



Annotated Summary of:

Dant, Rajiv P., James R. Lumpkin, and Robert P. Bush (1990), "Private Physicians or Walk-in Clinics: Do the Patients Differ?" *Journal of Health Care Marketing* 10(2): 25–35.

Chapter 5: Multiple Discriminant Analysis and Logistic Regression *Multivariate Data Analysis, Sixth edition*

"The world's leading authority on applied multivariate data analysis
based on number of citations, as reported by Google Scholar"

This article employs two methods, multivariate analysis of variance (MANOVA) and multiple discriminant analysis (MDA), to examine differences in the criteria used by patients in choosing the type of facility from which they will obtain health care. The authors seek to determine if there are differences in patronage behavior between walk-in clinics and traditional private practices in terms of (1) patients' expectations about the two delivery systems, (2) patients' performance evaluations, and (3) patients' demographic characteristics and nature of their medical needs. Information of this nature will enable the health-care provider to better segment the market, provide expected services, and reduce the costs associated with providing unwanted services. The authors develop a list of ten characteristics or attributes, from prior literature and preliminary qualitative research, which are understood to be crucial in distinguishing between the two patient groups. MANOVA is employed to test for significant differences between the group means (see chapter 6 of this volume). MANOVA is also coupled with MDA to assist in determining the direction and strength of each criterion variable on the overall group differences.

Multiple discriminant analysis uses nonmetric dependent variables and metric independent variables. The dependent variables in this case are the two patron classes: walk-in patients and private practice patients. Independent variables used are the medical facility attributes and demographic information. Although the sample size of 602 was adequate for division into the recommended analysis and holdout samples, the authors did not follow this procedure, which may have led to an upward bias in the hit ratio used in the validation stage of the MDA procedure. The significance and contribution of each discriminant loading is assessed to understand the relative impact of each on the group separation. The authors do an excellent job of describing the hit ratio and comparing the results obtained to the maximum chance and proportional chance criteria. Overall, the results indicate that the type of treatment sought and certain demographic features of the consumer provide a better means of determining patronage than do consumer ratings of attribute importance. It is interesting to note that in this paper, MANOVA mimics the role of MDA, using attributes as independent variables in the prediction of the dependent variable, group membership.