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BUSINESS POLICY/STRATEGY CASE EXTENSION USING PRO-FORMA PLANNING: A COMPUTER-BASED MODEL

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ABSTRACT

The paper describes the outcome of a two and one-half year project to develop instructional software for use in undergraduate business policy/strategy courses. The project was initiated because the department felt that the relative advantages of the case-analysis instructional format for the course outweighed the business game/simulation format. Nevertheless, there, was concern that students may develop a somewhat "static, one-time" conceptualization of business planning as a result of a case analysis format rather than the more forward-looking, obviously "time-period-to-time-period" orientation of the business game/simulation format. The overall goals of the project were to develop an instructional tool that (1) suggested the dynamic movement of company operations over time, (2) enhanced students' financial analytical skills, (3) was generic rather than case-specific (4) required minimal time to learn and use, and (5) could be used as a basis for a series of follow-up exercises based on the initial case analysis and a series of additional scenarios that would be provided users, and would be used to simulate a series of company planning periods.

Neither games/simulations nor financial analysis tools then on the market seemed to fit the needs of the school. A menu-driven, automated Lotus 1 23 spreadsheet was developed, which was then compiled and placed on LAN for use in the microcomputer lab.

The paper describes the basic nature of the program, outlines approaches taken in using it in class, and provides an anecdotal assessment of student response based on the very brief period that it has been used.

There are several major challenges facing an instructor of undergraduate Business Policies, or its various alter egos such as Strategic Planning or Corporate Strategy. First, there is the challenge presented by the backgrounds of the students in the class, the majority of whom likely have little work experience of any kind, let alone experience at a corporate planning level.

A second challenge is the fact that course content is often abstract and quite conceptual, requiring application of insight and knowledge that students have developed, theoretically at least, over the previous three or four years of study, and of which they have sufficient recall. Aggravating these two conditions is the fact that policies/strategy texts tend to be difficult reading, either because of the nature of the material or authors' writing styles (Nixon and Helms, 1991).

The intent of the policies/strategy course is to develop students' skills and confidence in evaluating business situations using functional knowledge acquired in earlier courses, and then either recommending or, using computer simulations/games, taking action appropriate to the situation. Writing of the Harvard case approach to providing this learning experience, Christensen said the desired result is student maturity, wisdom, and judgement (Christensen, 1987, p. 49). However, the question of whether cases or games/simulations are best for accomplishing these goals is not as yet resolved (Gosenpud and Washburn, 1993).

CASES VS GAMES/SIMULATION

Each of these approaches to policy/strategy instruction has advocates. Miles and colleagues conducted research to determine students' perceptions of relative skills acquisition and found that case instruction was generally considered to be superior to simulations (Miles, et. al., 1986). Canadian academicians who responded to a survey to determine prevailing policies/strategies course content and pedagogy did not feel that group presentations, movies, and games were a particularly productive use of class time; on the other hand, Canadian business executives felt more use should be made of lectures, games, field visits, and special guest lectures (Ban, 1988).

Peattie feels that the effectiveness of the case method has never been quantitatively proven, and cites Smith's argument that it's lack of emphasis on implementation and help for students having problems relating to the business context are limitations. He argues that change in instructional method is beneficial, and says that the formula often used in case analysis, "'.... imagine you're a consultant ' can wear thin." He advocates Fantasy Role-Play and says that role-playing, simulation, and games are useful supplements to the traditional case method (Peattie, 1990).

Pearce sought to determine whether the student efforts resulting from the case method or a business game was superior in terms of reflecting three essential elements of successful policy formulation --(1) emphasis on the firm's external environment during the analysis phase, (2) explicit determination of the kind of business the firm should be, and (3) a subsequent emphasis on specifying corporate objectives. He concluded that neither instructional method was superior to the other in terms of producing these products (Pearce, 1979).

The research of Anderson and Lawton incorporated the suggestions of Miles, et. al. They found that students perceived higher benefit from the simulation used in the study than from case analysis. They also found, however, that the perceived value of either method wanes with increased exposure to the method, and concluded that "change is invigorating." (Anderson and Lawton, p. 258).

Jauch, et. al., propose a very interesting change to the traditional capstone course. They argue for a new capstone course -- one based on a computer simulation game that uses a decision support system (DSS) to support integrated decision making (Jauch, et. al., p. 7). The DSS used can vary from quite simple -- for example, one based on microcomputer productivity software such as Lotus 1 23 or dBASE-- to quite complex -. such as those provided in large-system simulations.

As they envision the re-engineered capstone experience, the DSS should be a user-friendly system, of mid-level complexity because of the relatively low level of computer skills that should be assumed of users and the strenuous demands such a course would place on the instructor. The challenge facing the DSS would be to (1) support students in making firm and industry analyses, (2) emphasize the importance of considering as many courses of action as possible, and (3) minimize student involvement with the information technology and maximize their involvement in making better strategic decisions.

