

SOME STRATEGISTS DON'T LEARN OR CAN'T LEARN

Alan L. Patz

University of Southern California

alanpatz@mac.com

ABSTRACT

This study continues the examination of strategy learning in THE BUSINESS STRATEGY GAME. Findings in the first study—with an earlier version of this simulation—indicate 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 teams. A second study—using a greatly expanded version of the simulation—led to the same results. The study reported in this paper shows that the same results are obtained even when competing teams are reminded of the strategy rating importance and the relevant simulation manual pages before both practice decisions and all subsequent real decisions.

INTRODUCTION

Two recent studies (Patz, 2002, 2003) using THE BUSINESS STRATEGY GAME (Thompson, A. A., & Stappenbeck, G. J., 2002) show 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, do not matter. The ones that do—and form the basis of an eight-point strategy rating system—are broad or focused product line, quality, service, brand image, low cost, market share leadership, superior value, and global or focused coverage.

This particular total enterprise (TE) simulation is concerned with manufacturing and marketing of athletic shoes—both branded and private label—using US dollars, Eurodollars, Japanese yen, and the Brazilian real in North America, Europe, Asia, and Latin America respectively. Participating teams also compete with celebrity endorsements, on the Internet, and with company owned retail stores.

In addition to the strategy rating, each team is measured on five other dimensions. They are sales revenue, after tax earnings, return on equity, bond rating, and company value.

However, it is the strategy rating system that is pivotal in the two above noted studies. In both cases the winning teams had significantly higher strategy, demand, and overall performance scores. Except for unit manufacturing costs in the first study, the winning and losing teams have no significant pricing or unit manufacturing cost differences. But, the losing teams had significantly higher unit marketing costs.

THE RESEARCH QUESTIONS

Therefore, the bases for this study are: What if the strategy rating system is emphasized continuously for all competing

teams, for each set of decisions? Will the large, statistically significant performance differences between winning and losing teams be reduced?

HYPOTHESES

Therefore, continuing the strategy learning focus of the previous studies, the same hypotheses apply using the standard equation $\pi = pq - c(q)$. As before, π = profit, p = price, q = quantity sold, and $c(q)$ = cost of manufacturing and marketing. Each hypothesis refers to a comparison between first place and last place firms (winners and losers, or **W** and **L**).

H1: Price is not an important **W** and **L** distinction.

H2: **W** firms will experience higher quantity demands than **L** firms.

H3: **W** firms will have lower unit manufacturing costs than **L** firms.

H4: **W** firms will have lower unit marketing costs than **L** firms.

Most important is the strategy dimension:

H5: **W** firms strategy ratings will exceed those of **L** firms.

Of course, the first test will be whether or not the performance ratings of **W** firms exceed those of **L** firms. This consideration is obvious and will be the first result presented.

METHOD

A TE simulation was conducted in 6 sections of an undergraduate, capstone policy course over a period of 3 semesters. Each section formed an independent industry, and a total of 260 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 strategy rating importance and 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.)

Developments in Business Simulation and Experiential Learning, Volume 31, 2004

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 within two days. This allowed five days before the next set of decisions, required on a weekly basis.

In all trials of this simulation, the importance of each dimension in the overall percentage performance ratings is as follows: sales revenue, 5; after tax earnings, 15; return of equity, 20; bond rating, 20; company value, 20; and strategy rating, 20. The sum, of course, is 100%; and, as a result, each team received a current period and game-to-date score between 0 and 100.

Furthermore, the participants were privy to the algorithm that determines cumulative scores in the simulation. These scores depended upon how each team's cumulative results compared with the leading team's results on each of the above noted six dimensions and their percentage weights.

For example, if the cumulative sales of the leading team are 100, and the second place team's cumulative sales are 80, then the second place team's score on that dimension is $(80/100)(5)$ or 4 where 5 is the above percentage weight assigned to sales revenue. Each team received a weekly (one year) summary of their year and game-to-date results, and prepared their next decisions based upon these statistics and a vast amount of other data provided by the TE participant's program.

RESULTS

Six years of actual decisions were completed, and the key findings of this study are presented in Tables 1 and 2 and Figures 1 through 5. For example, the two-factor repeated measure analysis of variance shown in Table 1 indicates that on a 0 to 100 performance scale, the average result for winners (**W**) over the six years, 57.5, was significantly higher than the 17.1 average for losers (**L**), $F = 19.73, p = .0012$. This was true for each of the six years, $F = 10.38, p < .0001$; and the performance by years interaction, $F = 1.33, p = .27$, indicates that the large performance difference was fairly constant over the six years—due to its lack of significance.

