

## TEAM BEHAVIOR AND TEAM SUCCESS: RESULTS FROM A BOARD GAME SIMULATION

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### ABSTRACT

*The paper describes team behavior during a business simulation (the Advanced Business Strategies version of the Income/Outcome™ simulation) and relates team behavior to the business results achieved during the simulation. Good teamwork and “gentle leadership” resulted in the highest retained earnings during the simulation.*

*Board based simulation allow experiential learning for individuals as well as for teams. In addition to individual learning of a specific knowledge item or skill, board based simulation can also teach through interaction with other participants. If the board based simulation requires teams or groups to compete against each other, there is opportunity for individual learning, learning through within-team interaction, and through between-team interactions. The paper describes the Advanced Business Strategies version of the Income/Outcome™ simulation and how individual, within-team, and between-team activities are relevant to business results in the simulation. Team behavior is characterized and linked to simulation results.*

### INTRODUCTION

The Income/Outcome™ simulation is a simplified, financial model of a business (Andromeda, 1999 and 2005) that has been used extensively in training managers at all levels in a wide range of companies as well as students in undergraduate and graduate programs. During the course of the simulation program, participants manage a company, make decisions, etc. Just like in a real company, every business transaction is reflected in a financial transaction, and in the simulation all financial transactions are mapped out on a company board. Thus the income/outcome™ board becomes a visual reflection of the company situation at any given moment. In particular, the board allows seeing potential cash flow problems, the leverage of the company, the capital structure, and some key activity ratios. It provides a visual representation of many of the financial ratios simultaneously (see Figure 1).

Primary purpose of the Income/Outcome™ simulation is to provide business and financial literacy training for company employees or students (Hergeth and Jones, 2003, Hergeth and Smith, 2004, Kuvshnikov, 2002 and 2004).

