

Developments in Business Simulation & Experiential Exercises, Volume 12, 1985

A REACTIVE MICROCASE PEDAGOGY

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ABSTRACT

The pedagogical technique presented in this article centers around an innovative approach to case analysis and microsimulation in which discrete decisions result in realistic consequences which shape subsequent decision/consequence iterations and the eventual outcome of the analysis.

This is not, simply, an amalgamation of case and microsimulation technologies, but a unique multi-stage pedagogy to problem analysis and discussion. The distinguishing feature of this approach from traditional case analysis is that it is a reactive analysis requiring iterative evaluations and decisions. It differs, fundamentally, from the typical microsimulation by providing a richer decision environment and feedback mechanism.

A prototypical Reactive Case is described along with *an* associated explanation of its construction and use on a microcomputer, its value as *an* experiential learning vehicle, and an elaboration on applications and limitations of the technique in comparison to existing case or simulation methods.

INTRODUCTION

Case analysis and simulation of business decisions are in popular use at business schools across the country. In both method; development of decision-making skills experientially is pan-mount.

The Case Method

As originally adapted for use in business education; the case method involved maximum participant interaction with minimal dependence on the professor.[9] Although use of the traditional case method endures, numerous variations have evolved. [8][5][11][10] It has been suggested that "there are as many varieties of the case method as there are practitioners." [2] Regardless of the format or implementation style, the case procedure usually involves selective presentation of information regarding a specific business situation which a small group of students discuss to develop alternative solutions, recommend a course of action and verbally report Stated more formally:

A case typically is a record of a business issue which actually has been faced by business executives, together with surrounding facts, opinions, and prejudices upon which executive decisions have to depend. These real and particularized cases are presented to students for considered analysis, open discussion and the final decision as to the type of action which should be taken. [7]

Often, case feedback focuses on accurate identification of the key problem situation and the strength of logic of the

group analytic process. The consequences of the decision process and recommendation is typically embodied in a letter grade. Retrospective; vicarious analysis is as central to the case method as interaction is to computer simulation.

Computer Simulation

A simulation is similar in content to a case, but allows for student interaction. In the course of participating in a simulation; students make a series of decisions which, when input to a mainframe computer, produce a set of outcomes generated by some internal mathematical algorithm. While the feedback provided to students presents a shifting picture (e.g. changed market share), the basic nature of the decision environment, the set of decisions required, and the fundamental task confronting the decision makers typically remain the same.

Mainframe simulations often recreate comprehensive business situations which involve multiple decision areas while simulations designed to run on microcomputers (i.e. microsimulations) generally focus on a single decision area. As microcomputers become increasingly available in college classrooms, educators are accelerating their search for relevant business applications to employ this technology towards a meaningful learning experience. ABSEL members were enthusiastic supporters of the use of microcomputer simulations.[6] [14] [1] Although the Reactive Microcase introduced in this article could be run on a mainframe computer, the authors recommend its implementation on microcomputers which offer numerous differential advantages. Such advantages include self-contained memory and computing capability, virtually immediate turnaround, convenience of operation, and providing students with experience in using the microcomputer. The Reactive Microcase requires no intervention from the instructor.

The Reactive Microcase program is written in Basic for use on IBM PC's, but could easily be adapted to other models.

THE REACTIVE MICROCASE

Overview

The preceding brief description of the traditional case and simulation methods set the stage for introduction of a multi-stage approach to problem analysis and decision making which combines and extends the advantages of each method.

Stage 1. Preparation (Pre-session)

In preparation for the Reactive Microcase Analysis, the administrator distributes the

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photocopied General Background Information and Performance Review, instructing the students to become thoroughly familiar with the company and its situation. Participants are instructed to assume the role of the central decision-maker described in the case, and to maintain that role as they report to "work" the next session, armed with notes of their preliminary analysis. This initial stage parallels requirements of a traditional case analysis.

It is important to emphasize that the preliminary analysis is to be done by the individual, without input from anyone else. Instruction or review of the use of the microcomputer should also be attended to in the session prior to the case session.

Stage 2. The Reactive Microcase Analysis.

Ideally, the experience is conducted in a 15- 30 minute session in a microcomputer lab, although, adjustments could be made if such a facility is unavailable. The individual student interacts with the Reactive Microcase, making analyses and implementing decisions. Since the technique is reactive, the case procedure and eventual outcome is a function of the discrete choices made by the student as the case develops.

