

Incorporating “Company Reputation” into Total Enterprise Simulations

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ABSTRACT

The literature on simulation and gaming has done very little to address emerging concepts such as relationship marketing, brand equity, and company reputation. This paper relates these to each other, linking them to a new business paradigm, in which companies seek to harness the long-term value of reputation and relationships to lower transaction costs with key stakeholders. It then presents a model for incorporating the concept of company reputation into a total enterprise simulation. It builds on an empirically derived model of company reputation in which various company characteristics are linked to two underlying dimensions of reputation: sympathy and competence. The paper suggests how the various components of company reputation might be operationalized in a simulation game. It then discusses how they might be used to both help determine and evaluate student performance.

In 1960, Robert Keith, then President of Pillsbury Company, articulated a prophetic vision regarding the future of marketing (Keith 1960). He characterized the then emerging environment as the *marketing era*. For years, marketers had practiced a strategy of *product differentiation*, characteristic of the *sales era*, where the key to marketing success was to produce superior products for the mass market, supported by heavy advertising and promotion. This continued in the *marketing era* of the 1950s, 60s and 70s, but the focus shifted to *market segmentation*, where companies sought differential advantage by exploiting market heterogeneity, directing marketing effort toward groups of people whose particular needs are not met by the more generalized mass-market brands (Smith 1956).

Keith anticipated yet another era of marketing that he called the *marketing control era*. In this era, marketing would become the driving force of the entire firm. While he did not elaborate on what this really meant, we see its expression today in the extension of marketing concepts to

include not only customers, but all the various stakeholders the firm must address – customers, employees, suppliers, government, financial markets, investors, and so forth. We also see it in the notions of *brand equity* (Aaker 1991, 1996), or extending this to the company level, *company reputation* (Forbrun and Shanley 1990). *Brand equity* seeks to harness the credibility of a brand name and to achieve economies by extending it to additional products and services. *Company reputation* represents the equity in the overall reputation of the entire company, reflected in the confidence various stakeholders have in their relationships to the company.

Interestingly enough, most of our simulation games implicitly address Keith's *sales* and *marketing eras*, not the *marketing control era*, as we have so briefly portrayed it. To illustrate, searching ABSEL's *Bernie Keys Library*, we found no mention of *brand equity* among the 1,883 documents contained in the library! Nor was there any mention of related terms, such as *umbrella branding*, *family branding*, or *brand extension*. There were only two mentions of *company* or *corporate reputation*, neither of which discussed how the concept might be incorporated into a marketing or enterprise simulation.

The purpose of this paper will be twofold: First, it will seek to address the problem by discussing the underlying theory behind the changing market environment and its implications for game design. Second, it will illustrate the solution by suggesting some initial ideas regarding the way *company reputation* might be addressed in simulation game design.

UNDERLYING THEORY

Simulation game design is ultimately a practical matter. Game designers must translate concepts into student decisions, which will then be tested in a simulated marketplace. The marketplace, in turn, must be driven by actual algorithms that link decisions with outcomes that simulate those that would be experienced in the real world

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of business. However, it is here that theory becomes paramount. Feinstein and Cannon (2001) address the dual imperatives of *representational* and *educational validity* in simulations. These imperatives link game design to an underlying educational perspective – a view of how the world of business operates and what students must know and be able to do in order to succeed in it. In order to achieve *representational validity*, a game's structure and logic must represent the actual business phenomena about which students are to learn. In order to achieve *educational validity*, a simulation game must produce student insights that lead to actual understanding of the business phenomena the simulation is representing. Again, theory is paramount. How should students think about the world of business? How does it operate? What skills and insights should they possess in order to succeed in their business activities?

So, what is the theory that drives the notions of *brand equity* and *company reputation*? How does it differ from the theory that appears to be driving the gaming research and design in which these notions are conspicuously absent?

The Changing Paradigm: From Product Differentiation to Reduced Transaction Costs

At the simplest level, the concepts of *brand equity* and *company reputation* grow out of the natural pressures of an increasingly competitive market. Whenever one company achieves success, others notice and immediately seek to imitate whatever it is that has made the company successful. Thus, new products or service innovations are quickly copied by the competition. This reduces differential advantage, increasing pressure on prices and ultimately forcing companies to seek greater efficiency of business operations. Of course, we see this all around us. The legendary Jack Welch, former chairman and chief executive officer of General Electric, talks of how his company had 440,000 people doing \$26 billion worth of work. Over a period of years, the ratio was changed to 300,000 people doing \$140 billion worth of business – a 500% increase in volume with 35% fewer people (Welch and Byrne 2001). If the numbers are different, the trend is the same in virtually every successful company.

