

Predicting The Outcome of Marketing Negotiations: Role-Playing versus Unaided Opinions

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Role-playing and unaided opinions were used to forecast the outcome of three negotiations. Consistent with prior research, role-playing yielded more accurate predictions. In two studies on marketing negotiations, the predictions based on role-playing were correct for 53% of the predictions while unaided opinions were correct for only 7% ($p < 0.001$).

1. Introduction

Research directed towards *understanding* the negotiating process has obvious implications for marketing. Consider the negotiations between producers and suppliers, sellers and buyers, or firms and government regulators. Presumably, better understanding would enable one to conduct such negotiations more effectively.

An alternative to understanding the negotiating process is to examine techniques that might help to *predict* the outcomes of negotiations. Accurate predictions of the outcomes of marketing negotiations can help parties to develop better strategies. An example would be a hotel's negotiations to sell rooms for a conference, where the opening offer is viewed to be so high that the potential buyer breaks off the negotiations. If such an outcome were predicted, the hotel could search for a superior alternative such as a lower price, or an offer with additional benefits.

Prior research has examined the use of cooperative game theory as a way to predict the outcome of marketing negotiations (Neslin and Greenhalgh, 1983; Eliashberg et al., 1986). However, rather than using actual negotiations, the 'outcomes' in these studies were obtained from role-playing simulations. This raises an issue: are role-playing outcomes predictive of actual outcomes?

Our paper examines procedures to help participants predict the outcomes of negotiating strategies or positions. In particular, it compares the predictive validity of role-playing versus unaided opinions. It also examines the validity of using role-playing outcomes to test predictions from game theory.

2. Predictive methods for negotiations

In our opinion, the most common approach to predict the outcomes of negotiations is to rely on unaided opinion. By unaided opinion we mean that the person making the forecast receives no assistance in the analysis of the information. To the extent that the judges have seen many similar situations, unaided opinions should work well. When large changes in strategy are considered by either party A or B, the judges' predictive ability would be expected to deteriorate. This is because their prior experience is less relevant. For example, the use of a new and unusual channel of distribution for a product might go outside the manager's current experience.

Judges often face difficulties in gaining perspective on each of the parties (Bazerman, 1986). That is, what is the other party's viewpoint on this situation? A lack of perspective would be especially likely when the judge is one of the parties involved in the negotiation. For example, Nestle did not seem to understand the perspective of the protest group, INFACT, during their conflict over the marketing practices for an infant formula (Hartley, 1989). Another example is Coca Cola's failure to understand the viewpoints of a substantial group of its consumers (Hartley, 1989). In such cases, people often assume that others will respond as they themselves do (Messe and Sivacek, 1979).

Even given proper perspective, the judge must consider the complex series of actions and reactions that would be set off by a significant change in strategy. Given a proposed action by party A in a negotiation, one must predict the initial reaction by party B, the subsequent reaction of A, the subsequent reaction of B, and so on until an outcome is reached. The uncertainty about the actions and reactions by each party makes it difficult to forecast outcomes. The parties in the negotiation often make simplifying assumptions in such cases. In their study of negotiations over the price of a car, and on the price to offer for the acquisition of a company, Carroll et al. (1988) concluded that these assumptions often deviate from normative logic.

Many formal approaches have been suggested for predicting the outcomes of negotiations. These include analytical procedures, such as game theory, structured simulations (typically via computer), and expert gaming. Moynihan (1987) describes various approaches to expert gaming. Our paper is concerned with a version of expert gaming: role playing. Role-playing is similar to "free-form gaming," where teams interact through an experimenter (Shubik, 1983). Role-playing differs from free-form gaming in that the interaction is not guided by the experimenter. Furthermore, role-playing is often conducted with subjects who are not experts in the area.

The role-playing technique we describe is relatively simple and inexpensive compared with many of the free-form expert gaming procedures. For example, Moynihan (1987) describes a gaming procedure employed by Svensson and Dreborg that required eight weeks. While large simulations can achieve more realism, Elstein, Shulman and Sprafka (1978) concluded from their studies that the added realism was not worth the cost. They suggested that 'low-fidelity simulations' were adequate. Furthermore, it seems reasonable to start with simple procedures and to make them more sophisticated only if necessary.