THE BUSINESS STRATEGY GAME is a multinational TE simulation that permits competitors to manufacture and market athletic shoes in North America, Europe, Asia, and Latin America as well as private label and internet sales. Hypothesis *H1* notes that pricing will not be an important **W** and **L** distinction. This is the case as shown in the summary of statistical results for all three studies listed in Table 2. For each variable, the first line is for the first (Patz, 2002) study; the second line is for the (Patz, 2003) study; and the third line is for this study.

In short, hypotheses H1, H2, and H5 are confirmed. Price is not an important W and L distinction; W firms have higher quantity demands than L ones; and most important, the strategy ratings for W firms exceed those of L firms. Also, except for the first study, unit manufacturing costs are the same for W and L

firms--H3 is not confirmed. However, H4 is confirmed; W firms have lower unit marketing costs than L ones.

DISCUSSION

The first study of this series (Patz, 2002) did not have the additional features of the next edition of THE BUSINESS STRATEGY GAME (Thompson, A. A., & Stappenbeck, G. J., 2002). This later edition—used in the second study (Patz, 2003)—included internet marketing and online sales, Latin America as a new geographic region, an option to open a chain of company owned retail stores, revised beginning plant capacities, and restrictions on plant capacities when worldwide demand is 25 to 50% below worldwide production potential. As noted previously, the Brazilian real is the Latin American currency.

This third study used the revised edition of the simulation, and the results were consistent with the first two. When participating teams are advised constantly to pay attention to the strategy rating dimension, no important differences are observed. Winning, **W**, teams repeatedly outperform losing, **L**, ones. Strategy learning does not occur.

POSSIBLE EXPLANATIONS

Motivation is one possible reason for these results. That is, all student groups are not equally interested in TE simulations. Their participation is elicited because it is necessary to complete the course.

But, this is doubtful given the exuberance with which lower performing teams seek advice and suggestions from the game administrator.

Another one is ability. Lower performing groups consist of individuals who are not competent analysts with market and financial data. Again, this is doubtful given the high class rankings of many members in lower performing team

FUTURE RESEARCH DIRECTIONS

Several other hypotheses are possible. For example, TE simulation designs to not permit teams to recover after early failures in the initial decisions.

These are all subjects for additional research, but the research needs to be moved from the classroom laboratory to actual business circumstances. Are these same phenomena observable in actual industries? Is the available data sufficient to conduct a study—given the usual vagaries of market and financial data? The last two questions are the ones that will guide future research on strategy learning.

REFERENCES

- Patz, A. L. (2002). "Strategy Learning in a Total Enterprise Simulation." *Developments in Business Simulation and Experiential Exercises*, Volume Twenty-Nine, 143-148
- Patz, A. L. (2003). "Revisiting Strategy Learning in a Total Enterprise Simulation." *Developments in Business*

Developments in Business Simulation and Experiential Learning, Volume 31, 2004

Simulation and Experiential Exercises, Volume Thirty, 213-219.

Thompson, A. A., & Stappenbeck, G. J. (1999). *The Business Strategy Game: A Global Industry Simulation* (6th ed.). New York: McGraw-Hill Irwin.

Thompson, A. A., & Stappenbeck, G. J. (2001). *The Business Strategy Game: A Global Industry Simulation* (7th ed.). New York: McGraw-Hill Irwin.

Table 1

Performance Analysis of Variance Summary

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Ss	44241	11			
Performance	29362	1	29362	19.73	0.0012
Ss w. Groups	14879	10	1488		
Within Ss	23061	60			
Years	11025	5	2205	10.38	<.0001
PerformancexYears	1410	5	282	1.33	0.2682
YearsxSs w. Groups	10626	50	12		