After completing the microcase, the student writes a summary of how the case unfolded and briefly reviews the decision consequences for subsequent referral during the group discussion.

Stage 3. Retrospective Group Discussion. (30 minutes)

In groups of 4 or 5, each student, in turn, presents the summary of his/her microcase experience. This allows each group member to participate and establishes a foundation for sharing in the group discussion and retrospective analysis.

After all members have shared their individual experiences, members interact freely, discussing outcomes, providing clarification or rationales for choices, and developing viable alternatives not presented by the microcase. At the end of the discussion period, members report a position statement to the class, consisting of their assessment of the most viable decision path and rationale for that assessment. The group position statements provide a basis for further class discussion.

SUMMARY

The Reactive Microcase Pedagogy presented in this article is characterized by:

- o intense individual involvement and group interaction;
- o multiple time-frame perspective; in that the microcase is analyzed (1) prospectively by the

individual, (2) concurrently by the individual, and (3) retrospectively by the individual, group, and class;

- o a combination of verbal and quantitative feedback;
- o a decision environment which can change as a result of decisions previously made, i.e. reactive; and
- o realism, since there are appropriate consequences associated with a given decision.

Although the Reactive Microcase technique is in need of further elaboration it holds promise as an experiential technique which utilizes current educational technology to generate a learning experience more complete and realistic than that offered by the traditional case or simulation methods. It involves students in individual cognitions and group interactions, and encourages internalization of knowledge of concepts expounded by Piaget, founding father of cognitive developmental psychology:

The chief outcome of this theory of intellectual development is a plea that (students) be allowed to do their own learning...you cannot further understanding in a (student) by talking to him. Good pedagogy must involve presenting the (student) with situations in which he himself experiments, in the broadest sense of the term. [3]

Space constraints prevent us from including the reactive microcase in its entirety, however, a sample excerpt is shown in the Appendices for illustrative purposes. Appendix I contains a General Background Information and Performance Review which provides students with the setting and business situation. Appendix II contains a decision tree to diagram the student's first decision, and a partial tree for the second decision. Several sets of feedback, referenced by letters to points in the decision tree; are shown in Appendix [1]

The microcase archetype presented herein, is believed adequate to demonstrate the reactive case method, but is not sufficiently complex to serve as its showcase. The methodology could be better employed in a more comprehensive task environment characterized by shifting competitive arenas (i.e. not just price, which is the focus of this case, but other Marketing elements, and/or different product/markets), as well as changing external and internal elements.

This pedagogy could be implemented in a variety of educational and organizational training or testing situations. Classroom testing is currently ongoing.

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APPENDIX I USYRINGE¹

General Background Information

The Planning Committee hadn't reached a consensus on much of anything except to unanimously agree that acme of the signs surrounding the division's cash cow, a precision component for disposable hypodermic syringes, looked ominous. Abigail Howe, product manager for the line (trade-named Usyringe), sat in her office contemplating the performance review that had produced the Committee's jitters.

The Usyringe product is one of a number of lines produced by the Medical Products Division (MPD) of the TF Corporation, a Fortune 500 conglomerate. MPD is the largest of the three world-wide producers of this component; they have been in the business the longest, and have enjoyed an excellent reputation for quality, performance and have a reputation as the highest priced. With regard to the other two producers, one is largely producing solely for their own needs, and the other competitor is a small firm specializing in this component. The market for Usyringe is the relatively large number of manufacturers of hypodermic syringes located throughout the world. The market has been steadily expanding over the last ten years.

Usyringe enjoys a 20% price premium over the competition. Over the last few years, as the market matures, it is becoming much more price sensitive.

MPD is evaluated by the parent firm against a target ROI of 20%. Within the division, however, it is essential that some products deliver a much higher return than the Corporate target, to support research and development activities, and new products early in their life-cycle. Further, the Division is under pressure to increase its overall ROI.

