

**Morrison D G.** On the interpretation of discriminant analysis.  
*J. Market. Res.*—Chicago 6:156-63, 1969.  
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Discriminate analysis is a commonly used statistical technique in the social sciences. While this procedure is appropriate for many classification problems, it has the potential to be misinterpreted. This article helps clarify the interpretation issues involved. [The Science Citation Index® (SCI®) and the Social Sciences Citation Index® (SSCI®) indicate that this paper has been cited in over 175 publications since 1969.]

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"During my early years (1966-1968) at Columbia University, I taught some courses that involved discriminant analysis. Such issues as small sample sizes, no holdout sample, differing costs of misclassification, unequal group sizes, and the general effectiveness of the analysis were discussed. The students asked where they could read about these topics. I could think of no one article that discussed all of these issues clearly. Initially, I had no desire to write such an article. First of all, review or tutorial articles are not nearly as much fun to write as are articles on one's own original research. Second, this type of article usually carries very few academic brownie points. (I was nontenured at the time.) However, after being pestered for two years by these students and a few colleagues, I decided to write this nontechnical overview of discriminant analysis. Bob Ferber, the editor of the *Journal of Marketing Research*, was particularly helpful in improving the original manuscript.

"My target audience was the then fairly small group of serious quantitative marketing researchers in industry and academia. By 1971 or so, the article appeared to have met the needs of

this targeted group. By 1972, I basically had forgotten about the paper.

"As 1973 and 1974 rolled around, a curious thing happened. I started to get an enormous number of papers to referee from disciplines such as sociology, psychology, demography, medicine, and business-related areas such as finance and accounting. All of these articles used—or misused—discriminant analysis and all of them referenced my paper. After looking at the references, the editors must have selected me as the 'methodology' referee. I refereed most of these papers early on, but gradually I had to start sending some back unrefereed.

"My original target market for this paper—the quantitative marketeers—could not have made my paper a *Citation Classic*. The probably small number of other social scientists who read and referenced the paper added additional citations. However, it is my guess that the social scientists who referenced my paper because other social scientists did are the ones who pushed my paper over the top. I wonder how many nonmarketing social scientists who currently cite my paper actually read it?

"Parts of my paper are still up-to-date, i.e., those dealing with Bayes's theorem and common sense. Neither of these ideas will ever become obsolete. However, the statistical issues are now much better addressed through various resampling procedures such as jackknifing and bootstrapping (see reference 1 and the numerous references therein.)

"Finally, there is an interesting moral to this story. I was reluctant to write the article. I did write it out of a somewhat altruistic attitude of 'service to the community.' The result is that I have received far more recognition from this one article than from anything else I have written. Leo Durocher was wrong!"

1. Efron B. *The jackknife, the bootstrap and other resampling plans*. Philadelphia: SIAM, 1982. 92 p.