Figure 1: Performance Scores

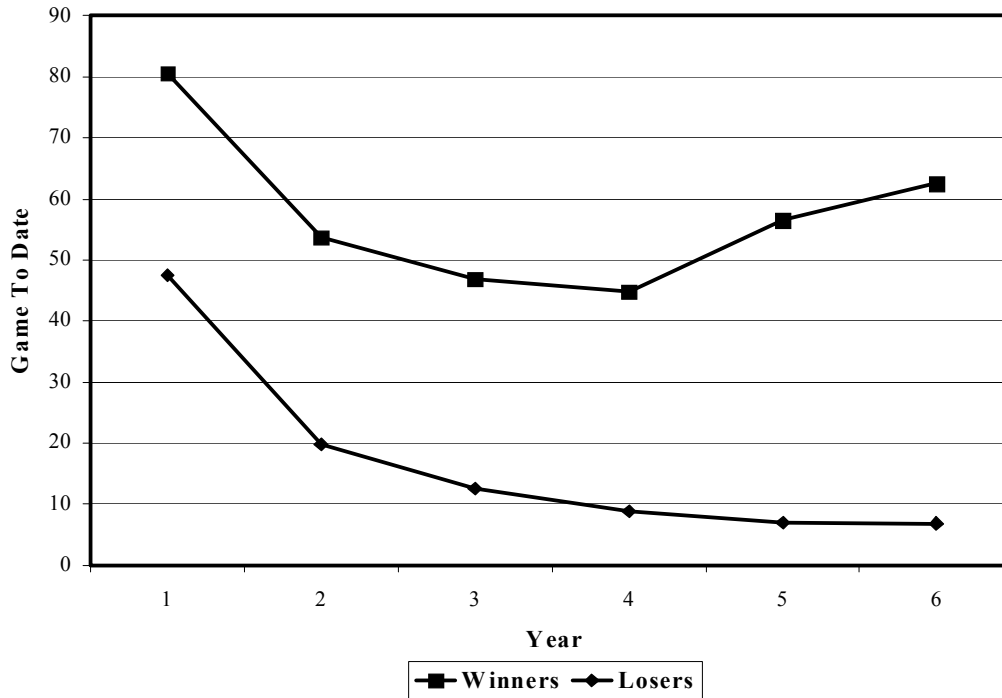


Table 2

Three Studies Analyses of Variance Summary

	<i>Winners</i>	<i>Losers</i>	<i>Difference</i>	<i>p</i>
Performance	81.2	28.4	52.8	<.0001
	64.5	22.0	42.0	.0003
	57.5	17.1	40.3	.0012
Demand (Units)	6688	3076	3612	<.0001
	7103	3286	3817	.0011
	7101	3035	4066	.0011
Strategy Rating	82.8	36.9	45.9	<.0001
	94.5	34.5	60.0	.0002
	84.1	35.7	48.4	.0011
Unit Costs				
Manufacturing	19.4	44.5	(25.1)	<.0041
	21.7	24.3	(2.6)	.2483
	22.4	22.7	(0.3)	.5937
Marketing	5.1	9.1	(4.0)	.0211
	7.8	20.7	(12.9)	.0189
	7.8	15.2	(7.4)	.1101
Pricing (All Areas)	Not Significant			

