BUSINESS MANAGER IDENTIFICATION OF COMPETITORS IN REAL WORLD AND SIMULATION SETTINGS

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ABSTRACT

Despite extensive academic research on how to classify competitors, there has been limited study on how managers identify competitors in practice. This paper examines how business executives who undertook a marketing simulation game as part of an executive training exercise identified their strongest competitors in their workplace environments and then how these same executives identified their strongest competitors within a marketing simulation gaming environment. The findings from 45 executives participating on 13 simulation teams indicated that they used many of the same criteria to evaluate their workplace environment competitors and their simulation competitors.

INTRODUCTION

As customers have a choice as to whom they will patronize, identifying and understanding competitors is central to formulating marketing strategies (Aaker 1998). When marketing managers identify a target market to serve, the marketing manager is bringing a group of competitors, serving the same markets, into the firm's external environment. To be successful, competitor actions must be monitored and even anticipated. To do this, competitors must be clearly identified.

Of the many ways in which competitors can be classified, a reasonable system is presented by Ferrell, Hartline, Lucas and Luck (1998). *Brand competitors* are those whose products and prices are the same and who market to the same customers (Coca-Cola and Pepsi-Cola would be examples). *Product competitors* sell similar products but with different features or at very different price levels (Coca-Cola and Anheuser-Busch). *Generic competitors* market different products that satisfy the same need (Coca-Cola and water). *Total budget competitors* sell different products but are competing for the same financial resources of the customer (Coca-Cola and potato chips).

While it is clear that a marketing manager for Coca-Cola would consider Pepsi-Cola a direct competitor; a marketing manager for Procter & Gamble would view Kimberly-Clark as a direct competitor; and a marketing manager for General Motors would view Ford as a direct competitor, what criteria do business managers use when identifying competitors? Little research on this topic appears in the marketing literature. Findings from simulation game participants could add to this limited knowledge. Can business games be used to identify how managers assess competitors and what criteria are used to identify a company's closest competitors?

Of long running interest to simulation game users, as well, is how realistic are business games. This has been an issue of ongoing simulation gaming research for a number of years and has been examined in a number of different ways. The current study uses simulation game participants to determine how company competitors are identified and, secondly, examines whether the criteria used by simulation game participants to identify and rank competitors is similar to how business executives identify competitors in real world settings.

PAST RESEARCH

Users of business games have long been concerned with whether or not business simulation games are realistic decision-making teaching and learning exercises. There is much evidence to suggest that they are. A few examples will be described.

If business games are realistic decision-making exercises, successful business managers, who would be judged to be better decision-makers in practice, should outperform less successful managers in simulation competitions. This measure of the external validity of business games has been supported through longitudinal studies undertaken by Wolfe and Roberts (1986 and 1993). Following students' careers after graduation, it has been

shown that more successful simulation game players have become more successful business managers. As well, studies by Babb, Leslie and Van Slyke (1966), McKenney and Dill (1966), Vance and Gray (1967), and Wolfe and Roberts (1986) have reported that more successful practicing business managers have outperformed less successful practicing managers in business simulation competitions.

In a similar fashion, if a business simulation game is to be considered a realistic learning tool, better students should better comprehend the simulation environment, as well as the competitive environment, and make better decisions. This measure of the internal validity of business games has been supported by a number of studies as well (Dickinson, Faria and Whiteley 1990; Faria, Dickinson and Whiteley 1992; Whiteley, Faria and Dickinson 1991).

Another approach to viewing the realism of the business gaming environment is to examine the consistency between real world and game outcomes. The PIMS (Profit Impact of Marketing Strategies) project was initiated in the 1960s within the General Electric Company. To facilitate the growth of the program, in 1975 the Strategic Planning Institute was formed to administer the project. The over 4,000 businesses that are currently part of the PIMS project contribute data on their business environment and strategies to the Strategic Planning Institute on a yearly basis. In a major publication of the Strategic Planning Institute (Schoeffler 1993), several findings from the large PIMS data base were summarized. Some conclusions presented were: (1) Business situations generally behave in a regular and predictable manner; (2) All business situations are basically alike in obeying the same laws of the marketplace; (3) The laws of the marketplace determine about 80 percent of the variance in business performance; and (4) Business strategies are successful if their fundamentals are good, unsuccessful if they are unsound.

If business games are valid decision-making exercises, they should conform to the PIMS findings. A successful simulation strategy should continue to be successful if repeated given an unchanged simulation environment, even if competition changes. To test this, Faria and Green (1995) took game winning decisions from twenty-five industry winning companies in a simulation competition and re-ran those decisions (strategies) against new competitors but in an unchanged simulation game market environment. In the reruns, 88 percent of the game winning companies repeated as industry winners or came in second place. This would suggest that the simulation game environment conforms to the real-world environment in terms of findings reported from the PIMS project.

