

WE NEED BROADER INTERACTIONS

The author rightfully laments the disconnect between industrial and academic statistics. As his comments suggest, the root causes rest in the differing criteria for success. Industrial statisticians are rewarded for what they have done (lately) to enhance the welfare and profitability of the firm. They need to be especially sensitive to the agenda of the manager to whom they report at any point in time.

Academic statisticians are a more independent breed and feel less need to follow any drummer's beat. The most important measure of success is their record of publications—especially in academically oriented journals. Broadening the criteria for academic accomplishment is all important for narrowing the gap with industry.

But what can we do—despite the flaws in the system? The author suggests that academics concentrate their research on problems that are most pertinent to industry. I urge stronger working partnerships. Here is the opportunity. Industrial statisticians encounter a wealth of practical problems. They do their best to develop and implement useful practical solutions. And then they go on to the next problem. Most have long formal or mental lists of problems on which they would like to work further some day. But life is finite, and that day rarely comes. In contrast, academic statisticians are often starved for real problems, so they select those that they think are real, do the work and hope that somebody “out there” will find the results useful.

So, let's get together and collaborate! The industrial statistician can provide the problems and the real challenges, some good examples and sanity checks as the work progresses, and the academic does much of the technical development and documentation (and might be the senior author of any publication). Geographical adjacency is extremely helpful in such an arrangement, as is some up-front residence in the industrial environment.

I have one related suggestion to university statisticians. Consider inviting an industrial colleague to co-teach an evening course with you. You will have to do most of the work, but the industrial statistician can add an important practical touch by recounting experiences—perhaps even from that day's work. I tried this with Josef Schmee at Union College some time ago, and we believe the class came away with a much better appreciation of what is important and what is not (like hypothesis testing) in “real life.”

In addition, I urge academic statisticians to interact more closely with their colleagues across the campus—and not just as consultants. We find at GE CR&D that working with colleagues in control theory, materials science, computer science and so on, not only keeps us on our toes, but can lead to results that well exceed the sum of the individual contributions. It must surely be that way in academia, too. In addition to better focused research, this might also lead to some useful interdisciplinary co-teaching.

CONCLUSION

These comments cover only a few of the many areas raised by the author. In fact, Banks' paper can spawn many more on such topics as how statistics really contributed to the Japanese quality revolution, the role of acceptance sampling in proactive quality improvement programs, total quality management, the ubiquitous role of control charts and so on.

All this, of course, attests to the value of the article. I thank David Banks for his excellent and thought-provoking comments and the editors of *Statistical Science* for providing a forum for presenting and discussing these. Finally, I thank my colleagues, Will Alexander, Necip Doganaksoy and Mark VanDeven—all recent Ph.D.s (or soon to be) who have chosen industry—for their valuable inputs.

Comment

Robert V. Hogg

During the Fall semester of 1991–1992, I had a developmental leave and embarked on a “quality journey” in which I visited 20 companies and 8 universities

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and attended 4 meetings. Most of these stops were related to my efforts to learn more about quality improvement in manufacturing, health care and education. I was on the road most of the time from early September through the middle of January, 1992, except for breaks at Thanksgiving and Christmas. It convinced me that that was too long for a man of 67