Wearing the Hat of Quality: What Does It Really Mean?

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The label or title provided to any function can limit the extent of benefit it can bring to a company. This holds true for the quality function. In some companies the role of professionals in this field is relegated to product and manufacturing processes—and sometimes even branded as interference.

While in many companies the quality department and their philosophies are considered keys to the success of the company, other companies may not practice this principle. In my 30-year tenure in operations management I have been pleasantly surprised by the mindset and methodologies of quality professionals with whom I could always count in solving problems—many times outside of the product and process realms.

THE HAT WE WEAR

In an organization, the hat a person wears and his or her position on the organization chart is what people identify with. In fact, other functional areas also perceive their role based on where they sit in the organization's structure.

Unfortunately, this role description is often too narrow and does not really provide a comprehensive picture of any function. In addition, most functional personnel work hard to fulfill their own job descriptions yet pay little attention to what other people's roles are and how they are interrelated with theirs and others.

THE QUALITY FUNCTION EVOLVES

In the old days of inspection, there were quality inspectors and a quality department that was responsible for the quality of the products. Inspectors belonged to quality and it was expected that all quality problems were the responsibility of the quality department.

While the function has clearly evolved, not all organizational leaders fully support quality management. One quality manager in a plant was told that her activities and programs reduced productivity. In another instance the key performance indicators (KPIs) and bonuses were not supportive of quality. Costs of nonquality were not included in the productivity metrics. In yet another case, nonverbal messages sent by the leadership of the organization created perceptions and behaviors that negatively impacted the quality of the product as well as the relationship with their customers.

Whatever the reason, these cases point to a lack of common understanding and agreement on the

role each area is playing and how the different areas need to interact in order to add value to the organization's goals.

This points to the illusion that it's the sum of everyone's individual activity that matters; when in reality it's the *sum of the effective interactions of all functions that creates value*. Therefore, the more effective the interactions, the more the benefit that can be produced.

The following scenarios will illustrate how quality professionals are directly related to the growth, cash flow, and profitability of companies.

CAN ONE INFLUENCE THE WAY OTHER AREAS SEE QUALITY?

Perception is a tough thing to change. Let's begin by removing the distorted hat of quality and exchanging it for one that reflects a direct association with operational efficiency.

The concept of "right the first time" is not just a saying or empty statement. It is full of substance when one considers the word *right*, which might seem the relevant-to-quality word here. However, it's not the only concern. *Time* is actually the key word for the purpose of this discussion. While one can actually make something right the second or third time, this implies inspection, rework, and making the part once again.

The costs associated with those types of activities are usually well defined and tracked by most organizations and are accounted for as bad quality costs: scrap, rework, and sorting. The time lost to bad quality, however, might get included in a big pot associated with productivity losses but may not be highlighted as a main contributor like material and labor costs.

While visiting a die casting plant I was quite amused by the statement about their advantage in being able to recover and remelt 90 percent of the scrap zinc material obtained from the sprue and rejected parts.

It's possible that because management saw the 90 percent metric they were satisfied with the performance and focused on other, seemingly larger issues. What was missed was the fact that the molds being used had several cavities that were dimensionally nonconforming and may have been either deliberately sealed off or automatically sorted out via a chute and into the scrap bin.

The molding time was originally designed and calculated to produce six pieces in every shot, but in reality was yielding only three. Productivity is directly connected to time, and if time is lost to a quality problem, the hat of quality should for sure be associated and included as an integral part of the operation.

Who will pay back for this lost time? Can it be recovered? By following the direction and principles of quality, such costs can be reduced and removed. Anyone wearing the hat of quality should be recognized as an ally for achieving productivity gains.

MITIGATING BUSINESS RISK IS ALSO AN OFTEN UNSEEN FUNCTION OF QUALITY

When I ran a high-mix, low-volume assembly operation, the team found out very quickly that the physical processes could remain stable only if the components to be assembled were the correct ones, and available in the right quantities, at the precise time. Some components were easy to identify physically with markings or labels, but others were bulk and their "identity" was more difficult to maintain.

