

# Developments in Business Simulation & Experiential Exercises, Volume 11, 1984

## STRATEGIC FORMULATION CONSISTENT WITH PIMS: A MICRO-COMPUTER APPLICATION

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### ABSTRACT

Students at Oregon State University College of Business are using a computer program to learn the strategic formulation phase of business policy. The program requires students to systematically assess both internal and external conditions in a format consistent with the growing PIMS studies. Graphic output then indicates the generic strategies compatible with the corresponding student's analysis of the firm's competitive position. By changing combinations of variables in the assessment, the user can determine what strategies would be effective given the resource limitations and external constraints of the firm's setting.

#### Statement of the Problem

To choose among alternative strategies, business policy students have had to rely upon static forms of evaluation. Once a strategy has been formulated, the testing of internal or external consistency is restricted by the few characteristics identified and by the inability to evaluate the selected strategy against anything more than opinion. There are, however, many combinations of resource acquisitions and deployment which would satisfy the needs for consistency within a strategy. How are students to examine and understand the many combinations of changing internal conditions and/or external boundaries that would permit successful pursuit of the selected strategy? Business simulations are primarily focused on other facets of dynamic business environments. The problem remains: first, what combination of changes in the bases of competition, industry strengths, financial structure and/or environmental conditions are appropriate for a given strategy? And second, what methods improve the understanding of these combinatorial options?

#### Method

A menu-driven computer program which can be viewed as a summary display of the PIMS findings applied to the business firm under evaluation is the method to be demonstrated. The key to assessing a firm's relative position is the comparison of internal flexibility to external stability. Each of four dimensions 1) financial structure, 2) competitive position 3) industry strengths and 4) stability of environment is evaluated separately and is determined by a composite of many factors. From this analysis specific strategic choices are developed and graphically displayed. The program follows closely the Strategic Position and Action Evaluation suggested in Strategic Management and Business Policy, Rowe, Mason and Dickel, Addison Wesley, 1982.

Once the factors in all the dimensions are evaluated, the program graphically represents the reasonable strategic choices, given the conditions as provided by the user's analysis. Obviously, the results can only be as good as the user's meticulous assessment. Next, the user is asked if changes are to be made to any resources or constraints. When changes are made by the user, the subsequent displays indicate whether the selected strategy would still be feasible.

If not, the generic strategy which would most approximate the changed internal strengths and environmental setting is presented. The menu driven options, therefore allow the user 1) to examine what changes in conditions or factors would be necessary to pursue another strategy or 2) to recognize what changes can be made within the current internally while continuing to be consistent within the current strategic choice.

Several analyses can be done on multiple product/market elements, with printed hard copy as an option for each change in conditions. The diagnosis of any of the four major dimensions is performed with full screen editing capabilities so that the user can look for consistencies within any phase of his/her analysis. Any necessary corrections, therefore, can be made instantly before the complexity of analysis becomes overwhelming. Each of the four dimensions has between 10 and 20 individual factors and possible relationships.

The program is written in BASIC and requires 92K and is currently being used on Apple III's with graphics capabilities and will be available for the IBM PC.

#### Program Use

Students using the program follow on screen menus; no instructions are required. In fact, no previous experience using micro computers is necessary. General business policy theory and classroom instruction usually cover the basic background required.

The first screen display is a menu of several programs used in the business policy case course:

1. the strategic formulation program
2. a multi-goal decision making matrix program
3. a strategic funds flow program

a stakeholder analysis and assumption program.

Selecting the first option, the user is presented with a short introduction and the first screen, Competitive Position. A few of the many factors listed are:

1. relative market share to next major competitor
2. relative perceived product quality
3. product replacement cycle
4. competition's capacity utilization.

For each of the factors, the user selects a value from an anchored scale. The scale has appropriate descriptors. An example would appear in this manner.

product life cycle    late-0 1 2 3 4 5 6 9-early

The "9" allows for either 'not applicable' or 'cannot be determine'. Thus any factor need not be included if the user so chooses. After each full screen of analysis the user may add any additional factors appropriate to the dimension currently examined. A menu driven routine prompts a scale and descriptors. Responses are confined to the range of acceptable numbers. The program politely requests a proper response or will not

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continue. Thus, users cannot accidentally disrupt the systematic assessment. Each dimension is examined in this fashion, one screen at a time.

### Program Output

When the analyses are completed, a new menu offers 1) a graphic display of the current position matched with strategic choices at indicated by the PIMS data 2) option for hard copy of no.1 or 3)option to go back and change rating for some of the factors as if new resource deployments were to be made or external conditions were to change. Completing any of the options returns the user to the menu. This enables multiple hard copies to be made when varying conditions for later study and classroom presentation. Upon instruction of the user, the program ends and returns to the original menu.

The continuum of strategic alternatives used is:

1. concentric diversification
2. concentration
3. vertical integration
4. concentric merger
5. conglomerate merger
6. retrenchment
7. liquidation
8. divestiture
9. status quo

It should be emphasized that the purpose of this program is not to determine otherwise undiscovered strategic opportunities. Rather, the output linking company strengths and weaknesses to appropriate strategies is predicated upon the user's ability.

### Student Experience with the Program

Business policy students have been using this program for two terms. The explanation and hands on experience required to use the program without further assistance has taken only one class period. Again, this is without any prior experience on micro computers. The interest and efficacy of the program is demonstrated by the requests from students in other policy classes to use the package of programs. This program is not required for case preparation. It is an option students may select when preparing policy cases. Yet, the log book kept with all micro computers indicates extensive daily use.

Several advantages have become apparent with this program and its general approach. First, it overcomes the general uneasiness most senior faculty, who usually teach the policy course, may have computer literacy. Second, using the template/menu driven approach, it helps overcome the lack of student literacy in using strategic model8. It also demonstrates to users to the need for and use of strategic models. Also, this approach begins to remedy the lack of software available in other than entry level courses and provides support for development of computer assisted instruction in upper division courses.

### REFERENCES

Rowe, A., Mason, B., and Dickel, K. Strategic Management and Business Policy. Addison Wesley Co., 1982. pp.155-165.

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