POLICY INSTRUCTION AT THE UNIVERSITY Of TENNESSEE AT MARTIN

We continue to use the case instruction format at our university, primarily because we are still generally convinced that the positive features of the format outweigh the negative. Until relatively recently, however, an additional consideration was the nature and extent of our campus microcomputer labs; locations and types of

Machines would have presented some problems for instructors wishing to schedule lab sessions for classes. Also, the case-analysis backgrounds and experience of instructors favored the approach.

Course Development Goal.

Given this basic orientation, we nevertheless wished to provide students a pedagogically sound. Semi-experiential extension to the case experience, though something short of using a full business game extending over dozen or more class periods. To this end, we wanted a tool:

-- that somehow suggests the dynamic movement of company operations over time and, consequently, the on-going nature of strategic management decisions and the decision-making process.
-- that requires students to face as many of the issues associated with implementing strategy as possible, and to the fullest extent practicable.
-- that is generic rather than case-specific.

To meet the general needs of our students, we also wanted a tool:

-- that is user-friendly and requires minimal time for learning and use.
-- that provides a structured framework for the financial analysis so critical to effective and realistic business planning, and that might be otherwise be given only cursory attention because of fuzziness of the knowledge and skills acquired earlier in various accounting and finance courses.
-- that could be used as a basis for follow-up exorcise(s) based on the original case situation, hopefully introducing slight change of pace to the repetitiveness of a series of case assignments.

There are a number of commercially available software packages that might have been used to support these course objectives; Jauch, et. al., cited Lotus 123 89 a possible DSS for their model policies/strategy course, but basic spreadsheet software did not fully meet our goal of user-friendliness and convenience of use. An educational version of a sophisticated commercial financial analysis package also was eliminated from consideration for the same reason.

An analysis package accompanying a strategies textbook is very easy to use, but was not chosen because it is case-specific rather than generic, and was perceived as having limited potential for extending the case experience beyond the initial situation analysis. Several instructional softwares from the fields of finance and managerial accounting also appeared inappropriate because of their specialized nature.

Development of the Financial Analysis/Pro-Forma Budgeting Shell

The attempt to develop in-house software to support our course objectives did riot emerge as a full-blown concept, but rather evolved somewhat tentatively, through several iterations, as we used Ye each stage as a springboard for further development. Our s initial goal did not extend much beyond simply wishing to produce a vehicle for enhancing students' then often-superficial performance in financial analysis. As an incidental benefit, we felt that we could also provide a number of students -- essentially non-accounting majors as well as the considerable number of others who had not taken elective courses featuring spreadsheet work -- with a rudimentary introduction to this powerful management tool.

The first effort, then, consisted essentially of a 30 + page tutorial for using a Lotus spreadsheet to analyze financial statements, and was to be used in one case assigned during the semester. Even though it was essentially a key-stroke by key-stroke roadmap for accomplishing the analysis, students with no spreadsheet experience still made many errors and became frustrated by the effort. This appeared to be caused by lack of a basic understanding of

spreadsheets sufficient to understand the tutorial, by failure to read and follow the directions, or both.

The second effort produced a macro-driven spreadsheet that consisted of generic Income Statement and Balance Sheet templates used for inputting tour years historical financial data. Line items f or the templates were chosen after reviewing a large number of financial statements in representative policy cases, and were representative of statements of a single-entity business rather than consolidated operations. All sections of the spreadsheet, including formulas, menus, and macros were write-protected and/or hidden except for cells for data entry.

A two-level menu was programmed:

VIEW INPUT GRAPH PRINT RECALC QUIT HIS-IS HIS-BS COM
SIZE RATIOS PROF-IS PROF-BS ASSUMPTION

From this menu, students could print (1) common-size income statement and balance sheet; (2) twenty-five ratios of liquidity profitability, activity, and asset usage; as well as (3) a stacked bar chart of sales, COGS, expenses, and profit and three line charts of various measures of profitability and asset usage. These products are automatically produced by macros.

In order to extend the utility of the case under study, and to provide (1) a crude simulation of the flow of company operations over time as well as (2) an opportunity to experience the budgeting process, a Pro-Farina capability was provided. Students can input pro-farina projections (Assumptions) for up to four periods future operation. These projections are automatically converted to pro-farina financial statements and ratio calculations, and are printed as the financial statements and ratios are printed, and are added to the four graphs as they are printed.

A fifteen page tutorial was provided. Even though the spreadsheet was now automated with macros, it still suffered occasional problems in use, caused mainly by students failing to allow sufficient time for a macro to be executed and the system to return to "ready" mode before making additional keystrokes.