**Figure 1: Income/Outcome Board**

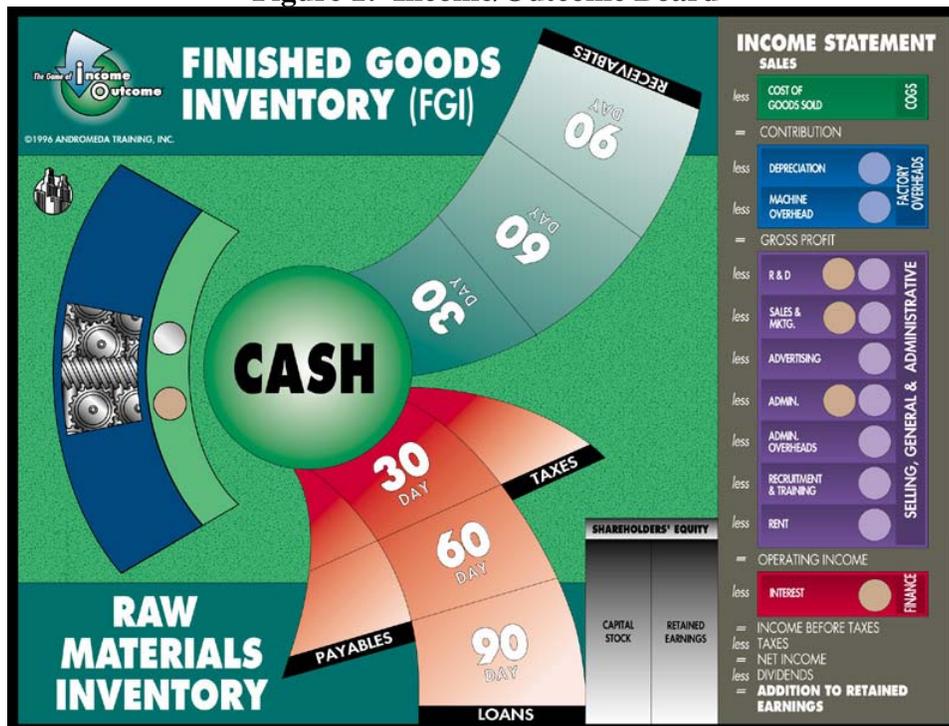
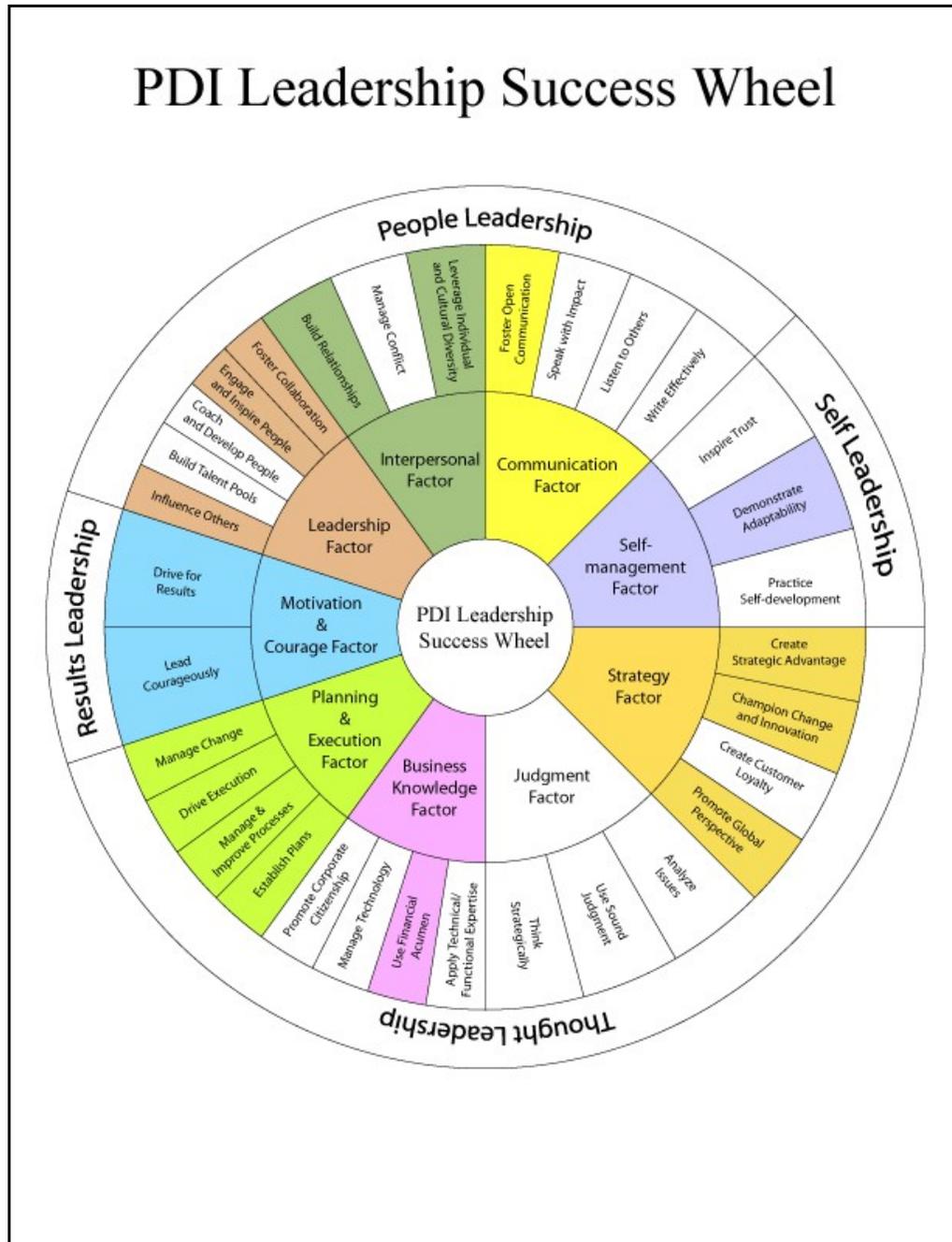


Figure 2: Leadership Model adopted from Davis et al., 2000.