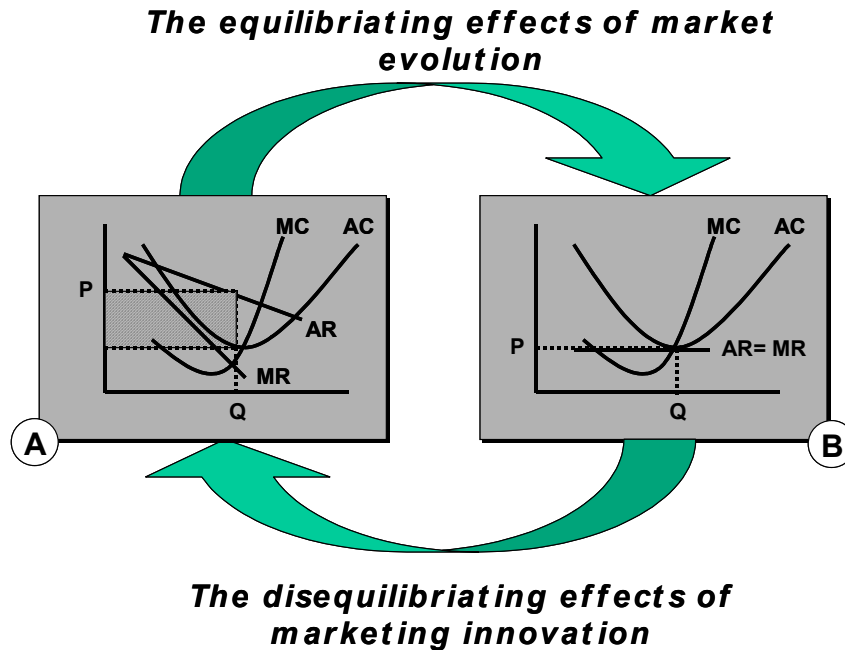
From the perspective of increased efficiency, the exploitation of *brand equity* and *company reputation* are simply an effort to more fully utilize company assets. Brands represent a company's investment in building customer confidence. So, why not capitalize on this confidence to help other products into which the company has put similar effort, but which do not have the same

history? Similarly, why not harness the reputation a company has developed over time to facilitate the broader range of transactions a company carries out with its various stakeholders.

However, the increasing emphasis on *brand equity* and *company reputation* represent something larger than a simple desire to more fully utilize a company's assets. They signal a changing paradigm in the way many companies are doing business. Traditionally, companies have operated according to what we may term the *product differentiation* paradigm. In order to win investors' support, and to achieve their own internalized objectives for profitability and success, they seek high economic profits. These, in turn, come from high margins facilitated by their ability to sell products that are different and better than those of the competition. Cannon, Yaprak, and Mokra (1999) portray this in terms of a classic microeconomic model, as suggested in Box A of Exhibit 1. The Exhibit shows how demand, or average revenue (AR), interacts with marginal revenue (MR), average cost (AC) and marginal cost (MC), price (P) and quantity demanded (Q) to produce economic profit. When products are differentiated, the demand curve is relatively inelastic, giving a marketer the ability to raise prices without dramatic decreases in the quantity demanded. As prices rise, some customers defect to the competition, but others remain loyal because they value the benefits available from the company's unique product. The more highly (and attractively) differentiated the product/service, the greater the potential for raising prices to achieve economic profits.

As we can see from the movement to Box B of the Exhibit, high profits motivate competitors to copy attractive product/service packages, thus moving the market toward equilibrium. The advent of similar competitive products removes differential advantage, reducing price elasticity, forcing prices to fall, and, ultimately, driving profits back to a normal level. This stimulates companies to innovate, seeking ever more attractive product/service offerings to once again achieve a disequilibrating advantage in the market. This, of course, is the objective of *product differentiation* and *market segmentation* strategies, as we have discussed them. *Brand equity* derives from a company's recognized ability to market products that offer differential value to consumers in a particular area of business. *Company reputation* is the generalization of this to the company as a whole, suggesting that the company is better to do business with than another that might be competing for attention.

