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# THE BUSINESS STRATEGY GAME: A PERFORMANCE REVIEW OF THE NEW ONLINE EDITION

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## ABSTRACT

*Several previous studies have shown consistent performance results in total enterprise simulations. That is, teams that lead at the end of the exercise tend to have led from the beginning, and their lead grows as the decision series continues. The same pattern is observed in the new online version of the Business Strategy Game, but growing performance leads, although present, are not as pronounced.*

## INTRODUCTION

Past studies (Patz, 1999, 2000, 2001) have shown consistently that total enterprise (TE) simulations have a predictable performance pattern. That is, teams that lead at the end of the exercise have led from the beginning and their lead grows as the decision series continues. This is the case for MICROMATIC (Scott & Strickland, 1985), the Multinational Management Game (Edge, Keys & Remus, 1985), CORPORATION (Smith & Golden, 1989), and the Business Strategy Game (Thompson & Stappenbeck, 1997).

Similarly, using the Business Strategy Game (Thompson & Stappenbeck, 1999, 2001, 2002), most teams that are advised to attend to specific strategic variables do not do so (Patz, 2002, 2003, 2004, 2005). Research findings indicate that the learning of and attention to strategy ratings led to superior and large performance differences between winning, first place teams, and last place teams.

This study focuses on the new online Business Strategy Game (Thompson & Stappenbeck, 2005) in order to determine whether or not these consistent results continue. There are specific instructions on what is important in the competition. So, does the convenience of online participation change performance patterns?

## HYPOTHESES

Based upon the results summarized in the preceding paragraphs, the hypotheses for this study are obvious for the online Business Strategy Game (BSG):

***H1:*** During a BSG exercise, leading teams at the end of the exercise will have led throughout the competition.

***H2:*** During a BSG exercise, leading teams will increase their lead throughout the competition.

## METHOD

A BSG TE simulation was conducted in 6 sections of an undergraduate, capstone strategic management course over a period of 3 semesters. Each section formed an independent industry, and a total of 275 students participated. All students were seniors majoring in the various fields of business administration.

After one class session devoted to the clarification of simulation rules, evaluation procedures, and decision-making mechanics, a two-year practice decision sequence was completed. Questions pertaining to the results of each session were answered and the evaluation procedure was restated. That is, students were reminded that the cumulative scores at the end of the simulation were the figures of merit. They were reminded also of the relevant TE simulation manual pages before both practice decisions and all subsequent real decisions.

The importance placed on ending cumulative scores rather than current period results emphasizes long- rather than short-term strategies. Moreover, attention was directed to three specific conditions. First, the actual ending period of the simulation would remain unknown. (Each period is a year in the BUSINESS STRATEGY GAME, and the length of the semester allowed for a maximum of ten periods of play.) Second, all teams were expected to end their management tenure with a going concern, not a firm stripped of long term potential in order to gain short-term ranking enhancements. Third, 20% of the semester grade for the course depended on ending cumulative score rankings.

Decisions were due at specific times, processed by the simulation model, and the results were available to participating teams immediately. This allowed seven days before the next set of decisions, required on a weekly basis for six consecutive decisions.

## SIMULATION SCORING

In all trials of this simulation, five scoring dimensions are important: earnings per share (EPS) return on equity (ROE), credit rating, image rating, and stock price. These

scores, however, are used in two different ways. (Refer to the user's manual for the precise scoring procedures.)

The first one is *investor confidence*. It depends upon how each team meets five goals of the board board of directors:

1. Grow earnings per share at least 7% annually through Year 15 and at least 5% annually thereafter.
2. Maintain a return on average equity investment (ROE) of 15% or more annually.
3. Maintain a B+ or higher credit rating.
4. Achieve an image rating of 70 or higher.
5. Achieve stock price gains averaging about 7% annually through year 15 ad about 5% annually thereafter.

The second one is the *best in industry standard.* In this case each team is compared with the industry leader on the same five scoring dimensions. With a weight of 20% on each dimension, the cumulative ratings of each team depends upon the leading firm in the industry. For example, if the cumulative EPS of the leading team is 10%, and the second place team's is 8%, then the second place team's score on that dimension is (8/10)(20) or 16.