However, participants and facilitators frequently reported that team structure and team dynamics have a significant influence on the outcome of the simulation, just as has been described for “real life” companies (e.g., Peters and Waterman, 1982). Consequently, two facilitators for Andromeda Training, Inc. decided to make some team observations during a typical Income/Outcome™ simulation.

## METHODOLOGY

The basic methodology underlying this paper is the development of a case study through focused observation during an Income/Outcome™ simulation. The simulation version was the Advanced Business Strategies program where due to the length of the program the facilitators had more opportunity to observe team behavior among the participants. Prior to starting the business strategy program,

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participants listened to a 0.5-day overview on team building and conflict management by an organizational development specialist. For the simulation, participants were divided into six teams with four or five members each; the members on each team were asked to work together as a company and compete against the other teams/companies. All debriefing activities were done for all six teams together.

### INTRODUCTION OF BEHAVIORAL ELEMENTS INTO THE BUSINESS STRATEGY SIMULATION

At the beginning of the Advanced Business Strategies simulation, participants were asked as groups to discuss their main objective for the participating in the simulation, their company’s greatest challenge to creating a healthy financial bottom line, and their greatest challenge as leaders within the company. They were shown a leadership model (see Figure 2) as a guideline for discussion topics.

The Advanced Business Strategies simulation runs in rounds that simulate three months of business activity for each round. After each of these rounds the teams have to calculate and complete a quarterly statement consisting of an income statement and a balance sheet. After these quarterly statements are presented, the facilitators debrief all teams together. Debriefing includes a lot of input from all team members, both about their results in the simulation and how the simulation relates to their work environment. (See Figure 2)

The first two quarters of the simulation served to explain the rules and basic mechanics of the simulation, and participants were made familiar with basic financial

terminology and dynamics of financial statements. During the third quarter teams made a number of business decisions regarding a range of managements issues, including marketing, production, product range, and finance. At the end of this third quarter, there was a first debriefing session during which the team presented their quarterly results, including:

- Profit/Loss for the quarter,
- Reasons that helped generate the profit/loss, and using the Behavioral Leadership Model, the teams were asked to identify:
  - What worked well within the teams,
  - What challenges they observed, and
  - What behavior they would work on during the next business cycle.

Following these brief presentations, there was an open discussion regarding some ideas individual participants could incorporate to improve their team behaviors. At this stage the value of teamwork was discussed, but all suggestions were kept as generic as possible. Similar debriefing exercises were held after the following quarters when introducing new management tools.

### RESULTS: DIFFERENCES IN TEAM BEHAVIOR

It appeared that the teams developed certain personalities over the course of the simulation, and these team personalities described how the team members worked together and performed as a team. Just like the simulation is a cartoon version of real life, i.e., a simplified version of reality, the team personalities the facilitators identified

**Table 1: Team Characteristics**

Character:	Pooh	Rabbit	Tigger	Roo	Eeyore	Piglet
Team:	Team D	Team A	Team B	Team F	Team C	Team E
Description:	Quiet, friendly, learning, observant	Take charge leadership, competitive, pushy	Always running exuberantly, limited planning	Curious, chatty, but observant	“Why Bother?”, gloomy outlook, cynical	Scared to take charge, risk averse
Outcome:	Great collaboration, highest Retained Earnings	Great Sales Volume, limited collaboration	Speed without direction, limited Profitability	Great communication, but sometimes difficult to stay on task, high Sales Volume and Profit.	Passive aggressive behavior prevented anyone from taking charge, limited communication, limited Profitability	Initially taking charge, but later in the simulation no more strategy. Low Profitability and Sales.
Retained Earnings (approx.)	450	390	200	370	<100	<0

(Character descriptions also see Buena Vista Home Entertainment, Winnie the Pooh Official Website, no date).