For example, very tiny silicone seals were received in bulk in polyethylene bags with a sticker showing the supplier name and part reference plus a very important lot number. For the convenience of production, the bags were opened and the seals were poured into containers for ease of supply to the assembly lines.

A customer complaint led to a deep root cause analysis exercise that in turn uncovered a very risky situation for the company: The traceability of these small components was lost once they were removed from their originally supplied bag. When the company verified the number of lots at any given time in the facility, they estimated that a potential quality issue could impact delivered products in a four- to six-week interval.

In addition, first in, first out (FIFO) had been lost and the mixing of several lots had increased the potential for costs associated with mixing different engineering revision levels. In this case, quality is wearing the hat of materials and inventory control.

The topic of traceability ties back directly to the exposure of the business to having to sort large amounts of materials in the supply chain. A quality spill like this one can lead to sorting throughout the supply chain for quantities produced over a period of four to six weeks.

Had all the areas followed the stated traceability rules by quality, this might have helped reduce this risk and the costs associated with sorting and premium freight by limiting the exposure to sorting just a few hours' worth of production.

Clearly, the quality function is tied to the financials of the organization. In fact, quality is also directly related to growth as much as the marketing and sales department. In a company where market growth is a key strategy, product quality should be viewed by everyone as an indispensable factor. Marketing and sales may be wasting a lot of time when this is not clear.

An automotive tier 2 company had a combined sales and marketing department with the obvious responsibility of finding new clients and markets. Potential new customers would initiate a series of audits, which involved deep reviews of the internal and external parts per million (PPM) defects of the company. The audit findings in some cases prevented new customers from providing opportunities for new business regardless of how the quality team tried to present the data.

The same tier 2 company was supplying a series of automotive components to a customer's assembly operation. Over the course of eight weeks there was a series of quality incidents, and root cause analysis was provided to the customer using the 8D method.

At that point the customer rejected the quality system itself. The customer stated that each 8D provided showed a different problem-solving methodology even though most problems were similar in nature. This pointed to a possible inconsistent way to approach problems, and the supplier quality team at the customer was getting nervous about the company's capability to maintain a stable quality process.

Why didn't the system prevent weak problem-solving technique? Because past practices were assumed to be successful and no validation processes were established. The 8Ds were prepared and provided the same way they had always been: A quality engineer was assigned to fill out the report by asking a few people some facts and then inferring and assuming the rest to complete the report. Working like this provided no way to error proof and prevent inconsistent information from being sent to the customer.

Why did the system not protect against weak problem solving? Because the role of quality was mistakenly defined as the lone, problem-solving process owner with no properly defined support from the other areas. In addition, while the quality department was in charge of communicating and reporting to the customer, the reports did not have cross-functional team acceptance or validation of the information that would be presented. Therefore, no containment or error detection led to no protection.

Why did the system not predict the impact of weak problem-solving technique? Because there were no documented standards requiring consistent use of cross-functional teams to problem solve. This pointed to the fact that when planning the quality system, a formal process for problem solving was not established.

Interestingly, during the root cause analysis a common theme was exposed showing that the CEO of the company did not support or recognize the benefit of cross-functional teams for problem solving and, therefore, this was not followed as the standard approach to problem solving.

The problem-solving process was duly corrected, implemented, and standardized—but not before the company lost business to a competitor.

COMMUNICATING CUSTOMER EXPECTATIONS

Communication is an important hat of quality. Customer expectations are often communicated via drawings and specifications. In a nutshell, a specific intended meaning is being communicated by the

customer to the supplier on a print. While standards exist to guarantee that the meaning conveyed is 100 percent understood by the supplier, sometimes minor details are missed or are incorrect, and these can create a variance between the expected output and the actual one.

A company was awarded a contract to consolidate a large chunk of aftermarket parts that were being produced in three different countries. This meant that all products would now be centralized in one facility and all prints would reside there as well.

The customer, as the product owner, began to provide prints for hundreds of components to the consolidating facility to get official quotes with lead times for each part number.

