SPREADSHEET ANALYSIS IN CASE TEACHING

James E. Fisher, Saint Louis University, 3674 Lindell Blvd., St. Louis, MO 63108, (314) 977-3836
Mark J. Arnold, Saint Louis University, 3674 Lindell Blvd., St. Louis, MO 63108, (314) 977-3868

ABSTRACT

This paper discusses the usefulness of spreadsheet analysis in case teaching. Considerable emphasis is placed on discussing why the match between marketing cases and spreadsheet analysis makes good pedagogic sense. Issues related to how spreadsheet applications can be applied to case teaching are similarly explored. The authors identify certain limitations encountered in traditional case teaching and argue that spreadsheet analysis can offer considerable help in overcoming these problems. Thus, spreadsheet applications are conceived as an important means to improving case teaching rather than an end in themselves.

INTRODUCTION

The integration of microcomputers into the marketing curriculum is proceeding along several avenues. In a survey of AACSB-accredited colleges and universities, Kurtz and Boone (1987) found that microcomputer applications had made deepest inroads into marketing research courses, followed by principles of marketing courses and courses labeled "cases and marketing." Additionally, software requirements apparently mirror these usage patterns with respondents indicating high levels of usage with statistical packages, spreadsheets and marketing simulations. However, the usage of spreadsheet analysis in an absolute sense remains relatively low. In a subsequent survey of AACSB-accredited business schools, McNeely and Berman (1988) found that some microcomputer applications were used in about 19 percent of all undergraduate and graduate marketing sections. Further, over 50 percent of the responding schools reported that they did not use microcomputer-based exercises in their marketing courses at all. In examining student perceptions on the integration of microcomputer technology into business schools, Saltzman (1990) uncovered a large similarity across majors for mainframe and PC usage, but that marketing majors in particular had the lowest (38%) reported usage of spreadsheet software.

This paper draws attention to how spreadsheet analysis can be usefully applied to *case method teaching*, and perhaps more importantly, considers why the combination make good pedagogical sense. Much of the literature in this area is either anecdotal in its approach, relating successful computer applications in specific marketing courses (Ganesh 1987) (Gentry, Jackson and Morgan 1988), or descriptive, summarizing adoption and usage patterns (Kurtz and Boone 1987) (McNeely and Berman 1988) (Rogers, Williams and McLeod 1990). Less reflection is evident on broader issues of pedagogic philosophy and effectiveness.

CASES AND SPREADSHEET APPLICATIONS

Although not the most popular microcomputer application in the marketing curriculum, the use of spreadsheet applications in case analysis is well established. There are several reasons for this. Winer (1989) observes that cases afford a realistic occasion for computer usage, as opposed to certain simulations and specialized exercises. In a survey of business, Rogers, Williams and McLeod (1990) argue that universities should offer not only training in basic computer tools and applications such as spreadsheets, but should also use casework in the higher level marketing courses to help students synthesize their knowledge and apply the basic tools and applications they have learned. This is a logical response to the increasing proliferation of microcomputer usage in the marketing departments of *business*.

Marketing educators (Dodds 1989) (Wilson and Grunenwald 1989) have also commented on the effectiveness of using spreadsheet analysis with cases fostering a more inter-functional approach to marketing. Cases typically are rich with data, and students doing spreadsheet analysis find that they must apply concepts and techniques from accounting, finance, economics, and information management to their "marketing problem." Concern for inter-functional business has of course been

expressed by the AACSB (Porter and McKibbin 1988), and marketing managers in general have been criticized as being unsophisticated in their understanding of the financial dimensions of marketing decisions (Webster 1981).

Reports on spreadsheet applications in case teaching point out that cases dramatically demonstrate the power of this software tool. Among the benefits cited are relief from the drudgery of repetitive calculations, the ability to organize, reduce and present data in dramatic and vivid ways, and the analytic freedom to vary the assumptions upon which many decisions and recommendations depend (Dodds 1989) (Ganesh 1989). Barnes and Smith (1992) view the issue from the other side, arguing that spreadsheets can be effective tools in standardizing and facilitating the case *evaluation* process undertaken by educators when grading students' case writeups.

A QUESTION OF WHY

The gradual adoption of spreadsheet applications into our case teaching stemmed less from the desire to impress upon students the power and versatility of this software tool than from an effort to overcome some of the obstacles faced in teaching case method. The case method is employed in courses for both undergraduate and graduate students. Typically, these are advanced marketing management courses, offered to students who have fulfilled certain marketing prerequisites.

