

WHAT YOUR CUSTOMERS REALLY THINK ABOUT QUALITY & DELIVERY

SUMMARY

A recent NTMA survey revealed that tooling and machining customers see adherence to promised delivery schedules as their number one problem in dealing with job shops. The survey was part of NTMA's new Initiative on Quality and was undertaken by the NTMA Technical and Standards Committee. Results of the survey were used to develop a comprehensive program to help keep NTMA member companies responsive to customer needs and one step ahead of the competition.

While price and physical accuracy remain fundamental, the responding customers overwhelmingly cited schedule problems as being the most frequent, time-consuming, and frustrating area. NTMA responded by developing a comprehensive series of seminars, articles and management aids to help member companies continuously improve performance.

The first part of this BMA contains a summary of the survey results. The second part contains some ways you can begin to address schedule problems in your own company.

SURVEY PROFILE

NTMA's customer survey on quality has yielded an interesting profile of the needs and perceptions of buyers of special tooling, machined parts, and machining services. The survey results suggest that NTMA members wanting to stay competitive should devote much attention to scheduling and timely delivery (among all the other fundamentals), and that customers may not always readily reveal how your work and your quotes are evaluated.

The survey was conducted by NTMA's Technical and Standards Committee and focused on several key areas: 1) whether the customers use any documented procedures for evaluating sources of contract tooling and machining work; 2) what factors are considered most tooling and machining work; 3) what factors are considered most important when selecting vendors; and 4) what customers' biggest problem areas are in dealing with contract tooling and machining sources.

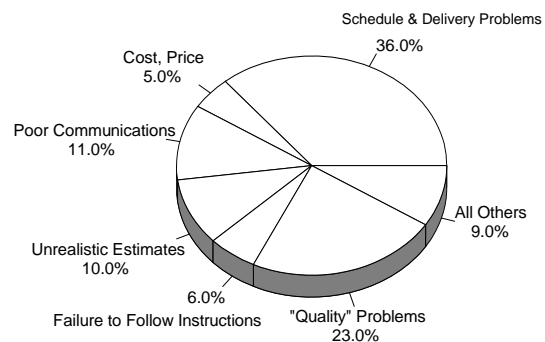
Most respondents said they had some sort of evaluation routine, even if only an informal one. In some cases, informal evaluation systems were developed at individual plants and divisions and did not necessarily reflect corporate policy. Of those responding, 83% said that they use uniform procedures for evaluating sources of machined parts; 64% reported using uniform procedures to evaluate sources of dies, molds, and other special tooling; 42% said they had uniform procedures for

evaluating sources of special machines; and 85% of those using uniform procedures for evaluating tooling and machining suppliers have the procedures published within their companies.

But only 35% of those with published evaluation procedures make the criteria available to their suppliers.

Only 70% were able to identify an individual in their organization primarily responsible for vendor quality evaluation. Of these, 70% had plant-level responsibility and the remaining 30% were corporate-level executives. Only 57% of the respondents were able to identify a specialist responsible for evaluating tooling and machining products and services. Ninety-five percent reported conducting evaluation inspections of supplier plants.

Biggest Problems Cited By Tooling & Machining Customers



The results of this section of the survey suggests a need for us, as suppliers, to educate our customers to some extent. If our own customers cannot tell us precisely what they want, we cannot be expected to second-guess their requirements. Many of the problem comments discussed below reflect a recognition of this problem.

In the next section of the questionnaire, customers were asked to rank the importance of 19 factors considered when selecting sources of tooling and machining work. Customers were asked to rank these factors separately for existing suppliers and for new suppliers (see chart). It is worthy to note that although most ratings between expectations for new suppliers and existing suppliers were quite close, all but one of the new supplier criteria were greater than for existing suppliers. The sole exception, having to do with personal rapport may simply reflect that new suppliers are less well-acquainted with the customers.

Several of the factors, particularly statistical process control and just-in-time delivery were rated high by those customers that require those techniques and low by those who do not. Neither technique is generally recognized as appropriate for special tooling, for example, while both are frequently required for stampings or machined parts.

Perhaps the most revealing element of the survey was the last question which gave customers the open-ended opportunity to list their biggest problems in dealing with tooling and machining suppliers. Of a total of 138 comment items, deliveries and schedules were by far the most frequently cited problem (36%).

Next came the general area of "quality" which accounted for 23% of all problems cited. This group of complaints included things like inadequate or erroneous inspection, failure to hold tolerances, failure to meet specifications, lack of a coordinated quality program, and so on.

The third largest problem area cited revolved around communications, including terms and conditions of sale, late notices, engineering communications, and related matters. These problems made up 11% of the total mentioned.