Unfortunately, prints coming from each global location were presented in a different format and in some cases important details were ambiguous or missing, leading to expectations not being 100 percent clearly communicated to the supplier.

This situation meant that the calculations and considerations to complete an accurate offer for the customer were insufficient. In addition and even more troublesome was that while only some of the drawings were incorrect, it was not obvious which ones were incorrect, and therefore a new process had to be established to determine which drawings had to be changed. The original two weeks it took to provide an offer turned into six, and the offers provided for some components were based on flawed information.

Once more, it was customer quality that drove a joint root cause process between the customer and the supplier. After an initial mapping session of fishbone and 5 Whys methodologies, it was very clear that the training levels of young design engineers for each global location were different, compounded with translation problems and a lack of validation system.

AN AGREEMENT ON THE REAL ROLE AND RESPONSIBILITY OF QUALITY

Like every other function in an organization, the quality function should be assigned clear responsibilities, while at the same time a matching level of authority. Perhaps by using some of the examples discussed in this article on the different ways the quality function is tied to the objectives of the organization, it will be easier to obtain agreement from every area of a company to support and ensure that the voice of the customer is followed.

In this sense, agreement happens when there is a mutual acceptance of who is going to do what by when, with what, how, and where—and with whom they will interact.

RACI matrices can feasibly help embody such agreements. RACI stands for responsible, as in responsible for doing the task; accountable, as in accountable with authority; consulted, as in consulted for knowledge; and informed, as in informed and updated. The matrix displays the functional roles on the horizontal axis and the different tasks required on the vertical axis, thus showing the interaction required by all players and functions to accomplish a specific objective and the value being added through each interaction.

RACI matrices are usually associated with projects limited to time and scope. However, they are perfectly useful for corporate leadership as well. They can be used to clearly define the complementary nature of the corporate functions, so they are useful to define the quality function and its direct and complementary relationship to the corporate objectives and the bottom line.

CONCLUSION: QUALITY AS A PARTNER FOR PROBLEM SOLVING

After 30 years in operations management, it was not hard for me to recognize that variance to any plan is the one thing that remains constant in everything one does—and is not exclusive to manufacturing processes. With the set of philosophies, methodologies, and tools quality professionals are trained in, they can attack and solve problems that arise due to variance in logistics, sales, and materials management, as well as the obvious manufacturing processes.

As was shown in some of the cases discussed, such variance typically impacts the projected growth and financial health of the company. Risks created by poor inventory control, hidden scrap and rework, and barriers to new sales might not sound like issues quality professionals could help tackle.

The need to do this is not new. It is the ninth point on W. Edwards Deming's 14 Points for Management: "Break down the barriers between departments and functions."

Inside the corporation, the quality function needs to be seen as the group that all the other functions within the corporation partner with as they develop a new project or program. To do this, the quality function must make its contribution visible to others so it can have the support, the responsibility, and the authority to provide the technical expertise that will ensure the company accomplishes its objectives.

BIOGRAPHY

Sam Yankelevitch has successfully championed lean thinking for most of his 30 years in manufacturing and operations management. Thanks to a diverse education and a career spanning Latin America, Europe, the Middle East, and the United States, Yankelevitch is fluent in several languages, and excels at driving cross-cultural understanding in corporate settings. A native of Colombia, he began applying lean concepts in his manufacturing business in the mid-1980s and continued to use lean methodologies throughout his business career. In his most recent role, he led the North American operation for a German-based, tier 2 supplier in the automotive sector and was responsible for operations in the United States and Mexico. Yankelevitch has a bachelor of science degree in industrial engineering and an executive master's in finance. He is the founder of Xpress Lingo, a specialty language consulting company dedicated to companies doing business internationally, and the author of *Lean Potion #9 – Communication: The Next Lean Frontier*. Yankelevitch views Xpress Lingo and his book as important contributions to his core cause: reducing waste caused by misunderstandings in the global supply chains. He can be reached by email at samyankel@yahoo.com.