With regard to competitor identification, the central focus of this paper, Clark and Montgomery (1999) reported findings on how 57 business executives identified their companies' closest competitors (see Table 1). To test the similarity of how simulation game participants select their closest competitors, Faria and Wellington (2002) had 360 simulation game participants, divided into 96 simulation teams, submit competitor reports. These reports detailed who the members of each simulation team identified as their closest competitors and the reasons for selecting the closest competitors. Faria and Wellington (2002) reported that eight of the top ten reasons given by the simulation game participants as the reasons for selecting their closest competitors were the same as those reported by the business executives in the Clark and Montgomery (1999) study.

TABLE 1

**TOP TEN REAL WORLD COMPETITOR IDENTIFICATION
ATTRIBUTES FROM CLARK AND MONTGOMERY (1999) STUDY**

Attribute	Percent Respondents Identifying
Products offered	60%
Product positioning	51%
Geographic scope of market[*]	46%
Resources	39%
Customer perception of firm[*]	39%
Price	33%
Competitor size	28%
Distribution	25%
Financial strength	25%
Competitor behavior	23%

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METHODOLOGY AND RESEARCH QUESTIONS

A study was undertaken over the course of a year at a large university. The subjects were students in three separate executive training programs. All subjects were employed full-time. As part of the executive training, the subjects participated in a business simulation game. The game used was *COMPETE: A Dynamic Marketing Simulation* (Faria, Nulsen and Roussos, 1994).

The 45 business managers were divided into 13 simulation teams. The simulation teams competed over a three year period. During the simulation competition, the participants were surveyed twice and asked to rank each of their competitors from strongest/closest to weakest. The participants provided a simple ranking of their competitors (from top to bottom); a ranking based on awarding points, with more points awarded to stronger competitors; and a ranking using a seven-point Likert scale as to the perceived threat of each competitor. The participants were asked, as well, to identify the reasons for their ranking of their competitors.

When the simulation competition was completed, all participants were asked to fill out a questionnaire. The questionnaire asked the participants to name the company that they currently work for, list all competitors to their real world company (starting with the closest/most important), and provide the reasons for the ranking of their real-world competitors. In this fashion, the researchers obtained information on how the participants ranked their simulation game competitors and their real-world company competitors.

Based on past research findings, the following research questions were investigated for this study.

1. Will the attributes identified by business executives as the basis for the rankings of their simulation competitors and real-world company competitors be substantially the same?

2. Where there are differences in the ranking attributes given, will the differences be due solely to the scoring/grading system used in the simulation competition?

Based on the findings presented in the Faria and Wellington (2002) paper, it is anticipated that there will be great similarities in the reasons given for the rankings of competitors by business executives in their simulation environment and real-word environments. Where differences exist, they will be due to the scoring/grading system used for the simulation competition.

FINDINGS

The findings from this study are reported on in Tables 2, 3 and 4. The results shown in Table 2 indicate that the rankings of the attributes used to identify their closest competitors in the simulation competition reported by the 45 executives changed from early in the simulation (end of year 1 of the competition) to the end of the competition. In essence, the respondents shifted their emphasis from performance based measures (earnings, market share, and sales) to activity based measures (pricing, advertising, research and development, product quality and overall marketing strategy). Collectively, the executive participants in the current simulation competition identified six attributes that were similar to those identified by executives in Clarke and Montgomery's (1999) study.

TABLE 2

**SIMULATION COMPETITOR RANKING ATTRIBUTES
REPORTED BY EXECUTIVE SIMULATION PLAYERS**

	Report 1	Report 2	Clark & Montgomery Match & Rank	
Earnings	76.9%	53.8%	Yes-I	4th
Pricing Strategy	7.7%	38.5%	Yes	6th
Advertising	7.7%	30.8%	No	-
Research & Development	7.7%	23.1%	No	-
Market Share	61.5%	15.4%	Yes-I	7th
Marketing Strategy	23.1%	15.4%	Yes	10th
Product Quality	0.0	7.7%	Yes-I	1st
Sales	30.8%	0.0%	Yes	9th

I - Indirectly
N = 13 responding simulation companies

The results shown in Table 3 indicate that the 45 executives used more attributes to identify close competitors for their real-world companies than for their simulation companies. The attributes that the executives used in this study, furthermore, were in agreement with those listed by executives in the Clarke and Montgomery (1999) study. In total, nine attributes were similar or the same across the two studies.

TABLE 3

**REAL WORLD COMPETITOR RANKING ATTRIBUTES
REPORTED BY EXECUTIVE SIMULATION PLAYERS**

	Current Study % Reporting	Clarke & Montgomery Match & Rank	
1) Products	51.1%	Yes	1st
2) Product Quality	35.6%	Yes-I	1st
3) Market Share	33.3%	Yes-I	7th
4) Sales	26.7%	Yes-I	9th
5) Pricing	22.2%	Yes	6th
6) Benchmarking	13.3%	Yes-I	10th
7) Technology	13.3%	No	
8) Company Reputation	13.3%	Yes	5th
9) Geographic location	11.1%	Yes*	3rd
10)Global Presence	11.1%	Yes*	3rd
11)Serve same customers	11.1%	Yes-I	8th
12)Earnings	4.4%	Yes-I	4th

