CURRENT STUDENT PERCEPTIONS RELATIVE TO BUSINESS SIMULATIONS

Joseph N. Roger, Northeastern State University

ABSTRACT

This study utilizes a survey that presents a series of questions in the form of Liken-like scales in order to determine the effectiveness of *The Executive Game* from the perspective of the student. A Chi-Square analysis of the data that was collected, along with an index that was calculated to measure the positive, negative, or undecided nature of the group's response, provides a validation of the effectiveness of business games as effective supplemental tools from the perspective of the student.

An analysis of the results suggest that students exposed to *The Executive Game* as a component of their business degree course work perceive their experience as positive. They vary the strategies that they employ during the game in their efforts to learn and to win. They would recommend such courses to their friends based on what they have learned and would take another course in which the game was utilized to present business concepts.

This study concludes that, from the viewpoint of the students involved, the business game is an effective supplemental educational tool. Specifically, this study provides an indication of positive student response to seven areas identified by the literature in which business games may be effective.

PROBLEM STATEMENT

The intent of the business game is to provide an effective supplemental educational tool. While most of the literature supports the continued use of such simulation games, a small number of researchers have suggested that there is no substantive evidence that games are any more effective than other more traditional forms of education (Buskirk. 1976). For this reason, it may be of interest to, and provide constructive information for, future research to understand the student's perspective of the business gaming simulation experience.

Like most research projects of this type, perhaps its main limitations were due to time and resources. Other limitations included nonrandom convenience sampling, sample size, and the tune lag between the survey administration and the actual game experience of the student.

METHODOLOGY

Kibbee, Craft, and Nanus suggest validating games used for teaching purposes. One method they discuss involves surveying the players in order to determine their reactions to the game (Watson, 1981). The methodology of this study revolves around such a survey.

The population sample was selected by requesting students to complete a questionnaire for the purpose of this research. The requests were limited to those students who were attending classes at a small southern university and who had previously played *The Executive Game.* Specifically, instructors were asked to distribute and collect the forms in their classes for those students described above who had not previously completed the survey instrument. The instrumentation for this research concerned itself mainly with the seven areas where business games are thought to be effective. In addition, several questions related to demographics were included. The survey was refined by a panel of judges that had previously played the game. Data processing and analysis covered percentage calculations, central tendency measures, and a chi-square analysis for the non-demographic questions. Demographic questions were limited to percentage calculations.

Chi-Square was calculated using the appropriate formula:

$$X^2 = \sum_{i=1}^{k} ((O_i - E_i)^2 / E_i)$$

H_0: and H_A were defined as follows:

H_0: Responses are uniformly distributed

H_A: Responses are not uniformly distributed

The degrees of freedom used in determining the critical chi-square value was determined in the following manner:

df=k- 1=4 where k is the number of categories

At a .01 level of significance the resulting critical chi- square value was:

$$x^2_{.01} = 13.2767$$

It should be noted that the overall response to a question, as determined by the preference index described below, could be undecided without the sample response being uniformly distributed. In fact, if the null hypothesis were rejected for any question response and the preference index for that response indicated that the sample group was undecided, this result would not be due to a uniform distribution. It should also be noted that the chi-square goodness-of-fit test resulted in the null-hypothesis being rejected in all cases at the .01 level; therefore, we were 99% confident that the responses to the survey questions were not uniformly distributed. In essence, each response reported by the preference index, whether positive, negative, or undecided, was due to a non-uniform response distribution.

The preference index was defined here as a measure of the positive, negative, or undecided nature of the overall response of the sample population to a non-demographic survey question. It was computed based on the values assigned to the Liken scale categories that defined the question response and the frequency of occurrence of the particular responses expressed as a ratio of a totally undecided response. Therefore, its value was relative to undecided: that is, a preference value of one represented an overall undecided response, a preference value greater than one represented an overall positive response, and a preference value less than one represented an overall negative response.

The specific values assigned to the categories were as follows:

strongly agree	→	5
agree	→	4
undecided	→	3
disagree	→	2
strongly disagree	→	1

Therefore, the range of the preference index was:

(1 x 36) / (3 x 36) to (5 x 36) / (3 x 36)

or

0.33 to 1.67

The index was described computationally by the following formula:

(category value x frequency of occurrence) /(3 x 36)

It should be recognized that this research was limited. Some of its main limitations were due to time and resources. Other limitations included non-random convenience sampling, sample size, and the time lag between the survey administration and the actual game experience of the student.

CONCLUSIONS AND RECOMMENDATIONS

Student perceptions were positive to all non-demographic questions presented with the exception of question eleven. The negative overall response to this question indicated that students were involved in experimentation and were therefore engaged in the learning process. The positive overall responses to all other questions also tend to validate that the business game is an effective supplemental educational tool.

It is recommended that business games continue to be used to supplement course work. Furthermore, it is suggested that additional research might concern itself with similar studies that involve larger sample size, random sample selection, and a comparison of the differences between the preferences reported by graduate and undergraduate students.

REFERENCES

Available on request