Cases are especially appropriate for students at this level. The best cases offer students a sense of what it is like dealing with problems and issues that confront managers on a regular basis. Thus, the intention in using this approach is to focus the attention of marketing students more on the *marketing management process* and less on the principles or basic concepts of marketing. Further, the decision focus of many cases encourages students to turn their insights and analyses into specific recommendations and plans of action. Emphasis on class discussion similarly places a premium on active participation in the learning process and the development of strong communication skills.

The Problem: Gaps in Preparation

The instructor must be flexible and thoroughly prepared to teach a case. But this is not enough. The success or failure of case method depends in large measure upon the quality of preparation done by the students. There is little the instructor can or, for that matter, should do to compensate for a group of ill-prepared students.

There are several measures available to instructors to insure adequate preparation on the part of the students. These range from setting clear expectations to heavily weighting the class participation component of student grades to meting out appropriate rewards and punishments. While on balance, most students are conscientious and well-intentioned in case preparation, their analyses are typically deficient in one important respect: *they largely neglect any substantial economic and mathematical quantitative analysis.* Though frequently insightful and wide-ranging in discussing important aspects of a marketing case, students often stall in deepening these contributions with much analytic rigor. There are at least three arguments that lend some credence to this hypothesis.

First, "running the numbers" is seldom a straightforward task. Quantitative analysis requires a lot of hard sifting and much of the typical yield can be rather unproductive. Second, it is important to note that even when quantitative analysis proceeds productively, it is frequently a laborious, repetitive and time-consuming task. Third, any one piece of mathematical or economic analysis a student does in connection with a case study proves of limited use. Often students must see several calculations or points of reference before some true perspective on the case develops.

The Solution: Spreadsheet Analysis

Spreadsheet analysis offers some important ways to both improve the benefits and decrease the costs students associate with quantitative case work. The speed and scope of analysis with spreadsheets not only offer relief from the otherwise mind-numbing drudgery that attends calculations done by hand or by hand-held calculator, but also encourages playful exploration of data that frequently yields important insights. There is little penalty in time lost for pursuing the wrong leads, and of course there are many features and options that encourage the relaxation or alteration of restrictive or ill-advised assumptions. These features of spreadsheet programs are well known. Indeed, the purpose of this paper is not to discuss the capacities of

spreadsheets, but rather to argue that they are invaluable tools that can be enlisted in accomplishing some important pedagogic objectives connected with case teaching.

To summarize, there is a certain synergy arising from combining cases and spreadsheets. On one hand, the requirements of case analysis powerfully showcases the capabilities of current spreadsheet applications. The benefits of computer use are made vivid and realistic when applied to case analysis. On the other hand, case method joined with spreadsheet analysis should ultimately foster an appropriate view of the computer as a tool -- *as a means to an end.* Although others have advocated that cases can be used as a vehicle for teaching microcomputer skills, this would be a misplacement of priorities -- at least in the marketing curriculum.

IMPLEMENTING SPREADSHEET ANALYSIS IN CASE TEACHING

Although spreadsheet analysis is a powerful complement to case teaching, there are practical problems that hamper the effective integration of the two. Such obstacles include: (1) uneven student access to computers and software, (2) wide variations in spreadsheet software abilities, and (3) selective preferences that students have for hardware, operating systems and spreadsheet products. In all this, it is easy to lose perspective and fail to appreciate the role of spreadsheet analysis as a means to an end and not the end in itself.

Nevertheless, the personal computer is being integrated into the curriculum of business schools and the work patterns of students. As this happens, these obstacles are being overcome. In some cases, technology itself offers solutions to the problems it originally engendered. The advent of networked computer labs, laptop or notebook computers and projection systems mean the actual use of the PC in the classroom need not be a heroic effort. Further, the increasing proliferation of multimedia applications and CD-ROM technology only serves to enhance the quality and creativity of in-class presentations.

Computer-aided instruction and other self-paced tutorials are readily available and capable of relieving instructors from the need to cover mundane matters as hardware and software operation. Computer applications to case teaching are similarly facilitated by publishers who now routinely provide case data in CD-ROM format with multiple hardware and software configurations.

Case-Oriented Templates

While having case data spreadsheet-ready is enormously helpful, students frequently need a further nudge in the direction of quantitative analysis. We provide this by constructing basic templates for individual cases that outline the structure for various analytic procedures. Just as written discussion questions are frequently given to students to guide or assist their case preparation, so too are the templates distributed as basic study tools.

For some, this approach may seem too directive. Experience shows, however, that by providing the structure for analysis in the form of a *template*, students still have many substantive issues to handle. The template points to considerations and connections, but requires students to make them explicit. Instructors can, in fashioning templates, determine precisely how much direction to provide to students. Dummy tables with fairly detailed labels are often utilized, but leave to students the determination of the values and formulae necessary for completion.