**Exhibit 1:
Competition as Seen from the Product Differentiation Paradigm**



Adapted from Hugh M. Cannon, Attila Yaprak, and Irene Mokra. "Progress: An Experiential Exercise in Developmental Marketing." *Development in Business Simulation and Experiential Learning*, Vol. 26 (March 1999), p. 272

The problem is that, as markets mature, the cycle described in Exhibit 1 tends to move faster and faster. Today, the time between the introduction of an innovative new product and the time competitors enter the market with close imitations is often measured in months. Furthermore, technology and general business acumen are so broadly dispersed in the market, that no single company, however good it is, can hope to offer superior products and services on a continual basis. So, what are companies to do?

The answer is to change the paradigm. Product differentiation is only one way to create value. The other is to reduce price. Furthermore, a major part of price is transaction cost, or the cost of marketing. One way to reduce this cost is through a strategy of *relationship marketing*, focusing on repeat rather than one-time transactions (Webster 1992). This, of course, is consistent with the notion of *brand equity* and *company reputation*, both of which seek to build on the value of historical relationships to reduce the cost of doing business.

We argue that *relationship marketing* is more than a strategy, but rather is a change in paradigm. According to the *relationship marketing paradigm*, a company's emphasis is not longer that of seeking higher prices, but rather, one of delivering value. Indeed, in the extreme application, customer relationships would be build on a kind of psychological contract, where customers trust the marketer as a kind of agent whose job it is to always give them the best value available. While this means delivering

the best products available, marketers operating under the *relationship marketing paradigm* would be more apt to license technology, giving away their product advantage in favor of lower prices resulting from economies of scale. Their reward would come in the form of increased volume, attractive margins resulting from lower marketing costs, and the promise of future profits, resulting from future business with the relationship customer. The value of marketing efforts would be measured in terms of the lifetime value of the company's customer relationships.

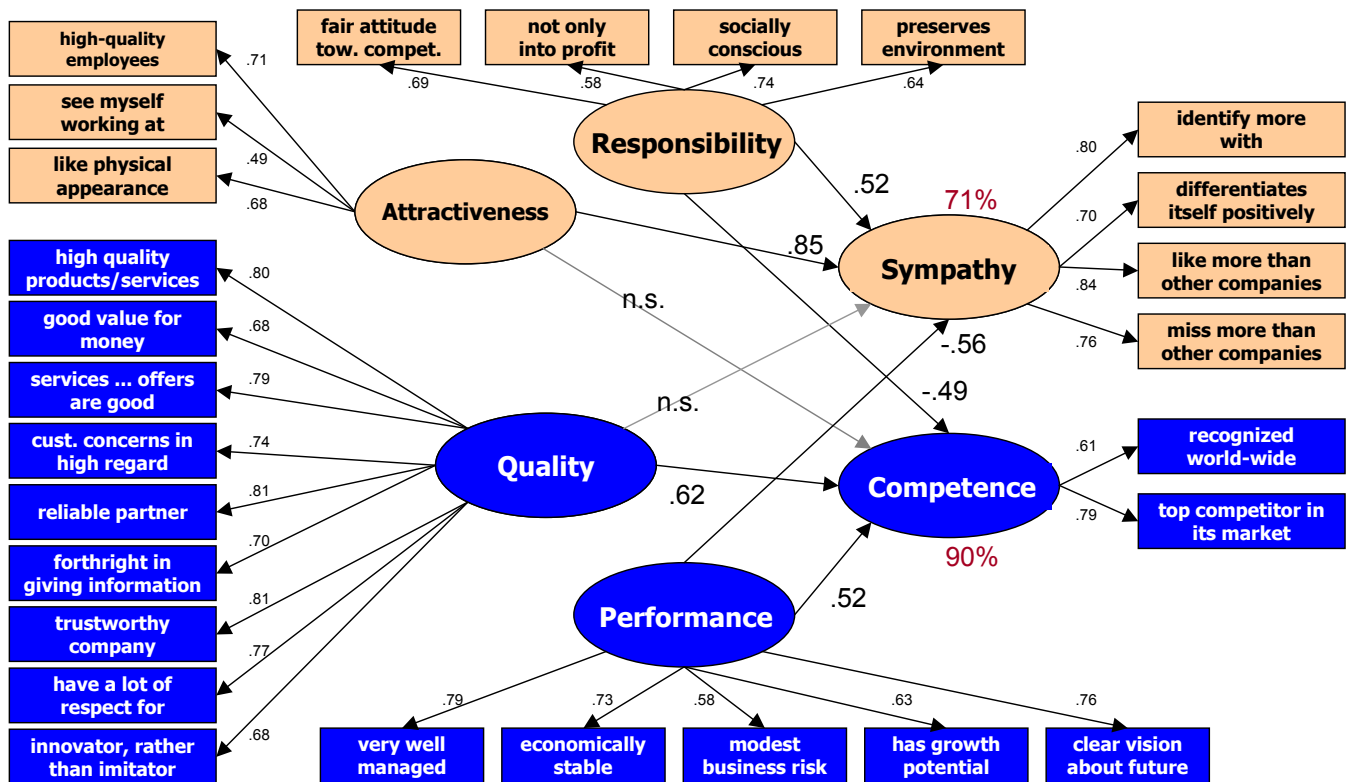
Again, it is significant that these concepts are conspicuous by their absence from the simulation and gaming literature. *Relationship marketing* is only mentioned in two articles found in the *Bernie Keys Library* data base. One (Gentry, Macintosh, Stoltman, and Wilson 1994) discusses the importance of incorporating the notion of *relationship marketing* into our curriculum, citing Cadotte's (1990) *The Market Place* as a an example of a simulation game that incorporates relationships between marketers and their suppliers. The second article discusses a non-computer-based simulation of economic development processes, portraying *relationship marketing* in a framework that parallels the one discussed here (Cannon, Yaprak, and Mokra 1999). The concept of lifetime customer value is not mentioned in the data base.