Finally, 50% of each the *investor confidence* and *best in industry standard* scores determined each team's yearly and cumulative scores—beginning with year 11 after a ten-year history.

**Table 1**

| | High-Medium-Low Main Effects | | Interaction Effects | |
|---|---|---|---|---|
| Industry | F | p | F | p |
| 1 | 10.29 | .008 | .179 | .997 |
| 2 | 15.85 | .003 | 3.171 | .005 |
| 3 | 13.63 | .003 | 3.151 | .005 |
| 4 | 27.93 | .001 | 6.225 | <.0001 |
| 5 | 6.86 | .051 | 2.618 | .025 |
| 6 | 72.55 | <.0001 | 2.257 | .042 |

**Individual Industry Analyses of Variance**

**Figure 1 - Industry 1**

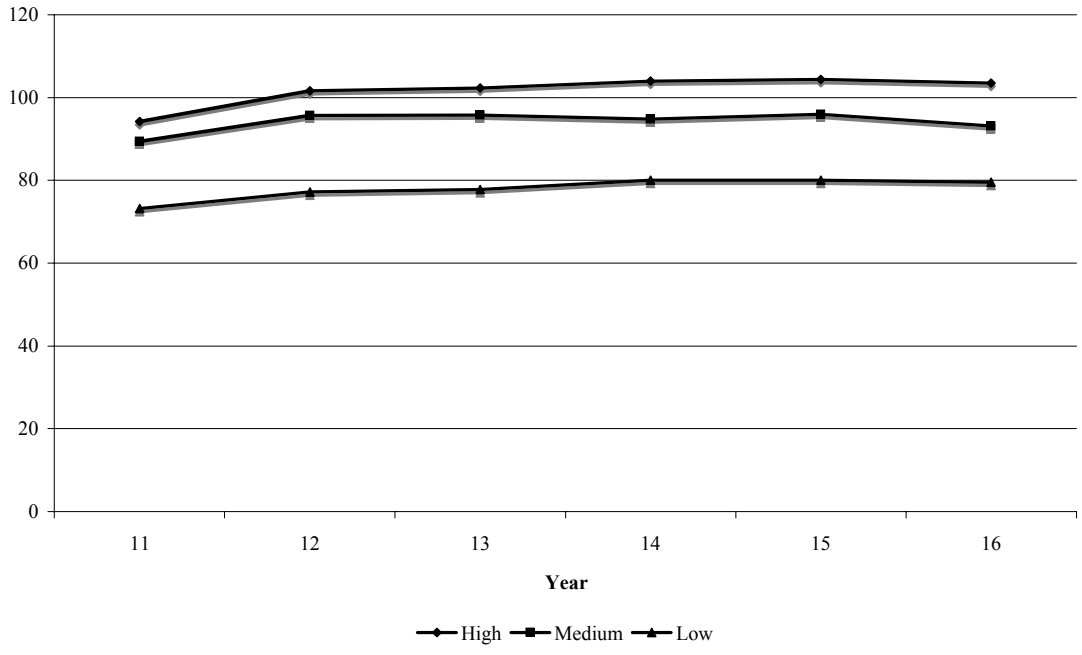