In the simple form of role-playing proposed here, the players are assigned to the positions of negotiators. They are asked to improvise as necessary, but to make the negotiation realistic and to stay in their role at all times. Sometimes they are asked to act as they themselves would act. In some situations, for example when they know much about the actual negotiator, they are asked to act as that person would act. The subjects should have enough expertise so that they can play the roles assigned. Typically, however, most of the prior research has used students. Realistic settings add to face validity (Zimbardo, 1972; Janis and Mann, 1965).

Brief descriptions of the situation are provided to each party. The players are given ten minutes to prepare for their roles. The role playing sessions are administered in short sessions (less than one hour). The limits on the amount of time for preparation and for role playing were set originally for cost considerations; however, subjects and administrators considered the time to be adequate. Finally, the outcome from the role-playing is used as the prediction. If no outcome is reached, the participants are asked to predict the outcome had they continued negotiating.

3. Prior evidence

Busch (1961) described a role-playing procedure used by the executives of Lockheed Corporation to forecast the reactions of their major customers. This procedure allowed them to experiment with various options before actually making them available to their customers. Busch concluded that this procedure yielded accurate predictions, although his claim was not formally tested.

Armstrong (1987) reviewed empirical research on the value of role-playing. This research suggested that role-playing was more accurate than unaided opinions. That paper also examined the accuracy of role-playing in predicting the outcomes of three negotiations: the 1982 negotiations between the National Football League Players Association and the team owners; the negotiations between Dutch artists and the Dutch government in the late 1960s; and the negotiations between Philco and a chain of supermarkets in 1961. The NFL role-playing was conducted prior to the actual outcome. The other situations were disguised and were role-played after the event. Business school students were used as subjects. For all three situations, role-playing proved to be a more accurate predictor. It yielded 67% correct predictions. In contrast, unaided opinions were correct for 9% of the predictions.

This prior research examined some threats to the validity of the role-playing studies. For example, the additional information provided to the role-players in their roles did not affect the outcome; subjects using unaided judgment were no more successful in their predictions when they were provided with information about both roles

(Armstrong, 1987). Other threats remain. One is that the procedure used in Armstrong (1987) was ambiguous; the instructions allowed the players to “act as you would act” or to “act as people in your roles would act.” Still another threat is that the administrator of the study knew the actual outcomes of the two negotiations that had already been resolved, and also knew the directional hypothesis for the study.

To our knowledge, these studies are the only attempts to test the predictive validity of expert gaming procedures in negotiations. Only one of these prior negotiations involved marketing, the one involving a change in Philco's distribution channel.

4. Further studies on role-playing in negotiation

In the study described here, we sought more information about marketing negotiations. In addition, we addressed two of the threats to validity that had been present in the previous research. First, the ambiguity in role instructions was eliminated. Second, the administrator was unaware of the actual outcomes and of the hypothesis.

This section describes the situations, subjects, administration, and coding used in the experiments.

4.1. Situations

We examined three negotiation situations. The first, called the “Dutch artists,” was used to evaluate our procedure by replicating Armstrong's (1987) research, and also to expand the small sample in that study. The second situation, “Philco appliances,” expanded on the prior research on that marketing negotiation. Combining the results of the two studies was dependent upon showing that the previously used procedure was valid. The third situation, the “Journal negotiation,” provided evidence in a situation that had not been examined previously. The situations are described briefly here. Copies of the role-playing materials are available from the first author.

4.1.1. Dutch artists

In the late 1960s, a group of Dutch artists staged a sit-in at the Rembrandt room of the Rijksmuseum in Amsterdam. The artists demanded that the government provide additional support to those artists who were unable to sell their work. There was to be no restriction on the length of time that an artist could rely on this support. Furthermore, they wanted the government to purchase the art if no one else would. The government was reluctant to give in to these demands because of the costs of such a program and the difficulty of finding storage space for the artwork. The description of the situation used in the present study was abstracted from Newman (1982) and was identical to that used in Armstrong (1987).

4.1.2. Philco appliances

The Philco appliances case was based on an actual situation described in Berg (1970, pp. 87-131). In 1961, Philco attempted to convince supermarket managers to sell major appliances in their stores. Supermarkets were a new and untested channel for appliances. According to this plan, customers at participating supermarkets would turn in their cash register receipts, and 5.5% of the amount of their purchases would be deducted from the monthly installment payment for any appliance purchased. The cost of the discount was to be split between the supermarket and the manufacturer on a sliding scale. The task was to predict whether the supermarket managers would agree to such a plan. The description that was given to the subjects is reproduced in Appendix A.