**Table 2: Retained Earnings and Ranking by Team**

	Retained Earnings	Motivation	Leadership	Communication	Planning
Rabbit	390	6	5	6	6
Tigger	200	3	3	2	1
Eeyore	100	2	2	3	3
Pooh	450	5	6	4	4
Piglet	0	1	1	1	2
Roo	370	4	4	5	5

(Note: Rank 1 = lowest, 6 = highest level observed)

during the simulation are described by using cartoon characters. In this case, the cast of Winnie the Pooh is used to describe the six teams.

Observations for the different teams included behavioral issues that had some influence on the team’s productivity and efficiency, and the feedback provided some ideas for corrective measures. Team behavior very much resembled the characteristics of the cast of Winnie the Pooh as described in Table 1.

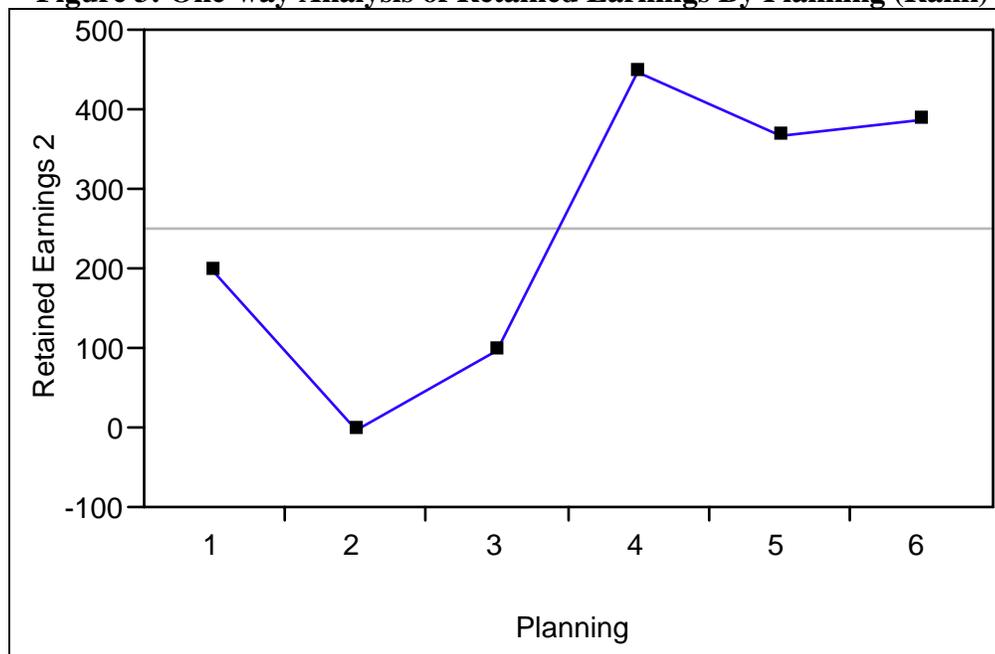
The Income/Outcome™ simulation results showed that high sales volumes did not necessarily result in high profits and that profitable growth had to be structured and controlled to avoid bankruptcy due to low cash flow. At the same time participants learned that the right amount of leadership and communication within their team performed better than too much or too little of either one. Figures 3 through 5 show that time spent planning generally increases profitability, but the benefits drop off after a while, just as enthusiasm and motivation are good, but too much of them starts to distract from the actual work that needed to be done.