**Figure 2 - Industry 2**

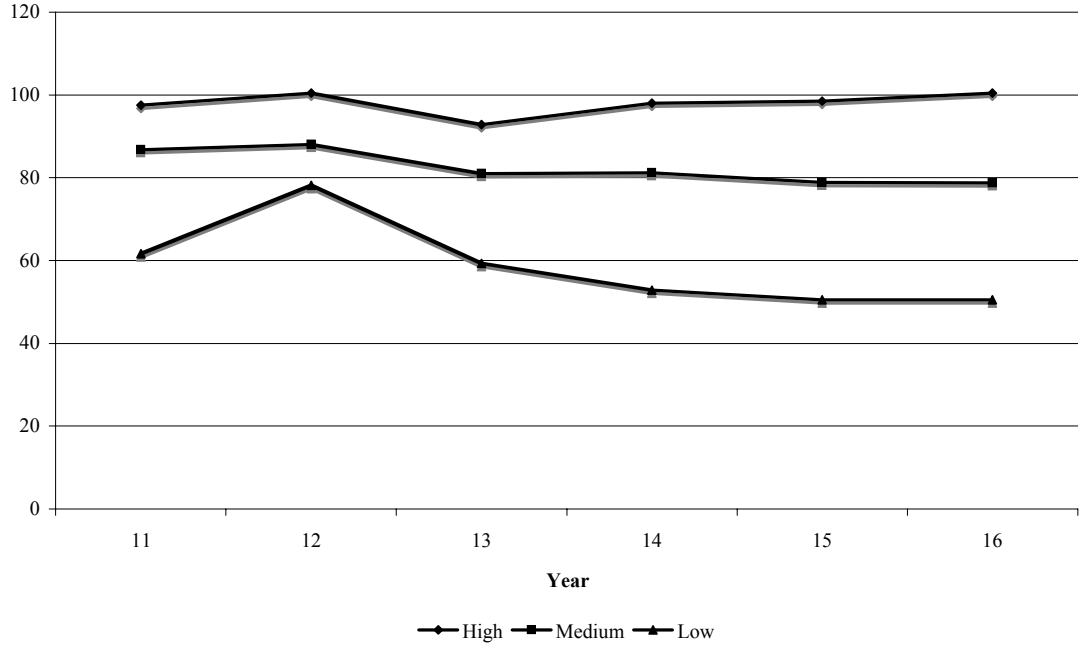



**Figure 3 -Industry 3**
**10 Firms - 49 Participants**

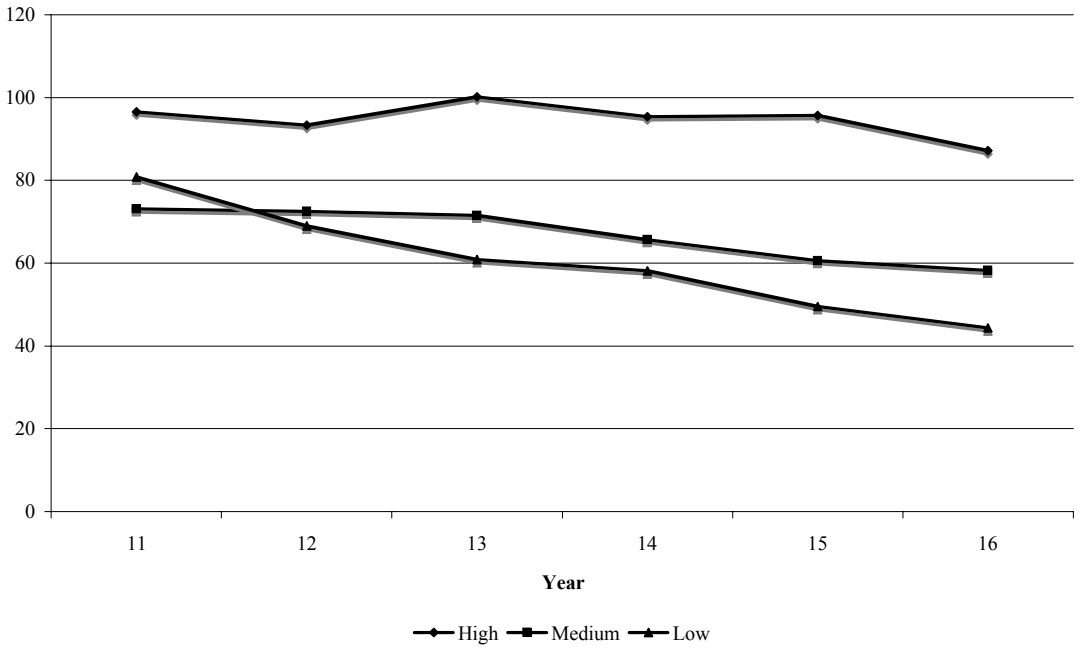


**Figure 4 - Industry 4**

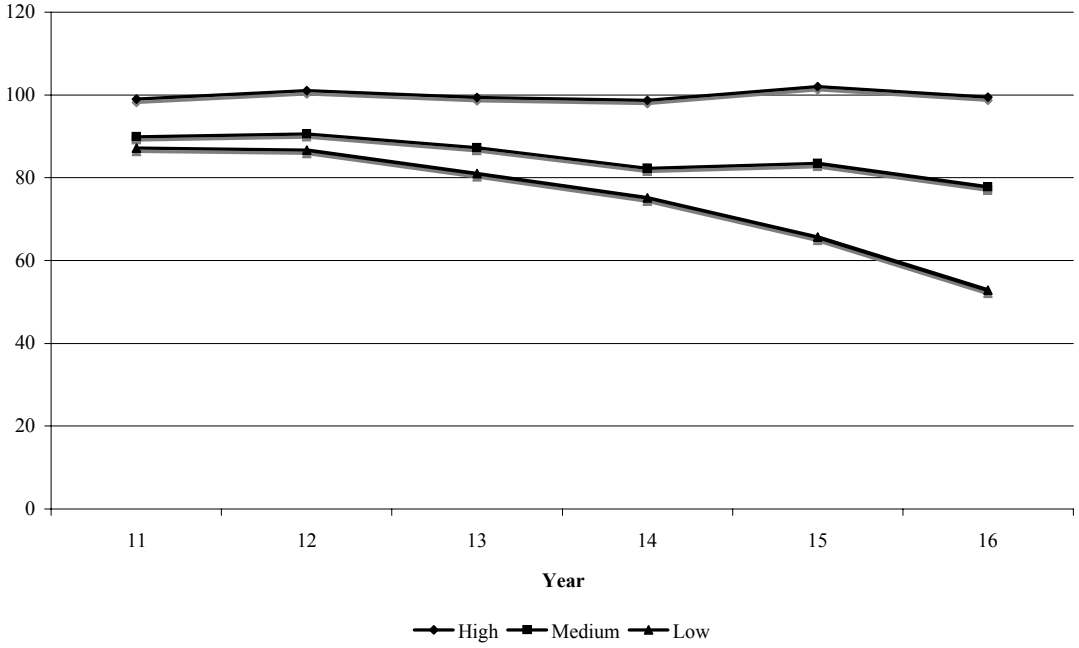



**Figure 5 - Industry 5**

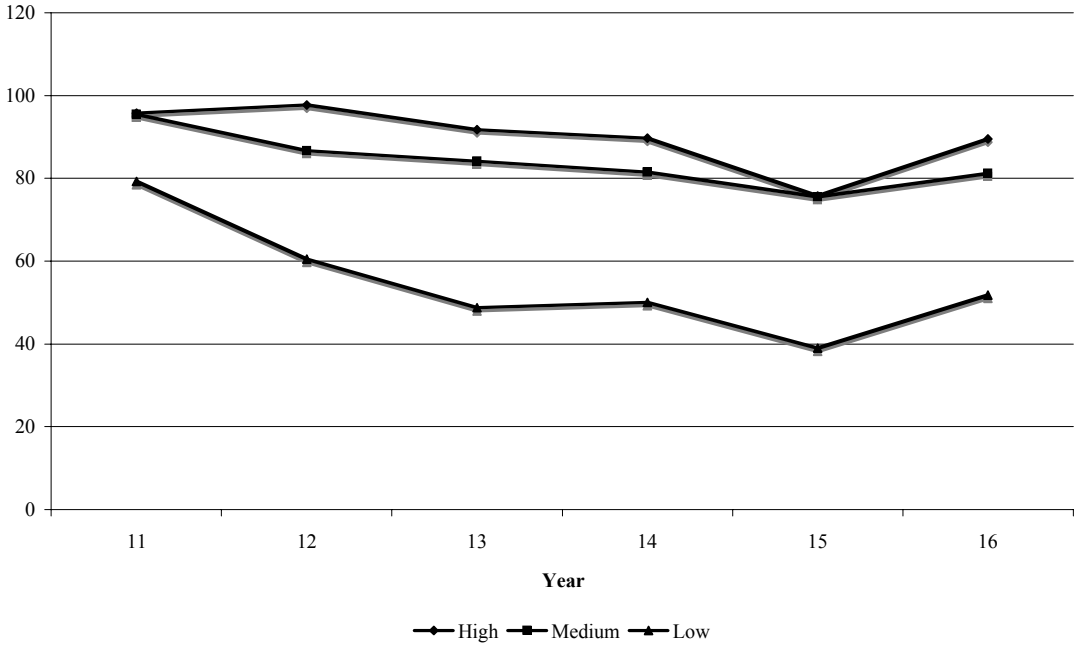
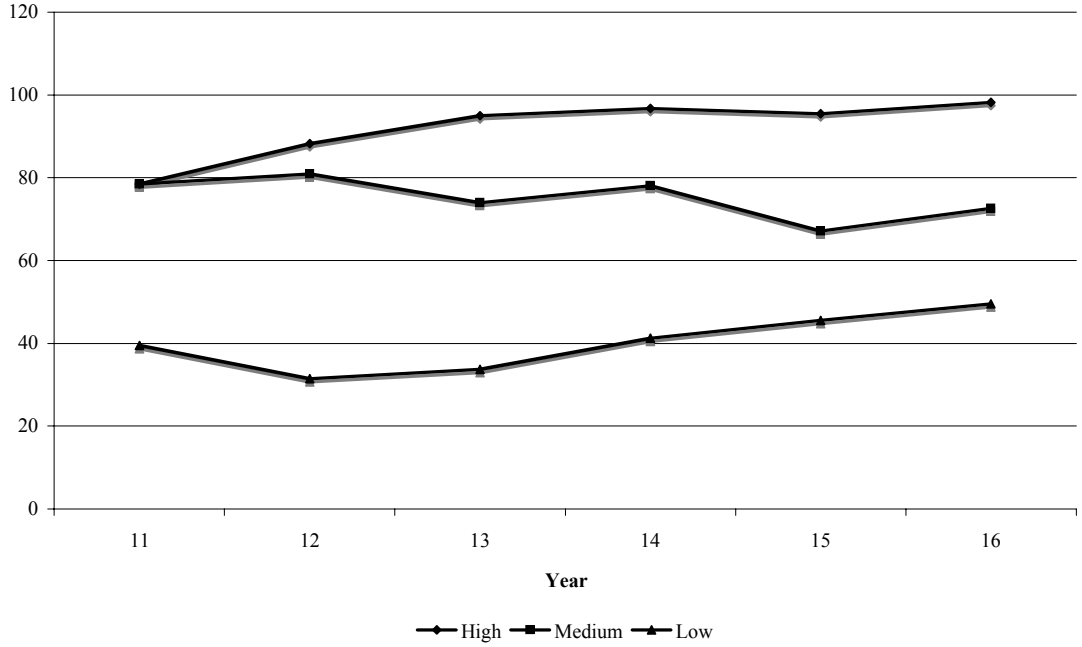


**Figure 6 - Industry 6**




## RESULTS

Performance results for each of the six industries (sections) and all six combined are shown in Figures 1 through 7 and Tables 1 and 2. The statistics for each of the individual six industries summarized in Table 1 indicate that both hypotheses ***H1*** and ***H2*** are confirmed for each industry except Industry 1.

That is, all leading teams at the end of the exercise led and increased their lead throughout the competition.

The main effects—high, medium, and low finishes—are significant as well as the interaction effects over the six period competition. Differences between high, medium, and low finishes increased.

However, when combining all six industries for an overall analysis of variance, the interaction effect disappears ($F = 1.7$, $p = .1062$) These results are summarized in Table 2 and Figure 7.

## DISCUSSION

As already noted, previous BUSINESS STRATEGY GAME studies indicated that the learning of and attention to strategy ratings led to superior and large performance differences between winning, first place teams, and losing, last place ones. Other variables, such as price did not matter. The ones that did—and formed the basis of an eight-point strategy rating system—were broad or focused product line, quality, service, brand image, low cost, market share leadership, superior value, and global or focused coverage.