Communication problems were closely followed by "unrealistic estimates" at 10% of the total. Customers complained about suppliers being unrealistic in assessing their own capabilities in terms of technical ability, and ability to perform to schedule.

Customers were not necessarily consistent in their individual remarks. One cited problems with vendors not following the blueprint, while another complained about suppliers "making it to the print instead of making it functional."

Yet another acknowledged that his biggest supplier problem stemmed from his own company's inability to identify what was really required. Another admitted to contributing to problems with "bad drawings."

Nearly 30% of the customers contacted responded with completed questionnaires. The questionnaire was circulated to a carefully-selected group of four hundred tooling and machining customers from a variety of end-user industries.

WAYS TO IMPROVE SCHEDULES AND DELIVERIES

Unforeseen problems on the shop floor are the most visible source of delays. But costly delays can also take place in the period between getting the order and cutting the first chips. This up-front period is also a good time to take steps to prevent delays from occurring downstream. Less common, but equally damaging, are problems that sometimes occur in the follow-up period between completing the work and getting paid for it.

Let's look at some specifics:

UP FRONT

Effective scheduling begins with your quote. Avoid the temptation to "fudge" on the promised delivery date in order to get the contract. Buyers are acutely sensitive to this and the practice will only get you in trouble.

Schedule forward instead of backward. Backward scheduling is the traditional method of fitting a schedule back from the due date to the present. Backward scheduling fails because delays squeeze the schedule until the due date is missed. Forward scheduling says, "If I begin now, this is when you can have the job."

Forward scheduling is the technique used in leading computer scheduling systems. It will work equally well in a manual or "paper" system. The important thing is to have a system of some sort. Consider using a computer software scheduling system, but have a system first. The software system should conform to your system or improve upon it.

Develop a core group of suppliers that you can absolutely depend upon. Do not feel obligated to use the "only local source" if that source is not satisfactory. Go as far afield as necessary to find good ones.

Develop a complete bill of materials when preparing your quote and actually submit it to your suppliers, contingent upon your getting the order. Prepare job traveler forms, work instructions, purchase orders, detail sketches and other related documents as far in advance as possible. Computerized systems can help greatly in this respect.

Don't lose material in your own plant after delivery. A simple, brief receiving inspection routing should be estab-

lished to identify and verify receipt of the material and to assign it to the right job.

Have a living, working quality system. A management system for quality does not have to be “top heavy” with administrative burden, and such a system will help prevent delays and rework throughout the entire process. A straightforward approach for the typical small shop is covered in the National Tooling and Machining Foundation’s book and video series “Doing Things Right.”

IN THE SHOP

Reduce set-up time wherever possible. Standardize set-ups and other routine operations to the greatest extent. Consider using pallets or other interchangeable work-holding devices. Do set-ups during “internal” time, such as while a machine is cycling.

Keep small tools and materials together with the job. You don’t want to hold up a machining center for lack of a simple cutting tool. Some shops keep such items together with the job in a plastic milk crate or on a small cart.

Keep all jobs on schedule, not just the “pets.” Adjusting schedules within the system is normal, but regularly letting some jobs slide in order to keep up on others is a sign that the system isn’t working.

Help avoid downtime with preventive maintenance. Be aware of backup sources for emergencies. Are there secondary machines or subcontractors you can fall back upon?

Apply technology, but keep it manageable. When evaluating new equipment, consider that benefits other than direct labor savings (improved quality, traceability, repeatability, etc.) can reduce rework and delays and can help your overall competitive posture.

Be sure that your quality system is understood and followed by all employees. Remember the five “yes” questions:

1. Does the worker know what to do?
2. Does the worker have the tools, materials and time to do it?
3. Does the worker have a way to get feedback on his or her performance?
4. Does the worker have a way to adjust or correct performance?—OR
5. Does the worker have a way to stop and get help?

If you can’t get an honest “yes” to each question, management needs to provide further help in training, equipment, etc.

FOLLOW-UP

Be sure you know the customer’s conditions for signing-off on the work. This is especially important on complicated special tooling and special machines.

Accept and encourage customer feedback and, above all, act upon it. Complaints and suggestions from customers should be considered free product research. Even after you’ve been paid for the job, customer feedback should be acknowledged. Let the customer know what you will do to fix the problem and what you will do to prevent it in the future. Again, an effective quality system will address this as corrective action and continuous improvement.

Don’t pass the buck on to your shipper. Use reliable shippers and follow up on their performance. Phone your customer with shipment information once the carrier has picked up the job. Phone again immediately after the expected delivery date to confirm receipt.

<p>This BMA was prepared by NTMA's Technical Department</p>
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