“Leadership” ranking in Table 2 refers to the effectiveness of leadership during the simulation and it is

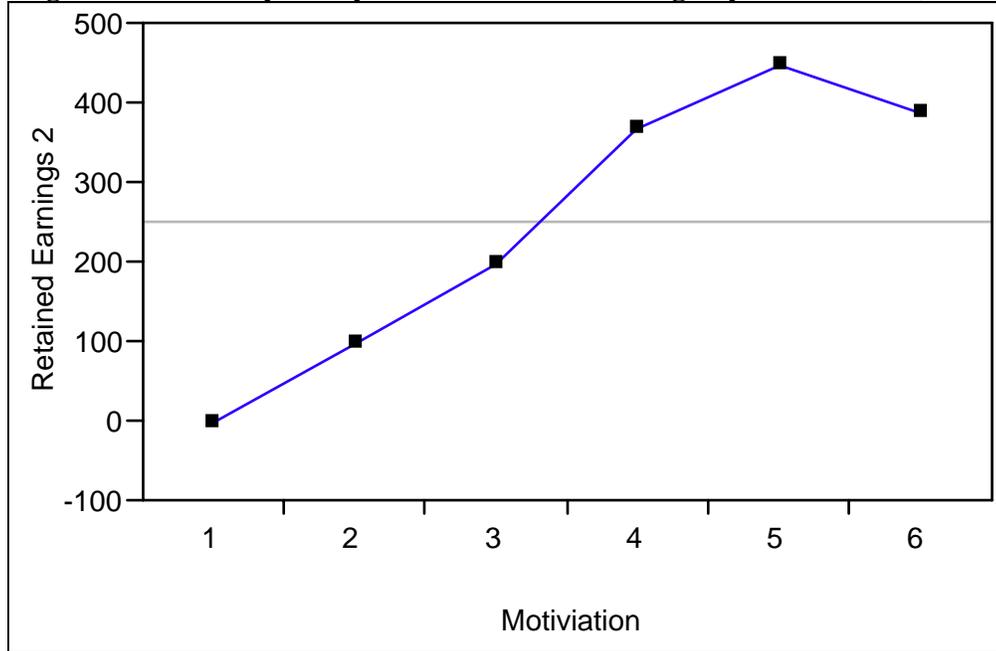
therefore a somewhat self-fulfilling characterization. Not the obvious “take-charge” mentality was ranked highly, but any leadership within a team that moved efficiently towards the simulation goals. The typical leadership struggles due to the clashing of strong personalities would actually show up as a lower ranking. So the linear relationship in Figure 5 is not very surprising.

During the business de-briefs new management tools were introduced to the teams (e.g., Cash Flow Forecasts and Budgets), which improved the quality of business decisions over the course of the simulation. In the same fashion feedback on team behavior resulted in improved communication and collaboration. Therefore the teams developed self-awareness of their leadership style and understood their behavior, and they did adjust their behavior for later rounds. It was also interesting to observe how during debriefings participants frequently related situations from the simulation to their corporate lives. This ranges from “So, this is why they keep asking about cash flow instead of profit” to identifying personal behavior within the corporation.

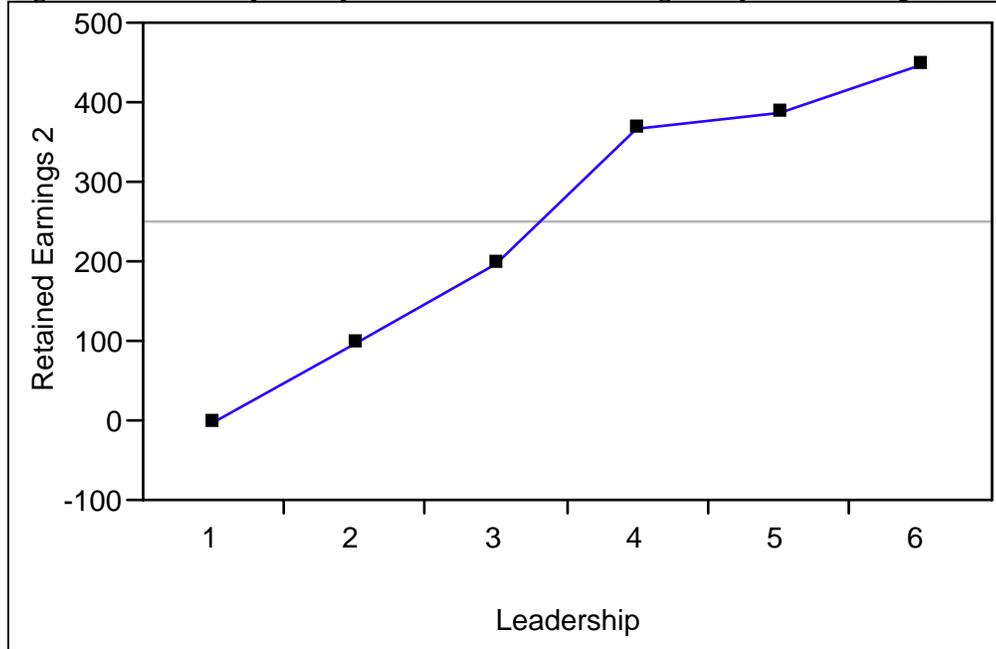
**Figure 3: One-way Analysis of Retained Earnings By Planning (Rank)**



