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PROGRESS REPORT ON GLOBAL, A RICH MULTINATIONAL GAMING ENVIRONMENT

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ABSTRACT

This paper describes the new International Business game, GLOBAL, being developed at Georgia State University. GLOBAL is designed for use in the classroom and executive seminars. There is capacity for a total of twelve teams, headquartered in either the U.S. or a composite of Western European countries with each team being able to compete in three markets (the third one being a less developed nation). The game embodies decisions in the Marketing Production, Finance, and Accounting functions with two products requiring more than one subassembly.

INTRODUCTION

The initial need for a multinational business game perceived at Georgia State University was to provide a broad base for executive seminars, International Business courses, and perhaps an optional version of the required Business Policy course. Unfortunately, in spite of the existence of several games specifically pertaining to International Business, no single game was found to meet the requirements expressed below.¹ Several other games, especially OPSTAC [1], DOG [2], and SIMQ [4], that have already been in use at Georgia State University, were carefully scrutinized with respect to their adaptability for international business, but it was felt that the effort required for adapting a flimsy shell of multinational features would be at least as great as that for a game developed from scratch.

Since no other approach met the perceived needs, a research group² from the departments of Finance and Quantitative Methods undertook to design and construct the required game. This paper is an interim report on the group's progress.

From the very beginning, in light of our teaching experience in International Business as well as our experience in developing and using games, it was decided that the following characteristics would be desirable in a game:

- (1) The game should emphasize the differences and similarities among different (developed as well as developing) countries in terms of differing national tastes, incomes, and degrees of national chauvinism. Labor markets should reflect the impact of economic development on the cost and availability of skilled labor. Further, different economic effectiveness of products and technologies.
- (2) The game should provide flexible opportunity to reflect plausible regulatory behavior (e.g., transfer pricing rules, funds repatriation, tariffs, ownership) of host governments.
- (3) The reports of U.S. parent firms should be realistic in that they meet the standards established by the Financial Accounting Standard Board and observed by the U.S. Multinationals.

- (4) The structure of the game should embody aspects of International business theory such as an updated version of the product life cycle theory, offshore borrowing and lending, and exposure management in the face of fluctuating exchange rates.
- (5) It should be possible to de-emphasize portions of the game to support relatively narrow objectives such as an International Finance or International Marketing course may have.
- (6) It should be possible to implement the game on available mini- and/or micro-computers in order that it be economically feasible to use it at remote sites in support of executive seminars.
- (7) Administration of the game should be as free as possible of the traditional administrative hassles caused by mislocated data fields, extra or missing zeroes, dependence on a player who has dropped the course, and so forth.

As realists, we recognized from the beginning that no existing game was likely to meet all of these requirements. It turned out that we found none that came close enough to be even marginally satisfactory for our purposes. This is the reason for the development of the game we now describe.

DESCRIPTION OF THE GAME

The purpose is to allow the participants to gain insight in the functioning of the multinational firm through the stimulated experience of planning and decision-making in such firms. These firms are headquartered in either the U.S.A. or one other developed country, D.C. (a composite of several members of the E.E.C.). They not only compete with each other in the U.S. and the D.C., but also in the Less Developed Country, L.D.C., a composite of several developing countries. All firms of a given country initially have identical characteristics in terms of marketing, production, and finance functions, although they differ considerably from competing firms headquartered in the other country. Countries have different responses to demand stimuli, product configurations, research and development efforts, resource allocation processes and capital structure revamping, and ultimately to the very entity of the multinational firm.

This game will be unique vis-à-vis several existing International games in many respects. First, the game is to be adequately flexible to permit a desirable depth for a variety of participants--including those who have only a passing familiarity with the scope of international business. Second, an ideal sequencing--which need not be adhered to in all instances--of the game would progress as follows. The first stage deals

¹ For an excellent review of other games, see Keys [3].

² The group also includes: Stephen Timme, Brian Schott and Jim Moore, Georgia State University, and Ronald Klein, Columbus College.

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with operations orientation (logistics of production and distribution decisions as well as funds deployment in a variety of forms). Strategic decisions (expansion of capacity in one of the three locations, sourcing in-progress goods, or development of a new product versus redesigning of the existing product, etc.) are taken up in the second stage. A crisis situation (which may involve unforeseen contingencies such as strikes, floods or nationalization) is handled during the third stage. A stage may comprise of one or more annual decision periods. The minimum length of play of the game is visualized as five full-time days, and play can last as long as one full semester. Reading materials, lecture notes, and cases are being developed to mesh with this sequence of play.

