initiative that can have significant payback, yet many organizations struggle to make it work. The tide is turning in favor of quality management as many other management initiatives are starting to complement and reinforce the basic concepts upon which cost of quality has been built, in particular the developing focus on understanding process management, and through this, the value of an organization's intellectual capital. In addition, there remain many factors that managers can address that have been proven to have a positive impact on the value and outcomes of a cost of quality system.

Quality professionals need to ensure they understand how other management developments can impact their quality responsibilities and ensure that they obtain maximum benefit from these through either "piggy backing" on the initiatives as a driver to putting cost of quality on the corporate agenda, or as parallel management initiatives that will create the climate to support and sustain the process. Considering these issues in combination with a focus on failure costs as part of a quick start program will enhance the probability of moving pilot programs into sustainable management tools.

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