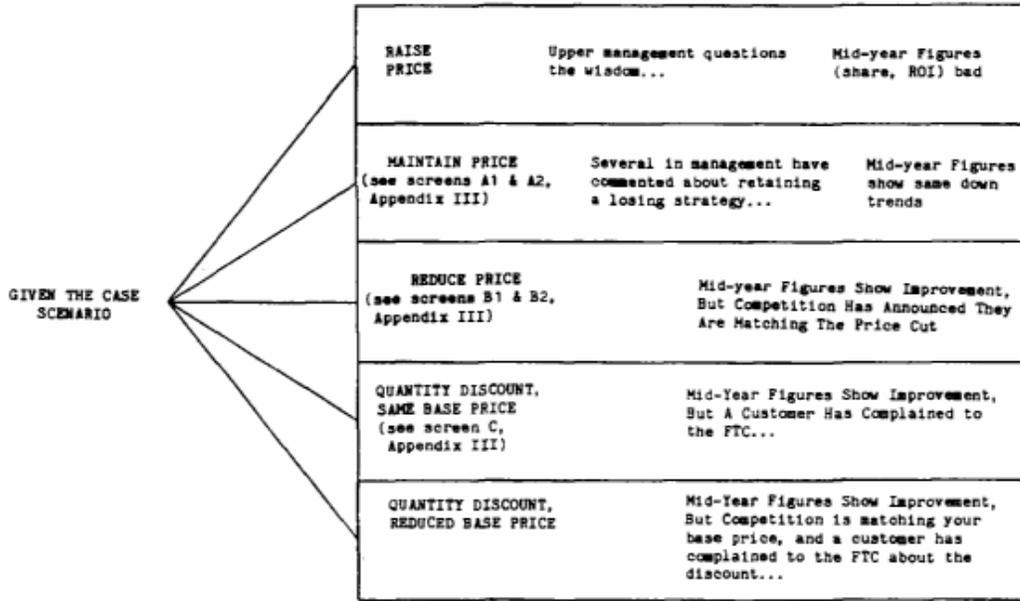
Prior to her presentation to the Planning Committee, Howe had just returned from her semiannual trip to Europe where she had attended the medical trade show to pick up annual orders from some of the major producers in Europe. Because she is good friends with these people--MOP has been a good supplier to them for years--they have been giving hints about either holding back on orders or placing only a portion of their total order with MPD. They are basically saying, "What are you going to do about your price?"

"Well," she mused, "this is what they mean by 'being between a rock and a hard place'." The corporate mentality at TF dictates that "we don't compete on the basis of price - we are a high quality operation, and we compete on other bases..." But with the Usyringe line, when you get right down to it, the competing product offerings are just as good as ours. We are the recognized experts. We are the giant -- but perhaps we can no longer ignore the competition. What are our options? What should we do?

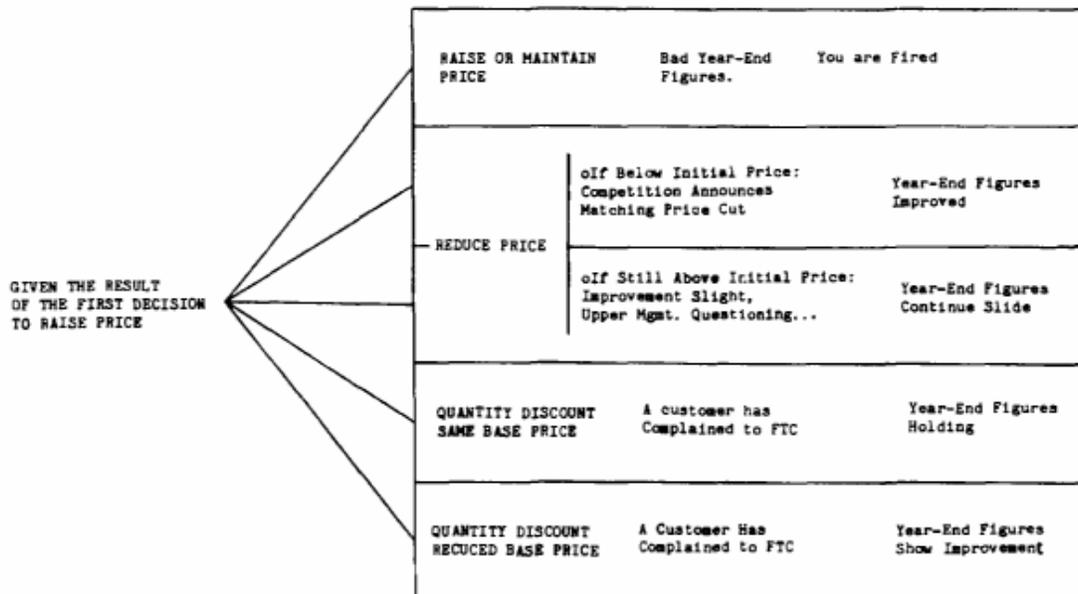
¹ This case study has been disguised to preserve the anonymity of the subject firm.

