Customer Satisfaction Index

Board buyers issue the verdict—with a few surprises thrown in!

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If your customers were to fill out a "report card" grading the products/services you provide, would you come out at the head of the class? Or would you be deemed in need of remedial training? Many of you probably do ask your customers to fill out evaluation forms, against which you rate your performance. But a number of variables, including lack of anonymity on the part of the respondent, can bias the results. To circumvent such limitations, we surveyed several assemblers using a faxed questionnaire that allowed the respondent to remain anonymous if he/she so desired. The results of the survey follow.

A Note on Methodology

Before we proceed with the presentation of the data, a couple of points should be clarified. First, all percentages were calculated against the baseline of the number of responses to that particular question. Also, some totals may fall slightly under or over 100% since all figures were rounded up to the nearest percentage point.

Respondent Profile

What types of companies were

Table 1. Respondents' ranking of the importance of delivery performance.

Q: "What weight do you assign timely delivery in assessing a supplier?" (Rated on a scale from 1 [least important] to 5 [most important].)

Degree of importance	1	2	3	4	5
Percentage of respondents	0%	0%	22%	48%	30%

Table 2. Respondents' ranking of the importance of board pricing.

Q: "What weight do you assign pricing when evaluating a supplier?" (Rated on a scale from 1 [least important] to 5 [most imporant].)

Degree of importance	1	2	3	4	5
Percentage of respondents	0%	4%	17%	53%	26%

Table 3. Selected responses to final survey que

Q: "If you could change one thing about your board supplier's performance. what would it be?"

1

- " **'Customer service. When there's a problem, they're very defensive and always first suspect it's not their fault."**
- **["We want] even lower pricing. We do commercial and industrial systems, and pricing is the most important factor!"**
- **[" We want them] to produce and supply small quantities at lower prices than they now provide. "**
- **["We want them to] achieve a three-week lead time. "**
- **["We want them to] improve their organizing ability to react to our delivery demands more smoothly."**

included in the survey? Roughly 43% are OEMs who do their own assembly, about the same proportion are OEMs who also do contract assembly, and approximately 13% are OEMs who use contract assemblers. Eighty-two percent of responding firms have between two and five board suppliers, and 91% use a domestic supplier(s).

In terms of annual sales, the participants fell into two basic categories: 42% cited a current level under $10 million, and 50% indicated revenues between $10 and $99 million. The balance reported sales of $100 million and over.

There was a bit more divergence concerning the types of boards that responding companies assemble. Although a relatively high proportion (43%) indicated they assemble only through-hole product, the remainder reflected more variation. Four percent reported they produce both SMT and mixed-technology boards, while 26% indicated they do solely mixed-technology work. Similarly, 26% said they do surface-mount, through-hole, and mixed-technology boards.

Who were the actual survey respondents? Over half the forms were filled out by employees whose primary job responsibility is procurement, followed by just over 20% specifying their main function as corporate management. The rest of the respondents cited quality control/assurance; product/system design; production, manufacturing, and process engineering; and purchasing as their primary function.

Technological/ Quality Profile

Few would dispute the importance of a fabricator's ability to fulfill the customer's technological requirements. And on this count, the news is good. Respondents were asked to rate their supplier(s) on a scale of 1 (poor) to 5 (excellent), with 43% issuing a score of 4 and the same percentage specifying a grade of 5. None of the respondents classified their supplier's technological performance as poor. When asked if they'd ever given their supplier (s) a technological requirement that couldn't be met, 86% of respondents answered no.

Of the respondents who reported quality problems, the most common (in order of frequency) were opens and shorts, incorrect hole sizes, solder mask defects, and incorrect board thickness.

There was no correlation between the suppliers' ISO 9000 certi-

fication status and reported quality levels; over half of respondents indicated their board fabricators aren't certified to the specification.

Delivery Performance

Supplier performance in this area was rated on a scale of 1 (poor) to 5 (excellent). An overwhelming majority (69%) of respondents gave their supplier (s) a 4, and 17% gave their fabricator (s) a grade of 5. Just how critical is on-time delivery to these customers? We asked them to assign a weight to this factor ranging from 1 (least important) to 5 (most important), The highest percentage of respondents (48%) gave delivery a weight of 4, with 30% rating it the most important factor in the supplier evaluation process (Table 1). None assigned it a score of 1 or 2.

If there's one issue likely to send blood pressures skyward, it's pricing.

Finally, we wanted to find out how flexible fabricators are in dealing with schedule changes. Seventy percent of respondents said their supplier (s) is usually willing to accommodate lead time and delivery date alterations, with 22% reporting that such changes are always accepted.

Engineering Support

Although the phrase "good engineering support" means different things to different people, one thing is clear: Whatever it means to our survey respondents, most of them feel their board suppliers are providing it. A whopping 91% said their fabricator (s) has established an easy-to-use, efficient data transfer system. As far as responsiveness to engineering change orders (ECOs) is concerned, 50% of respondents said their supplier (s) is always accommodating, and 45% described their fabricator (s) as "usually" accommodating. No respondents considered their supplier (s) to be uncooperative. An additional note: 64% of respondents said they always receive advance notice of any changes the fabricator must

make to render the design manufacturable, and 36% reported that they usually receive such notification.

As part of engineering support, many fabricators suggest design changes to enhance the economy and/or efficiency of the manufacturing process. Over half of our survey respondents said they usually receive such feedback, but 35% said their supplier (s) seldom makes these types of recommendations. Of the respondents who *do* receive ECO recommendations from their supplier (s), 78% indicated they usually grant permission for the changes to be implemented.

Supplier involvement can be particularly critical during the product development phase. Despite this fact, almost half of the survey respondents said they seldom involve the fabricator at this stage.

Pricing

If there's one issue in the customer/supplier relationship that's most likely to send blood pressures skyward, it's pricing. Past surveys on this topic have revealed high levels of dissatisfaction, to put it euphemistically, among board fabricators. Our respondents' 91% approval rating of their board suppliers' pricing policies may go a long way to explain the latter group's disgruntlement.

When asked to assign a value to the importance of pricing on a scale of 1 (least important) to 5 (most important), over half of respondents gave it a 4 and over a quarter gave it a 5 (Table 2). Over three-quarters of respondents said their supplier (s) always gives them advance notice if the initial quote is going to be exceeded, with only 14% saying they seldom receive such notification.

Overall Rating

Now we come down to the bottom line: How many of our respondents would recommend their supplier to another company? The answer is an encouraging "10070." Although some did have complaints, as noted earlier, they apparently don't consider them troublesome enough to taint their overall evaluation of the respective fabricator.

We concluded the survey with the following question: "If you could change one thing about your board supplier's performance, what would it be?" A cross-section of their responses, shown in Table 3, reinforces both the parallels and the divergence among customer priorities. FAB