Figure 2: Demand

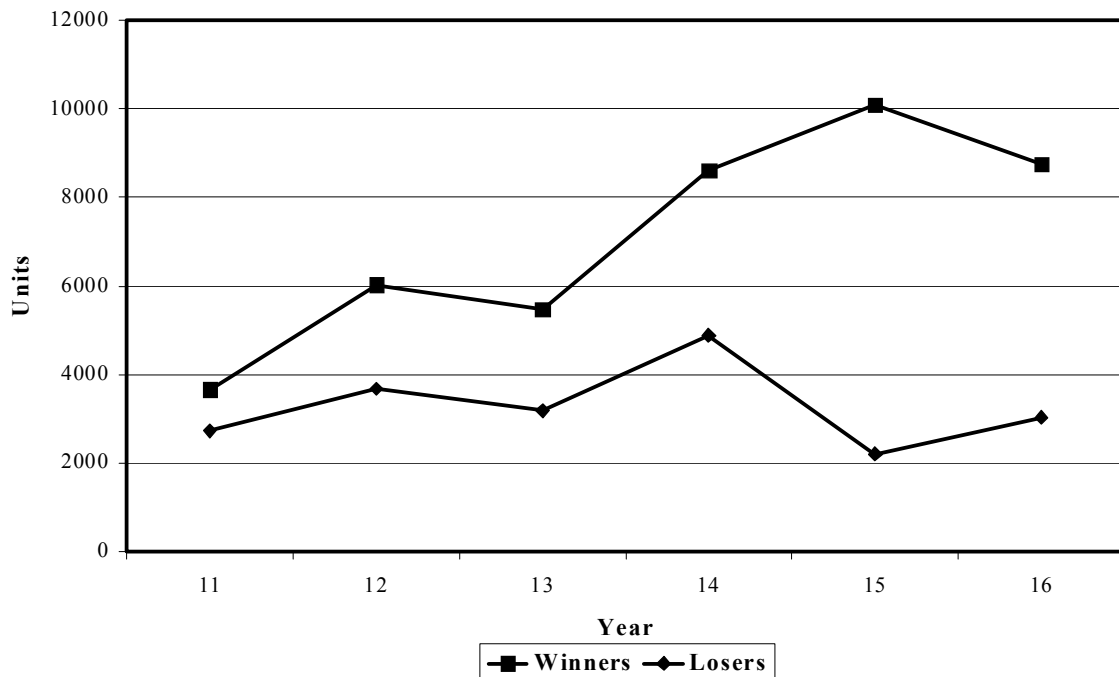


Figure 3: Strategy

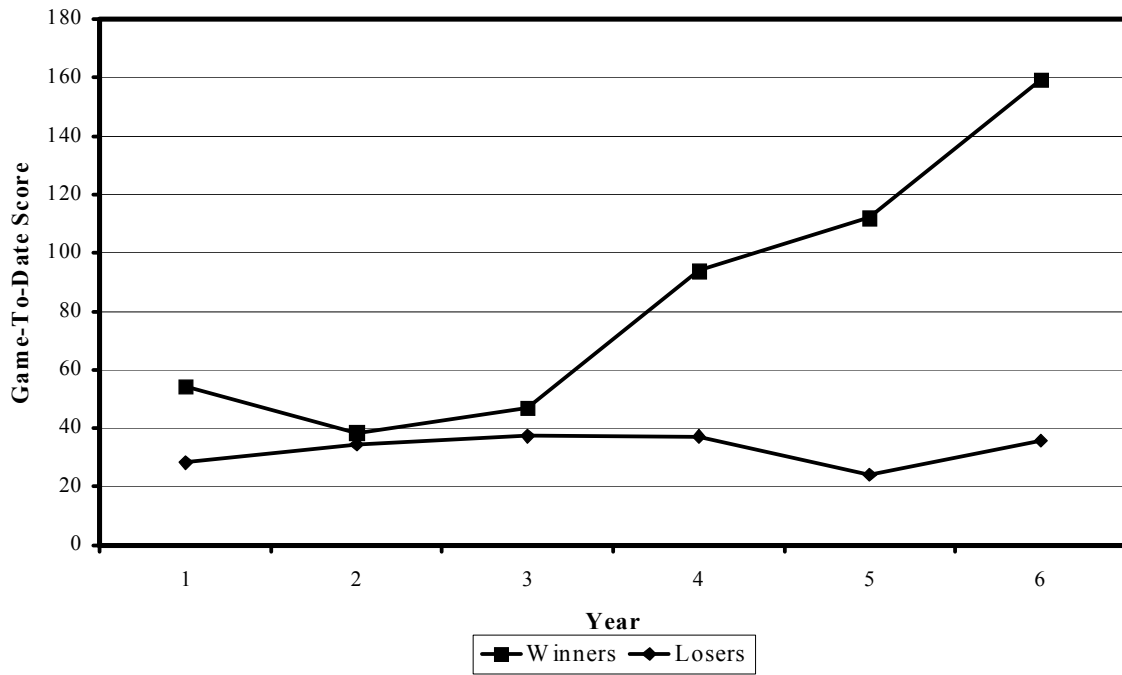


Figure 4: Manufacturing

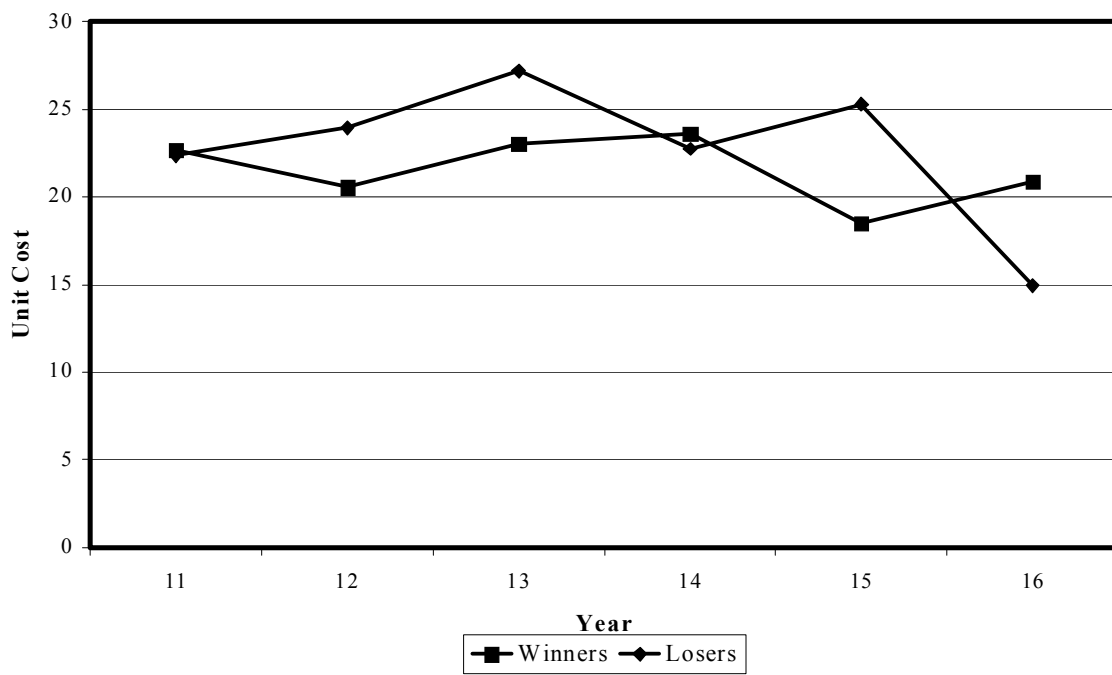


Figure 5: Marketing