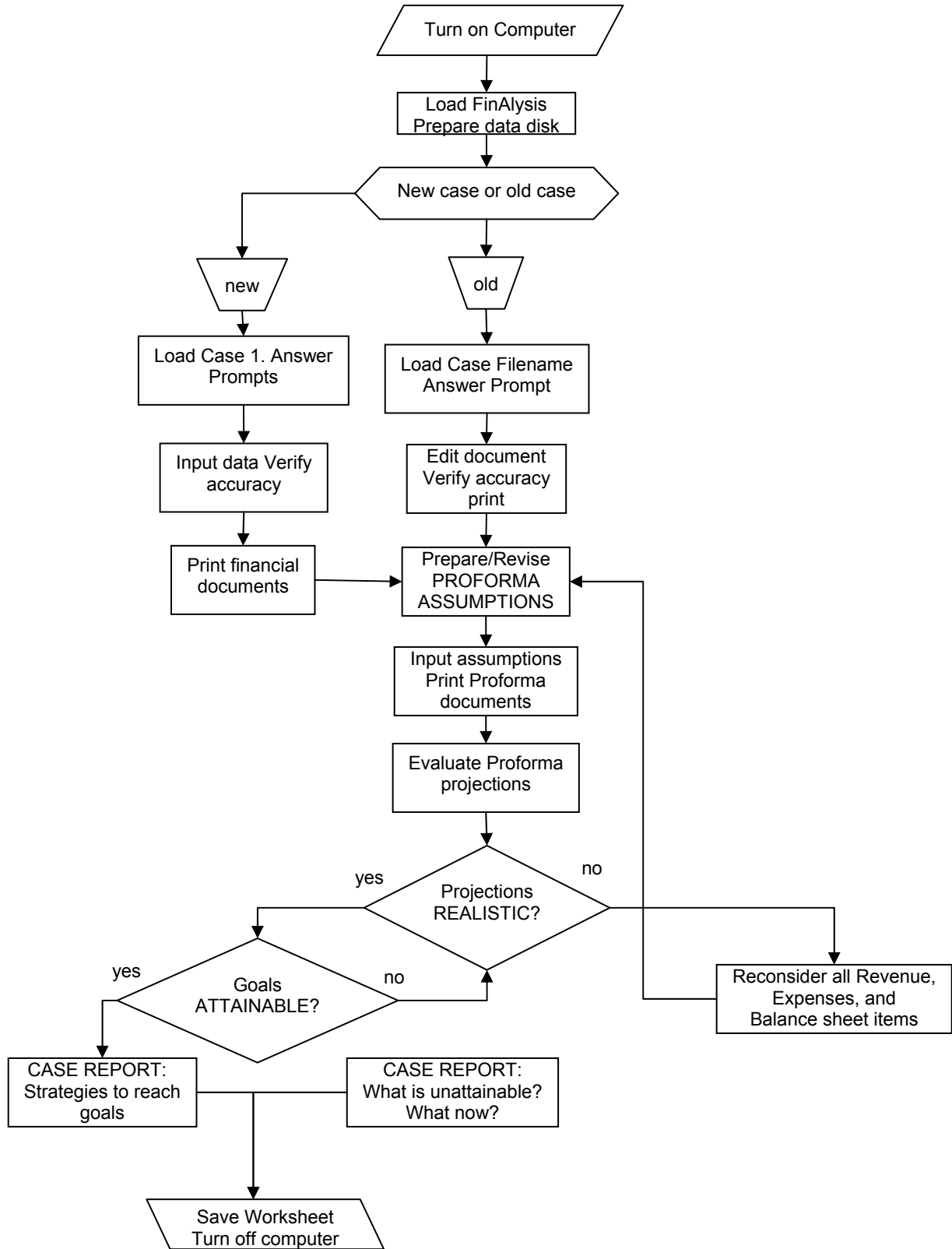**CURRENT VERSION OF THE FINANCIAL ANALYSIS SHELL**

The current version of the case analysis aid is the macro-driven spreadsheet with necessary cosmetic changes. However, the current version has been compiled and put on computer lab LAN. These two features have produced dramatic changes in the usefulness and efficiency of the system.

At this time, the spreadsheet has essentially two uses. The first of these is to provide an easy-to-use instrument for more thoroughly and quickly evaluating the financial statements of a company. From this, one can then more comprehensively identify financially based strengths and weaknesses of the firm, and more realistically judge the financial feasibility of proposed recommendations. At this level, one only needs to input historical data and interpret the significance of the resulting output -- the pro-forma capability is not used.

Typically, financial data for a case for which the program is appropriate can be expected to take between 20 and 30 minutes to input. Experience will reduce the time required to a modest degree; a large amount of financial data, or data that requires more judgement in entering can be expected the increase the time needed.