The new online version of this simulation has eleven competitive factors that drive market share. They are:

1. Wholesale selling price for branded footwear
2. S/Q or Styling/Quality rating
3. Product line breadth
4. Advertising expenditures
5. Mail-in rebates
6. Appeal of celebrity endorsements
7. Number of weeks it takes to deliver orders to retailers
8. Support offered to retailers in merchandising and promoting the company's brand
9. Number of independent retail outlets carrying the company's brand
10. Effectiveness of the company's online sales effort on its Web site
11. Customer loyalty

There are several facets to each one of these factors, and the two practice decisions are essential for obtaining participant familiarity with their complexity.

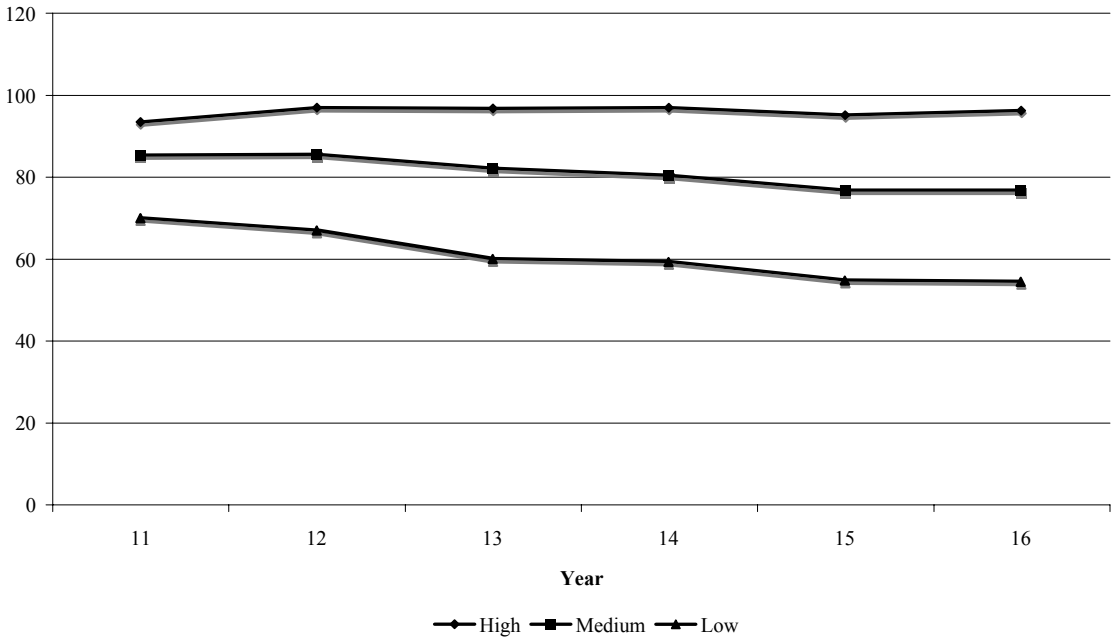
Nevertheless, even with this added complexity, Table 2 and Figure 7 exhibit a different result from the ones obtained in the previous studies. *All teams appear to learn, just at different rates.*

**Table 2**

| *Source* | *SS* | *df* | *MS* | *F* | *p* |
|---|---|---|---|---|---|
| Between Ss | 31017 | 17 | | | |
| Hi-Med-Lo | 22088 | 2 | 11044 | 18.6 | <.0001 |
| Ss w Groups | 8929 | 15 | 595 | | |
| Within Ss | 5134 | 90 | | | |
| Groups | 975 | 5 | 195 | 4.3 | .0017 |
| Hi-Med-Lo x Groups | 753 | 10 | 75 | 1.7 | .1062 |
| Groups x Ss w Groups | 3405 | 75 | 45 | | |

**Analysis of Variance for All Industries Combined**

**Figure 7 - All Industries**
**55 Firms - 275 Participants**




Two findings supporting this conclusion are summarized in Table 2. The first one, already noted, is the lack of an interaction effect. The differences between high, medium, and low performing teams remained constant over the six-period competition. The second is that even within the high, medium, and low performing groups, the different teams within each one learned at different rates ($F = 4.3$, $p = .0017$).

In short, this suggests at least two areas for future research. The first is concerned with how TE simulation complexity and learning interact. Secondly, what sort of TE simulation models will allow administrators to adjust complexity during a competition? For example, increase complexity as the competing teams begin to demonstrate comparable skills.

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