The Dual Nature of Company Reputation

Intuitively, the nature of any marketing relationship should have two dimensions: (1) The ability to service the relationship, and (2) the willingness of the parties to engage in the relationship. A company might be very capable of producing excellent products (if you are a customer), delivering excellent returns (if you are an investor), and so forth. However, this does not mean they will be the kind of company with which you would like to do business. Indeed, while most major companies pursuing excellence in customer service and relationship management, they still espouse the *product differentiation paradigm*. While they are generally

ready to focus on customer concerns and redress complaints, given an opportunity, they will still opt for higher prices, capitalizing on their brand equity, even if it is not justified by the quality of their products. They will readily capitalize on their market power to suppress competition and impede customer defection to other products and brands. Similar comments would apply to company relationships with other stakeholders as well. The most reputable companies are ready to play one supplier off against the other in an effort to lower costs and shift business risks to a lower level in the channel. This is not to mention accounting manipulations designed to make profit and growth appear steady and predictable, even in the face of natural cycles and fluctuations.

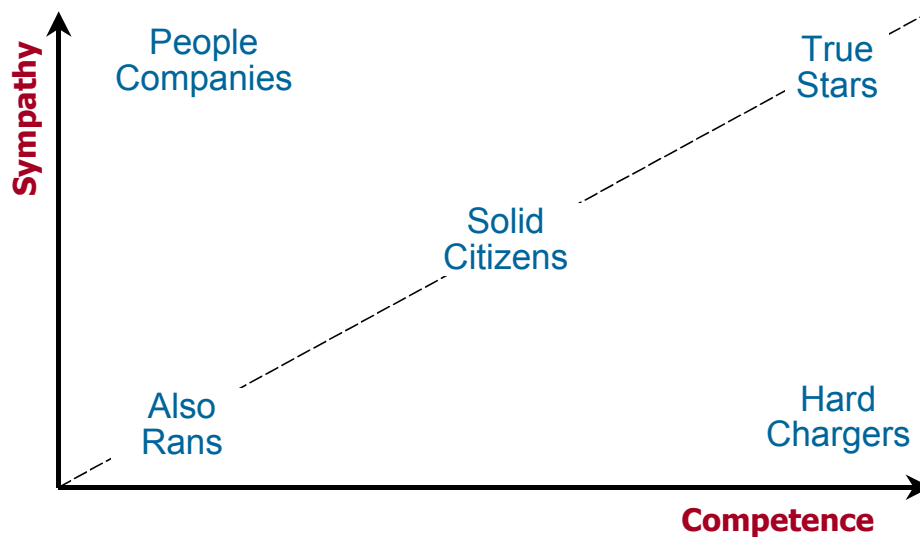
Exhibit 2:
A Structural Analysis of Company Reputation