**Figure 4: One-way Analysis of Retained Earnings By Motivation (Rank)**



**Figure 5: One-way Analysis of Retained Earnings 2 By Leadership (Rank)**



Parallel planning of different strategies and having egos involved in the pursuit of these strategies rather than integrating varying ideas to a coherent strategy is a reoccurring theme when discussing corporate behavior. “Rabbit” teams are frequently found where “telling what to do” is seen as a leadership quality. The “Rabbit” team scored highest in terms of planning (rank 6), but did not produce the highest retained earnings (see Figure 3).

While “Tigger” teams are also found in corporations, the facilitators received much more feedback about “Eeyore” teams. Many younger and mid-level managers are concerned that their contributions are easily disregarded, and they become cynical. Within teams this cynicism leads to taking pot-shots at anyone taking charge or proposing ideas, so that the whole team very soon adopts a “wait and comment” attitude. While critiquing ideas is of course very important, this needs to be done openly and inclusively, so

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that all team members support the strategy after it has been discussed and a decision has been reached. Seeing their behavior during the simulation allowed one of the teams to make adjustments, and they immediately drew the conclusion that adjusting their behavior in their corporate setting would also be beneficial to the company and their careers. After improving communication within the team, financial results started to improve in the simulation. In a similar fashion the “Tigger” team demonstrated more concern for all team members and implemented their strategy more successfully after introducing more structured planning into their discussions.

“Piglet” teams represent risk-averse teams. If corporations focus on assigning blame for decisions that do not work out, employees start to avoid making decisions altogether. This is rarely a problem during simulations since they provide a blame-free environment. Not deciding on a consequent strategy greatly reduces the team’s effectiveness and a company’s profitability.

“Pooh” and “Roo” teams are very similar as they both tend to work very cooperatively and communicate well. Their leadership works quietly and less assuming than “Rabbit” teams or “Tiger” teams, which leads to fewer power struggles within the team. The difference between “Pooh” and “Roo” teams lies in the efficiency of team management. “Pooh” teams work somewhat more target oriented

### RESULTS: ARCHETYPES OF TEAMS AND THEIR BEHAVIOR IN THE SIMULATION

Team A:  
“Rabbit”

This team had members with four strong personalities who were all eager to take charge as leaders. The team spent an inordinate amount of time planning and had to play catch-up in order to submit bids to the market on time. During the simulation, the team members displayed signs of stress and frustration with each other. However, the team communicated well and worked through their conflicts. Their greatest challenge was having four different leaders with differences in vision, long-term goals, and strategy. As members tried to push their ideas they had difficulties coming to a consensus. During the course of the simulation they actually developed a new product (product design and process), but never purchased the machine or brought the product to market. This is an example how “parallel strategic plans” can lead to investments (leader pushes plan through) that never bear fruit because other strategic plans are pursuing conflicting goals.