Instructors pressed for preparation time or with limited experience in teaching certain cases or even with rudimentary spreadsheet skills are not precluded from creating and using spreadsheets in the manner described here. Teaching notes and instructor's manuals often provide the necessary resources for relatively quick and easy template preparation. The quantitative analysis frequently provided by the case authors in these teaching notes is an invaluable aid in understanding the dynamics of a case. But since students achieve this level of analysis only rarely, the instructor is left with the choice of either neglecting this dimension of the case or introducing the material him- or herself -- both largely unacceptable alternatives since they effectively relieve the student of any obligation to do the analysis. Templates offer a middle ground; they make clear the instructor's expectation that the student will do the analysis and then also allow the instructor to provide the tools necessary to actually do it.

Increasingly, cases now being published include diskettes that hold exhibits, charts, and tables in spreadsheet format. In some cases, actual templates are provided by authors or publishers. There are also

a few cases now available in CD-ROM format in which the case is supported by pre-loaded data in spreadsheet format, and the text is vividly supplemented by video and audio clips.

The Payoff: Better Discussions

By coupling this type of spreadsheet analysis with case method teaching, classroom discussions are both better focused and deeper. Prior to using this approach, quantitative-oriented discussions were frequently difficult to manage. Students who had not done the analysis would naturally have trouble following the discussion, while others who had done the analysis would likely find within the class a considerable degree of variance in both how the problem was structured and the rigor with which it was pursued. By incorporating spreadsheet analysis, class discussions are brought back to the inferential, decision-making orientation fundamental to the case study method and marketing management.

REFERENCES

Barnes, Howard W. and Scott M. Smith (1992). Improving Case Evaluations Through Computer Based Grading: An Experiment Applying a Developmental Model to Case Evaluation. Journal of Marketing Education. 14:63-73.

Dodds, William B. (1989). Spreadsheets Offer a More Realistic and Flexible Evaluation of Marketing Opportunities in the Classroom. Proceedings of the 1989 AMA Microcomputers in the Marketing Curriculum Conference. Robert F. Dyer and Margery S. Steinberg, eds. Chicago: American Marketing Association. 293-306.

Ganesh, Gopola K. (1989). Incorporating Spreadsheet Software in the Undergraduate Capstone Marketing Class: A Case Study for the Use of Stand-Alone Training Exercises. Proceedings of the 1989 AMA Microcomputers in the Marketing Curriculum Conference. Robert F. Dyer and Margery S. Steinberg, eds. Chicago: American Marketing Association. 307-315.

Gentry, James W., George C. Jackson, and Fred W. Morgan (1988). PROLOG: A Business Logistics Simulation Game. Journal of Marketing Education, 9:74-83.

Kurtz, David L. and Louis E. Boone (1987). The Current Status of Microcomputer Usage of the Marketing Programs of AACSB-Accredited Colleges and Universities. Journal of the Academy of Marketing Science. 15:10-15.

McNeely, Brian J. and Barry Berman (1988). Usage of Microcomputer Software in AACSB-Accredited Undergraduate and Graduate Marketing Programs. Journal of Marketing Education. 9:84-92.

Porter, Lyman W. and Lawrence E. McKibbin (1988). Management Education and Development: Drift or Thrust Into the 21st Century. Highstown, NJ: McGraw-Hill.

Rogers, John C., Terrell G. Williams, and Raymond McLeod, Jr., (1990). Microcomputer Usage in Marketing Departments of Fortune 500 Firms: What Should Marketing Students Study? Journal of Marketing Education. 11:18-23.

Saltzman, Arthur (1990). Differences Between Business School Majors in Computer Use and Competence with Software. Proceedings of the 1990 AMA Educators' Conference. A. Parasuraman and William Bearden eds. Chicago: American Marketing Association. 157-158.

Webster, Frederick E. Jr. (1981). Top Management's Concern About Marketing: Issues For The 1980's. Journal of Marketing. 45:9-16.

Wilson, Timothy L. and Joseph P. Grunenwald (1989). Educational Software and Complimentary Text Use in MBA Marketing Strategy Courses: A Preliminary Assessment. Proceedings of the 1989 AMA Microcomputers in the Marketing Curriculum Conference. Robert F, Dyer and Margery S. Steinberg, eds. Chicago: American Marketing Association. 283-292.

Winer, Leon (1989). Context Based Computer Teaching in Marketing. Proceedings of the 1989 AMA Microcomputers in the Marketing Curriculum Conference. Robert F, Dyer and Margery S. Steinberg, eds. Chicago: American Marketing Association. 275-282.