Most studies on *company reputation* see *reputation* as a uni-dimensional construct (c.f. Fobrum and Shanley 1990). However, research associated with the larger project from which this paper has grown suggests that there are indeed two dimensions (reference withheld to protect the blind review, 2002). The two-dimensional structure of *reputation* is illustrated in Exhibit 2. The research was based on a survey of company reputation including 300 respondents from each of three countries (Germany, the United Kingdom and the United States of America). A structural analysis of

the variables considered in the study suggested the structure described in Exhibit 2. The two *reputation* constructs are labeled *sympathy* and *competence*. *Sympathy* represents the degree to which people see a company as being sensitive to non-profit-related issues and a company to which they can personally relate. *Competence* represents the degree to which the company is able to product high quality products and services, using them to create a stable and highly profitable business.

**Exhibit 3:
Classifying a Company's Reputational Position**



Obviously, both dimensions are important to the quality of a company's relationships. Exhibit 3 suggests a framework that draws on the dimensions to plot a company's reputational position in the marketplace. Ideally, a company would be high along both dimensions. However, given a trade-off between the two, we would assume that some stakeholders would be more interested in *sympathy*, while others would prefer *competence*. A manager, then, might track company reputation and employ business strategies that would move the company toward the kind of reputation that would most closely fit company values and address stakeholders preferences.

Perhaps more important in the context of this paper is the fact that the reputational position matrix provides a very useful tool for addressing the issue of *company reputation* in a game-based teaching environment. It can provide an organizing concept for both pre-game discussions and post-game debriefing. It can also feature prominently in team reports of how they pursued the game. And, of course, if it is successfully incorporated into the game itself, there will presumably be measures associated with it that can be used to evaluate student performance.

With this in mind, we will now move to the issue of how company reputation might be incorporated into a simulation game environment.

INCORPORATING REPUTATION INTO BUSINESS SIMULATIONS

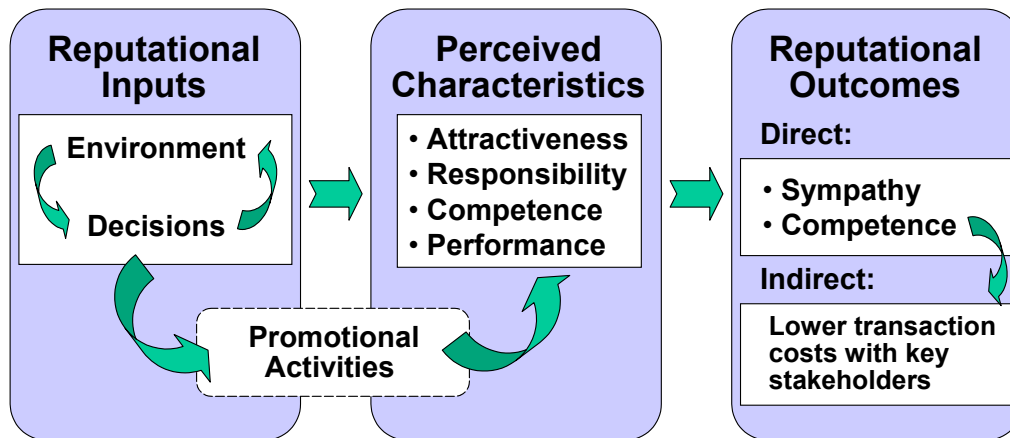
We cannot hope to provide a definitive method for incorporating company reputation into business simulations,

given the wide variety of structures around which these simulations are designed. Clearly, the concept is best suited to a total enterprise simulation, where students have the opportunity to address a wide variety of stakeholder groups, from customers, to suppliers, to employees. Beyond that, there are common variables that are generally featured in all total enterprise simulations. We will use these and propose others to illustrate how reputation might be represented in such a game.