Team B:  
“Tigger”

This team was very intense and had the classic “run-run-go-go-do-do at warp speed” mentality, occasionally leaving some members completely out of strategy discussions. Their greatest challenge was to slow down and

think. They spent more time planning on how to beat other teams than planning for their own successes. Consequently, they produced rather low profits.

Later in the simulation the team included all members more in their strategic planning process. This resulted not only in a better distribution of the workload, but also forced the “type A” leaders to re-think their plans, and the team’s business strategy improved greatly.

Team C:  
“Eeyore”

This team had a couple of passive-aggressive personalities who all had some ideas about a strategy, but none of the members took overtly charge. Their greatest challenge was communication. The members did not openly discuss their strategy or any plan of implementation, nor did they talk about their team needs and feelings. Subsequently, a couple of the team members ‘retreated’ from time to time. As a result team members performed some of the relevant business activities and found out important information about competitors and some of the market mechanics, but they did not relate this information effectively to the other team members. Consequently decisions were made with insufficient information and limited buy-in.

Even though this behavior was addressed during the general debriefing after the fifth quarter as well as during the following quarters, the team was on a slow way to recovery. Members very slowly started to trust that the other members cared about their contribution, but in the end it was too late for Team C to catch up with some of the other companies. It was interesting to observe that the individual members clearly all had the ability to analyze, plan, and implement successful strategies, but within their specific group setting did not find an effective way of coordinating a strategy within this setting.

Team D:  
“Pooh”

This was a strong but silent group with at least two strong leaders. However, the leaders had strengths in different areas of expertise, one more in team skills and the other in ‘technical’ skills. The combination of skills of all the members and their high level of cooperation made this team very strong. It was interesting to observe that leadership roles in this team were not assumed by the more bombastic style of the classic type A personality, but rather through open exchange of ideas and consensus. This strong internal collaboration led to this team’s greatest challenge, i.e. initially working too much inside their own box and not paying sufficient attention to their competition. However, as soon as this weakness was exposed, the team members changed their behavior and very efficiently distributed the work and effectively used the information about competitors and their actions. As a result, Team D achieved the highest retained earnings over the course of the simulation.

Team E:

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“Piglet”

The leadership in this team was very obscure. They struggled significantly with respect to working as a team as well as financially during the simulation. Team E was very risk averse and did nobody in the team stepped forward as a leader. One individual with a very strong personality was initially expected to assume a leadership role, but when faced with conflict early on during one of the first rounds, he retreated and did not assume any leadership role for the remainder of the simulation.

The issues that occurred in Team E show that initial “taking charge” is not what results in actual leadership in the long run. This team could have benefited from consistency in strategy and leadership, as their financial results showed.

Team F:

“Roo”

Team F was a very social, even chatty, group. While this resulted in very good communication, it also provided a challenge for them in maintaining focus and staying on task. At the same time they tried to wait to see what their competitors would do before they made decisions. As a result they tended to run out of time towards the end of each business cycle.

The competitive focus of this team was primarily directed at Team A, based on product mix and marketing strategy. It appeared that the team worked well together, however more structure might have been beneficial.

### CONCLUSIONS

The case study shows that integrating team building exercises into a business simulation provides some very promising results as team behavior improved over the course of the simulation. While there is some inherent risk as in most team and leadership training that participants try to demonstrate their “leadership potential” by taking charge without much of a plan, the focused learning within the business simulation allowed the facilitators to re-focus the team and demonstrate the value of a coherent team effort by showing how better teams tend to make decisions of better quality.

The case study also shows that providing regular feedback on financial results of the simulation to individual teams as well as to all participants is enhanced by not only showing the business decisions that led to these results, but by also showing how team dynamics influenced these decisions. With its high level of interaction within teams and between teams, the Income/Outcome™ simulation allowed true integration of hard skills and soft skills learning.

The case study also showed that further research into teamwork and its influence on financial results in a simulated corporation is useful. It is recommended that the observed behaviors be categorized with more structure, and

that the effects of team training during the simulation be isolated.

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