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I - Indirectly
* Covered under geographic scope of market
N = 45 Executive respondents

TABLE 4

**COMPARISON OF REAL WORLD COMPETITIVE ATTRIBUTE RANKINGS VERSUS SIMULATION GAME
ATTRIBUTE RANKINGS AND CLARKE AND MONTGOMERY'S STUDY OF COMPETITVE ATTRIBUTE
RANKINGS**

Real-World Ranking		Simulation Ranking	Clark & Montgomery Study Ranking
1)	Products	-	1
2)	Product Quality	7	1
3)	Market Share	5	7
4)	Sales	8	9
5)	Pricing	2	6
6)	Benchmarking	6	10
7)	Technology	-	-
8)	Company Reputation	-	5
9)	Geographic location	-	3
10)	Global Presence	-	3
11)	Serve same customers	-	8
12)	Earnings	1	4

Table 4 shows a comparison of the attributes identified by the 45 executives in this study with regard to their real-world company competitors, their company competitors in the simulation competition, and with the Clark and Montgomery (1999) executive findings. The findings reported in Table 4 indicate that many of the same attributes arose between the current study and the Clark and Montgomery (1999) study with regard to the ranking of real-world competitors as well as the current study rankings by the executives for their simulation companies.

DISCUSSION AND CONCLUSIONS

The findings reported in this study show that business executives use many of the same attributes for identifying competitors for their real-world companies as they do for their simulation game companies (see Table 4). As might be expected, though, the percentage of time certain attributes are identified and the rank order of the attributes do vary between real-world and simulation game environments. As such, the expected answer to research question one is only partially supported.

The second research question indicates that the differences in attributes used when ranking real-world versus simulation competitors would be due to the manner in which the simulation participants were graded or evaluated. This proposed answer to this question was supported on the basis that the evaluation method in the simulation competition focussed on earnings per share and the findings indicated that earnings per share was the number one ranked variable for identifying competitors in the simulation game environment. In contrast, earnings were only the 12th ranked variable of concern in identifying competitors in the workplace.

There were two other differences between the workplace and the simulation environment: advertising plus research and development emerged as key considerations in identifying the closest competitors in the business simulation competition while in the workplace neither variable received even a single mention from the 45 executives involved. Clearly, the more limited, or simpler, simulation environment likely contributed to this.

It seems remarkable that among forty-five business executives, none mentioned advertising as a basis upon which to identify real-world competitors as advertising is one of the most visible competitive variables. The most likely explanation for this apparent paradox is the notion that competitive advantage resides most often within the products and services and the operations of most business firms and rarely comes from simple communication approaches. Experienced businesspeople would most likely be aware of this consideration.

While many of the same variables were identified in this study and the Clark and Montgomery (1999) study for competitor identification and ranking, the importance, or order, of the variables differed. One possible explanation for this variance might be the fact that Clarke and Montgomery

(1999) sampled senior executives while the executives who participated in this study were mostly middle managers. As such, it is not surprising that the percentages differed given the different viewpoints from which these executives might perceive their competition.

Another issue raised by the current findings is the difference in percentages of executives reporting on variables used to identify competitors from one reporting time (end of year 1 of the competition) to the second reporting time (end of year 3 of the competition) in the simulation game (see Table 2). There was a clear shift from using "evaluation" based variables like earnings per share, market share and sales to more operational variables such as research and development, advertising and pricing. This change might to be due to the participants gaining experience with the simulation over time and, as such, is not only not surprising, but to be expected.

This study presents a number of key limitations. Firstly, the sample size of simulation firms was relatively small, only 13 competing companies, and this makes the inferences from the simulation firm reporting data relatively weak. A second limitation was that the simulation firm competitive attributes and the workplace competitive attributes reported by the executives were not linked in the data collection. As such, a comparison of how the individual executives reported on their workplace situations versus their simulation companies could not be made.

In spite of these limitations, the current study does, once more, suggest that the business simulation game environment is closely related to the real-world business environment. Simulation games do possess both external and internal validity and do provide a good teaching/learning tool. The similarities between how the business executives in this study and the Clark and Montgomery (1999) study rate competitors as compared to how participants in a simulation competition rate competitors is quite remarkable.

In conclusion, given that attributes such as products offered, pricing, market share, sales, earnings, and benchmarking were identified as attributes for competitor identification in different studies of both workplace and simulation situations, it seems appropriate to infer that they be considered important attributes for competitor identification for future research. In addition, designers of simulation games may want to take note of the kinds of competitive attributes used to both identify real world competitors and to measure competition. Hitherto, earnings have usually been the primary objective function driving most simulation games while executives seem to be reporting that more controllable operational variables such as products offered, product quality, pricing, firm reputation, geographic operating area, and process benchmarking are critical competitive comparison variables. Perhaps the objective functions driving the decision making outcomes of many of the business simulation games in use need to be revisited and revised to reflect what executives consider important.

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