As we have noted, the simulation literature appears to be relatively silent regarding *company reputation*. However, there is a considerable body of literature regarding how one might evaluate the characteristics of a simulated firm from which the substance of reputation might be derived. These have been summarized by Gosenpud (1990) and Wolfe (1990). Furthermore, there is some discussion of how reputational factors might help determine performance in a gaming environment. We have already noted Cadotte's (1990) use of supplier relationships to lower transaction costs in *The Market Place*. Estes (1983) discusses the use of learning curves to address the accumulated value of human resource capital within a firm. He uses the same approach to create a reputational index that makes a simulated firm "a good place to work," thus lowering the cost of hiring new talent. House and Napier (1985, 1988) show how reputation-related factors in a simulation game can be used to predict overall performance success (as measured by company ROI). Decker, LaBarre, and Adler (1987) suggest that *reputation* might be one of the independent variables used to determine success in a simulation game response algorithm.

Exhibit 4:

A Proposed Model of How Reputation Would Operate within a Simulation Game



An Overview of Our Proposed Model for Incorporating Reputation in Game Design

Exhibit 4 portrays our proposed model of reputational factors operating within a simulation game. Similar to a real company, each simulated company must make decisions in response to situations both within and outside of its organizational environment. Depending on the nature of these decisions, the company will be more or less *attractive*, *socially responsible*, *competent*, and *performance-oriented*. These, of course, are the four basic drivers of *reputation*, as suggested in Exhibit 2. The box labeled “promotional activities” portrays the effect of promotion on the company’s perceived characteristics. A company’s perceived reputational characteristics drive the reputational outcomes. These include direct measures of *company reputation* – *sympathy* and *competence*, which represent intangible company assets, and therefore, should be considered direct indices of company performance for evaluation when the game is over. However, the effect of *reputation*, as we have discussed it, is to lower transaction costs, thus creating indirect effects on other indices of company performance.

Promotional Activities

In our proposed framework, the effect of promotional activities is to bring perceived characteristics closer to the reality of what the company is actually doing. In other words, promotional activities cannot deceive stakeholders, but only make them more aware of what the company is all about. Depending on what promotional variables a particular game might make available to players, these activities might address everything from advertising to public relations. As a practical matter, most games convert all promotional activities into an overall “promotional effort” variable, which, in turn, provides input to some kind of promotional response function. This “promotional effort”

variable might well serve as the measure of promotional activities in our model.

From a theoretical design perspective, we are assuming that promotion will largely determine the general degree of public awareness of the company and its activities. Presumably, the attendant commentary would unmask any attempt by the company to create an artificially favorable set of perceptions. It is our contention that this is also true of real companies, at least from a long-term perspective.

If the simulation game permits players to manipulate promotional messages relative to the reputational characteristics, an interesting variation might be to penalize companies for messages that are inconsistent with what the company is actually doing. This would represent the potential loss in credibility experienced by real companies who promote themselves as being different than they really are.

From Decisions to Reputational Characteristics

Exhibit 2 indicates the actual survey items from which the various reputational characteristics (*attractiveness*, *responsibility*, *quality*, and *performance*) were derived. These are very useful in designing operational indices of the various characteristics to use in a simulation. However, we need not be constrained by the specific questions, but only their general meaning. We will consider each of the characteristics in turn.

Attractiveness. In general, the *attractiveness* factor appears to be the degree to which a company provides an attractive place to work. This suggests that good indices might include:

- ❖ *Turnover.* Most games include *turnover* as a penalty for poor employee management. Presumably, attractiveness would tap these same issues.

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- ❖ *Employee quality.* Many simulations include indices of *employee quality*, often driven by factors such as training and experience. Consistent with the approach suggested by Estes (1983), these indices could be used as an index of *attractiveness* as well.
- ❖ *Working environment.* A simulation might offer students the option of investing in making offices and/or their plants more attractive and pleasant. There is a natural reluctance in a profit-driven game to invest in the attractiveness of a company's offices and plant, since game players never experience them in reality, and they have no apparent impact on profit. By including them in a measure of reputational characteristics, these investments are rewarded. But, as in real life, their impact, and hence the justifiable investment, are limited, thus calling for managerial judgment.