APPENDIX II

INITIAL CASE DECISION/CONSEQUENCES TREE



SECOND ROUND DECISION/CONSEQUENCES BRANCH
PERTAINING TO THE "RAISE PRICE" OPTION



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PRODUCT LINE: Usyrings FIVE YEAR PERFORMANCE REVIEW	1980	1981	1982	1983	1984
PRICE*	\$30.20	\$32.10	\$34.00	\$36.70	\$36.70
VARIABLE COST*	\$12.04	\$13.15	\$14.29	\$15.75	\$16.34
FIXED COST*	\$ 4.55	\$ 4.60	\$ 5.58	\$ 6.17	\$ 6.24
UNIT SALES (M)	390,627	421,459	456,841	468,283	474,014
DOLLAR SALES (M)	\$11,796	\$13,528	\$15,532	\$17,185	\$17,396
SHARE OF MARKET	67%	65%	63%	60%	57%
RETURN ON INVESTMENT	40%	40%	38%	37%	35%

* Per thousand units

APPENDIX III

SAMPLE NARRATION OF SCREEN A1

You have elected to maintain your current price through the first half of 1985. The situation now facing you is summarized in the figure below:

Current Price	\$36.70	per 1000 units
Variable Cost	\$16.62	per 1000 units
Fixed Cost	\$ 6.30	per 1000 units
Sales Volume (1985)	478,112,000 units,	
	\$17,473,310	(annualized projection)
Share of Market	55%	
ROI	33%	

(Record these figures for future reference. When finished, press <RETURN> to continue.)

SAMPLE SCREEN A2

While your ROI at the mid-point of 1985 is considerably above the corporate target, you have not stopped its decline. Several times during staff meetings, your boss has referred to the "...inadvisability of continuing with a losing strategy." The comments weren't openly addressed to you, but you wonder if he was trying to tell you something. Still, at TF low price is not our mission.

For the second half of 1985, your price strategy is to:

- A. Increase Price
- B. Decrease Price
- C. Maintain Current Price
- D. Implement a quantity discount schedule in addition to either A, B, or C.

(SELECT ONLY ONE OF THE ABOVE OPTIONS. INPUT A, B, C, OR D, THEN PRESS <RETURN> TO CONTINUE)

SAMPLE SCREEN

You have elected to cut your price through the first half of 1985. The situation facing you at the start of the second half of 1985 is:

Current Price	\$
Variable Cost	\$
Fixed Cost	\$
Sales Volume In 1985	
Share of Market in 1985	
ROI	

(RECORD THESE FIGURES FOR LATER REFERENCE. PRESS <RETURN> TO BEGIN ENTERING YOUR 1986 DECISION.)

SAMPLE SCREEN

You hang up the telephone from your fifth call this morning from one of your sales people. The competition has reduced their price to \$_____. Your price cut seemed to do what you had hoped, but unless you take some price action for the second half of 1985, it's back to the old level of price premium. . . You lean back in the chair and consider the situation. For the second half of 1985 you decide to;

- A. Increase price
- B. Cut price
- C. Maintain current price
- D. Implement a quantity discount schedule in addition to either A, B, C, or 0.

<RETURN>

SAMPLE SCREEN

As you walk back to your office from the conference room you replay the last half hour in your mind--especially the closing directive from corporate counsel: "Fix it" Southboro Syringe has filed a complaint with the FTC alleging secondary injury to competition. Since Southboro is a small operation, they don't qualify for your lower price, and are being squeezed by their longer competitors who buy from us in quantity. Cost savings from large orders is the only defense *in* this instance, and we just don't have it. They don't line you up against the wall and shoot you for this, but something must be done- and quickly. We just have to go back to a one price policy. It would be great if we could hang on to all or even some part of last years sales gain...You decide to:

- A. Increase base price
- B. Decrease base price
- C. Maintain current base price

<RETURN>