Figure 1 outlines the rationale of the second basic use of the program -- an extension of the text case by using the pro-forma capability of

Figure 1. Using FinAlysis for Planning Via ProForma Financial Statements

Turn on Computer

Load FinAlysis
Prepare data disk

New case or old case

new

old

Load Case 1. Answer Prompts

Load Case Filename Answer Prompt

Input data Verify accuracy

Edit document Verify accuracy print

Print financial documents

Prepare/Revise PROFORMA ASSUMPTIONS

Input assumptions Print Proforma documents

Evaluate Proforma projections

Projections REALISTIC?

yes

no

Goals ATTAINABLE?

yes

no

Reconsider all Revenue, Expenses, and Balance sheet items

CASE REPORT: Strategies to reach goals

CASE REPORT: What is unattainable? What now?

Save Worksheet Turn off computer

The program to project future plans. This capability provides a very easily utilized framework in which students can simulate the budgeting function, a management responsibility usually associated with the "strategy implementation" phase of the strategic management process.

Using analyses and recommendations presented in their initial report. students prepare budgets for future periods and enter projections into the Pro-forma "assumptions" template. This produces pro-forma income statements, balance sheets, or both, which, in turn, become the basis for a follow-up case report.

The bottom line of the follow-up report is the explication of the implementation" strategies necessary to accomplish the sales, COGS, expenses, and profit goals shown on the Pro-forma Income Statement, or to achieve the relationship between assets, liabilities, and equity shown on the Pro-Forma Balance Sheet. Requiring students to go beyond the often-used general recommendation, "Increase sales by advertising," and, in the follow-up report, to construct the details of the advertising campaign appears to bring them to a deeper level of case study than is typically reached in a single report.

But before these specific steps are identified, students must assure that their projections can pass the acid test, "Are the Pro-forma projections realistic?" An example of unrealistic projections would be a forecast of, say, a fifty percent increase in sales and an increase of only five or ten percent in COGS. Although such changes might conceivably occur, the normal expectation is that they would not; students' responsibility for defending their projections as (1) reasonable relative to the company situation and expectations, and (2) realistic relative to one another, appear to result in more thoughtfully prepared and more logically structured plans of action.

EXPERIENCE IN THE CLASSROOM

Obviously there is little that is new and innovative in this policies model; the outcomes cited above are no more than what would be expected in a thoughtfully prepared, in-depth case report. Unfortunately, however, it is more -- and in some instances considerably more -- than we often get, particularly at the undergraduate level. One might expect better undergraduate effort to result from using the program as a consequence of two forces: (1) the total undertaking --case analysis/recommendations and pro-forma planning -- which could be rather intimidating as e single effort, has been divided into two relatively more manageable stages and (2) the program itself virtually eliminates the drudgery of the pro-forma planning and also provides a structured framework to guide students as they undertake the project.

Even though the program has been used for only several years, and then mostly during its various developmental stages, results have been encouraging. A good example of the program in classroom use was built around the situation outlined in a case entitled, Montecello Pottery. The case centered around a family-owned corporation that had three retail outlets in different cities. The outlets had been in operation for one, two, and three years respectively, and had achieved different levels of performance. As might be expected, the newest store lost money during it initial operation and a central question focussed on a course of action for the store. The major options outlined in the text case were to (1) keep the store and make it profitable, (2) sell the store, or (3) start a franchise business built around the unique Montecello Pottery concept.

Recommendations in the initial student reports covered the full range of possibilities. After the reports had been graded, a two-page Phase 2 follow-up scenario was prepared and handed out along with the reports when they were returned. The scenario summarized the initial

report recommendations and instructed that the company president wanted additional information in order to evaluate the student's recommendation further -- the initial case scenario had identified each student as a company employee reporting directly to the president. The additional information consisted of (a) pro-forma income statements for three years and (b) detailed plans for achieving the sales, COGS, and expense goals shown on the statements.

To date student reaction to the program itself has been generally favorable and mild surprise that it is not difficult to use. The most favorable reaction to the "case-extension-via-pro-forma-planning" concept came from the class from which the above example is drawn-- the class was so interested in the course of action actually taken by the firm that the instructor contacted the author of the case, and from him the president of the corporation in order to provide the desired feedback.

FUTURE EFFORT

Future developmental thrusts will center around efforts to identify and select cases having contexts amenable to Phase 2 scenario-building or financial data appropriate for use in the program. This is essential, but not as easy as it may appear.

Additional effort will be directed to trying to create a general scenario framework or model that would incorporate readily available, frequently published financial and economic indicators data. If this can be done, then case-extensions could continue for as many as four company planning cycles, and both instructor and students could use these data to game-play successive company fiscal periods.

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