Responsibility. The *responsibility* characteristic appears to address issues of ethics and social responsibility. The gaming literature includes several studies addressing the power of using games to teach social responsibility (Smith 1974, 1979; Chiesl 1994). Most efforts involve embedding ethical "scenarios" into games, forcing students to address the issues, then discussing these decisions as part of the debriefing process, as illustrated by Smith and Golden's (1987) *Airline* simulation. Halpin and Biggs (2000) suggest the use of specific response alternatives, the selection of which provides quantitative input into the actual simulation algorithm. Including a *responsibility* characteristic in the simulation provides a natural basis for evaluating the effects of decisions related to ethics and social responsibility. Some of the measures a simulation might use would include:

- ❖ *Monopolistic abuses.* A game may offer students the opportunity to take advantage of a monopolistic position to subtly exclude competition, force customers to purchase products or follow-on parts at artificially high prices, or simply to buy products that services that they would otherwise not want to buy were competitive offerings available. These practices can be highly profitable. Linking them to a negative *responsibility* score balances long-term reputation against short-term profitability.
- ❖ *A broader view of profit.* A game may offer students the opportunity to increase profitability, again in the short-term, by taking advantage of customer ignorance, legal loopholes, and so forth. For instance, an insurance company, which was created to protect people against catastrophic expenses, might increase profits by finding contract loopholes to exclude their clients from coverage. A telephone company might deliberately withhold information regarding changes in rate structures from existing customers so that it can continue charging higher prices while servicing other, more

price-aware customers with the lower rate structure. Stakeholders often react by seeing companies as being "only interested in profit." By penalizing such behaviors through the *responsibility* characteristic, short-term profit becomes more evenly balanced against a company's long-term stakeholder franchise.

- ❖ *Social consciousness.* A game may offer students the opportunity to become involved in various forms of corporate citizenship – philanthropy, community action, and so forth. These decisions can help create a positive *responsibility* score, while potentially costing money as well. This again forces students to make strategic decisions to balance profit against a socially conscious image.
- ❖ *Environmental consciousness.* Students may be given the option of investing in more or less environmentally responsible equipment, where the price of environmental consciousness is again lower profits, at least in the short term.

Quality. The *quality* characteristic is much easier to address than either *attractiveness* or *responsibility*. It represents a company's tendency to act in a manner consistent with the "marketing concept" – the notion that success derives from a systematic focus on customer needs. A simulation might create an index of *quality* by using measures such as:

- ❖ *Quality of products and services.* Most simulation games include measures of product/service quality that can be used to operationalize this component of the *quality* characteristic.
- ❖ *Value.* Value could be operationalized first by dividing the index of quality by the price of the product or service, and then comparing this ratio to other firms within the industry.
- ❖ *Customer service.* Students could be given the option of investing in customer service and programs of customer relationship management (CRM), the consequence of which would be an index of customer service, similar to the measures of product/service quality discussed above.
- ❖ *Reliability.* This would be a measure of how reliable the company is as a business partner. It might be operationalized by the longevity of supplier, distributor, and/or customer relationships.
- ❖ *Forthrightness.* Students might be given the opportunity to make decisions regarding how candid they will be regarding product performance and company operations. Forthrightness would be an index of their candor. Of course, the cost of candor would be vulnerability to customer dissatisfaction, consumerist activity, litigation, or simply customers defecting to alternative suppliers as a result of releasing potentially damaging information.

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- ❖ *Trustworthiness.* Trustworthiness would be the degree to which a company is trusted to abide by a formal or implied policy for customer relations. This might be operationalized by giving students the opportunity to establish customer return policies, policies regarding quality, and so forth. Students could then be confronted with situations in which they are have financial incentives to violate these policies. Trustworthiness would depend on the degree to which the policies are broken.
- ❖ *Innovation.* Innovation might be operationalized by the relative amount of money a company invests in research and development.