Third, because the focus of the game is on strategy development rather than strict operations orientation, the drudgery of the latter set of decisions would be reduced by developing a Decision Support System to be utilized on minicomputers or terminals to be made available to each of the teams. Thus, each team would have an access to programs, for, say, demand forecasting showing impact of advertising efforts in a given country; production logistics; and accounting and economic exposure consequences of a given set of decisions. This procedure would permit a great deal of realism in the game without letting the participants feel overwhelmed by the sheer complexity of the decision-making apparatus.

Finally, the game will have sufficient flexibility to permit participants to deal with one or more functional areas in real depth without getting concerned with the remaining decisions or with overall strategy formulation. For instance, in a training program for marketing executives, the focus can be strictly on development of marketing strategies without requiring an in-depth treatment of, say, exposure management (this would be accomplished by putting financial decisions-- some or all--in an automatic mode).

There are at most 12 teams, six with the U.S. headquarters, and the other six based in the D.C. It is possible to play the game with only the U.S.-based teams; however, it is desirable to have at least one team from the D.C.--an administrator's team, if the need calls for it. Each team can have as few as four and a maximum of thirteen members: the task is overwhelming for a smaller number and unwieldy for a larger number than this range. These teams begin the game with a consumer durable good (with some industrial demand) that resembles a futuristic type of household electronic device; at this juncture, demand in both the U.S. and the D.C. is sufficient enough to sustain local production, although the same cannot be said about the L.D.C.

The product is composed of two subassemblies requiring different types of labor (skilled vs. unskilled) and capital inputs. These subassemblies can be made anywhere in the three countries with differing economic efficiencies and shipped to a final location for assembly. Finished products can be shipped to any market within the framework of local regulations. Teams may enter or withdraw from a market as they wish, but the shell of the subunit remains (thus, total abandonment of a subunit is not permitted).

The money markets of the U.S.A. and D.C. are well developed, allowing long and short term borrowing, equity markets, and foreign exchange markets. The parent firms may borrow and lend as well as sell stock as needed in their home markets. The parents also have access to Euro-markets for loans in the

currency of their home country. Forward contracts are allowed for the currencies of the U.S.A. and the D.C. The money market of the L.D.C. is not developed and thus only short term borrowing is allowed. Intracompany loans are allowed, but exorbitant (or give-away) prices lead to fines and other problems with the host governments.

Once the demand for the existing product has reached a plateau, the teams are informed that a new technology has a potential for developing a superior new product that is like the video recorder as compared to black- and-white television. Nevertheless, commercialization of such a product would involve huge sums of R&D expenditures. Of course, there is no guarantee that a given sum would ensure successful commercial development of the product. Nor would there be any assurance that demand for the new product (having a larger Industrial market potential initially) would follow the pattern of demand for the existing product.

The element of uncertainty is not confined to the marketing function. Availability of skilled labor is restricted by demographic and economic growth factors. Floating exchange rates, fluctuating interest rates, and volatile markets can play havoc with financial results in nominal as well as real senses.

PRESENT STATE OF DEVELOPMENT

The GLOBAL game is currently in the final stages of software development. The accounting package is now under development and should soon be completed. Mathematical validation of the marketing and production modules has been completed. The remaining software development tasks, the front and rear-end drives should fall in place soon afterward.

Parametric validation of the game is the next major task to be tackled by the development group. Data gathering has already been completed but must be built into the history files. The game will be played several times using different strategies in each test, with the results being checked for consistency and reasonableness. The game's parameters will be fine tuned throughout the process.

The group has followed a policy of maintaining a central clearing house for all information developed by the individual members. Strict control on documentation will also facilitate the task of preparing the operational manuals for the instructor as well as participants.

The present timetable calls for faculty testing to begin in the Spring Quarter of 1980 and classroom testing in the Summer Quarter. Formal completion of the project should be achieved by the Fall of 1981.

CONCLUSION

The GLOBAL game should achieve all the goals set by the group. However, the task is only partially complete. Supporting software packages for student use must be developed. These packages, to take some of the computational burden from the students, are still in the conceptual stage. Likewise, the overall package for use in seminars must still be developed. This package includes the development of the program of study to be compatible with the game. Lectures must be defined and developed in the same fashion that the game was defined and developed. This task is still ahead of us.

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