Performance. *Performance* represents the overall manner in which a company manages its business. Measures of this might include:

- ❖ *Quality management.* Virtually every game includes indices of management quality. These are used to evaluate student performance, given the role that students play as managers in a simulated company.
- ❖ *Sales and earnings stability.* Sales and earnings stability can be operationalized by measuring the variance around a trend line, adjusted for any seasonal variations that might apply in a particular game.
- ❖ *Forecasting accuracy.* Following the suggestion of Teach (1987), rather than using sales and earnings growth, an index might consider the accuracy with which students forecast sales and profits. This eliminates the effect of factors that are beyond the control of students, but which might influence performance. This corresponds to the accuracy of earnings estimates that figure so prominently in the evaluation of real-world companies.
- ❖ *Low risk.* Risk can be operationalized through measures of credit-worthiness, including overall financial strength and performance.
- ❖ *Growth potential.* This variable would be difficult to operationalize in most existing games. It would require a game structure that included variations in product portfolios, positioning some companies in growth industries while others are not.
- ❖ *Clear vision.* This would most likely be entered exogenously into the game, based on the instructor's evaluation of the students' business plan and/or periodic corporate reports.

Reputational Outcomes

The consequence of linking simulation game decisions to reputational characteristics is twofold: First, it enables the game designer to develop direct indices of *company reputation*, with scores for both *sympathy* and *competence*, thus placing each company in a unique position on the

reputational positioning chart shown in Exhibit 3. Typically, this would be done by computing indices for each of the four reputational characteristics and linking them to *sympathy* and *competence* through some kind of regression-like equation. In reality, the structural analysis reflected in Exhibit 2 would provide the basis for such equations. However, in a gaming environment, the game designer would want the flexibility of developing equations to fit the particular pedagogical needs around which the game was being designed. The correlations shown in Exhibit 2 provide some general guidelines regarding the way the various factors might be weighted in the regression equations.

The second consequence of linking game results to reputational characteristics are indirect. The underlying theory of *company reputation*, as we have discussed it, is that it establishes a kind of company brand equity that reduces transaction costs relative to a company's key stakeholders. Specifically, these reductions might be recognized in a game through such factors as:

- ❖ *Lower costs for customer acquisition and retention* (customer stakeholders)
- ❖ *Lower distribution costs* (distributor stakeholders)
- ❖ *Lower supplier prices* (supplier stakeholders)
- ❖ *Lower cost of employee acquisition and retention* (employee stakeholders)
- ❖ *Lower cost of capital* (investor stakeholders).
- ❖ *Lower costs of lobbying and government relations* (governmental stakeholders)
- ❖ *More positive word-of-mouth advertising* (general public)
- ❖ *Lower cost of advertising and promotion* (all stakeholders)
- ❖ *Reduced Risk of Litigation* (all stakeholders)

SUMMARY AND CONCLUSIONS

We began by discussing the fact that that literature on simulation and gaming seems to have neglected the movement toward more relationship-oriented market transactions, having given little attention to modern concepts such as *relationship marketing*, *brand equity*, and *company reputation*. The purpose of this paper has been to address the problem by showing how *company reputation* could be incorporated into total enterprise simulations. The paper was built around a two-dimensional concept of *company reputation* growing out of recent developments in reputational research.

The suggested incorporation of *reputation* into the gaming follows a twofold strategy, including both direct and indirect effects. The ultimate effect of reputation is "indirect," impacting on profit by reducing a company's transaction costs relative to its key stakeholders. However, from a teaching standpoint, the impact of reputation is more direct. We propose including indices of *sympathy* and *competence*, the two dimensions of *company reputation*, among the intermediate measures of student performance that students use to monitor their performance as the game

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progresses. Similarly, they would be used when evaluating overall student performance, much as profit, return on investment, and increases in net worth would be used.

The direct computation of indices for *sympathy* and *competence* provides important feedback for students. It addresses the fact that using simulation games as a teaching tool creates a kind of “complexity paradox” (Cannon 1995). In order to be realistic enough to provide a good learning experience, a game must generally include enough decisions and embedded business logic to model a relatively broad range of business phenomena, but including these decisions and phenomena can make the game so complex that students lose track of the causal relationship between their specific decisions and the final outcome of game performance.

Of course, real organizations face exactly the same problem. Organizations are so complex that no single individual can link every decisions with final company performance. One of the methods for coping is to provide intermediate measures of performance. *Company reputation* provides one such measure. Companies exist to make money, not to acquire *reputation*. However, *reputation* has value in that it represents the company’s ability to increase future profits by reducing transaction costs with the company’s stakeholders. By tracking reputation as an intermediate measure of performance, an evaluator can determine whether students are making decisions that will lead to reduced transaction costs.

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