4.1.3. Journal negotiation

This case was also based on an actual situation. The journal editors provided the description, so it reflects their viewpoint.

The journal was highly successful from both an academic and financial viewpoint. The editors, however, were unable to cover their out-of-pocket expenses given the royalties under the initial contract. At the same time, they believed that the publisher was earning substantial profits. Furthermore, the editors were not satisfied with the

publisher's level of service or with their promotion of the journal. Communication between the editors and the publisher was not good. The initial contract had run out, and the editors wanted to meet with the publisher to negotiate a new contract.

In preparing for the real negotiation, the editors had focused on interests rather than positions (see Fisher and Ury, 1981, for details on this negotiating method). They estimated that the publisher's profit was about US \$45,000 per year. Meanwhile, the editors' annual expenses were about \$25,000, and they received royalties of only \$8,000. The deficit was spread among the universities where the editors were located. The publisher had offered to renew the contract on terms that provided the same royalties but, in other respects, the new terms were less favorable than those in the initial contract. The publisher's negotiators said that they could not offer higher royalties because they had to recover the start-up costs that they incurred during the first three years of the journal. A copy of the complete description is provided in Appendix B.

4.2. Subjects

Because our interest was in predicting outcomes in situations that went beyond the experience of the subjects, the selection of subjects was a simple matter. A convenience sample of students was deemed appropriate.

Advertisements were placed in each of the 3,500 Wharton student mailboxes. These ads offered an opportunity to "learn a valuable technique for decision making," to "improve your negotiation skills," and to "earn \$10."¹ Respondents were asked to provide their phone numbers. They were then called and scheduled for an appointment. Of the 92 subjects, 79 were from the MBA program and 13 were undergraduates. Of the MBAs, all had three or more years of prior work experience. To increase the likelihood that four subjects would actually be available at each session, we sometimes invited five subjects. The subjects were asked, at the start of the exercise, whether or not they had prior knowledge of this experiment from other subjects; none had.

When the subjects arrived, they were randomly assigned to pairs. They were then given a case, either the Dutch artists or the Journal negotiation, and were asked to make a prediction using unaided opinions. The order of the two cases was randomized. After making a prediction on the first case, the subjects were instructed to use role-playing on the second case.² Because some subjects arrived late, they did not always have sufficient time to complete both cases. When this occurred, preference was given to running the Journal negotiation. The sessions were conducted in November 1986, well after the actual events had occurred.

The first author also ran the experiment at the Wharton School in October 1988. This experiment used ten captive subjects during a session in an undergraduate course on marketing channels. This eliminated problems with self-selection of subjects. As with the other experiments, the opinions and role-play treatments were randomly assigned. In this experiment, the Philco and Journal cases were used.

4.3. Administration

The following instructions were provided to the subjects for the unaided opinions:

"I would like each of you to read this case, discuss it with your partner, and come to a mutual decision on its outcome. Please choose the outcome from the list on the last page of the case.

¹ The earlier experiments had not used an honorarium. Some reviewers suggested that an honorarium may lead to a better effort by the subjects.

² The role-play session was scheduled second in order to avoid influencing the unaided session. The effort in the unaided session was not expected to help in the subsequent task because the unaided groups did not use any formal techniques, and because the situations were different. Nevertheless, the unaided session might have served as a warm-up or get-acquainted session that allowed the pair to work more effectively on the second task, thus aiding role-playing.

There should be no interaction between the two groups. This is an actual case and I would like you to determine what actually happened.”

When the subjects finished the first case, they were then given a second case and were asked to prepare for role-playing. The instructions for the role-playing, using the Journal negotiation case as an example, were as follows.

“Once you are finished reading the case, I would like the Editors to leave the room to prepare their negotiation strategy. While the Editors are away, I would like the Publishers to prepare their negotiation strategy for the upcoming meeting with the Editors. When the Editors return to the conference room, they will meet with representatives of the Publishers at the Publisher's office. During the role-playing, I would like you to follow these rules:

- (1) Act as you would act if you were in the role as signed.
- (2) Improvise as necessary, but be sure it is realistic.
- (3) Do not step out of your role at any time.

Please use the answers on the last page of the case to focus your arguments. I am available to answer any clarification questions before the role-playing takes place.”

In other words, the pair representing the publishers met with the two editors in each role-playing negotiation. (Similar instructions were used for the Dutch artists and Philco appliances situations.)

Note that the instructions for the unaided opinions did not rule out the possibility that the subjects would decide on their own to use structured techniques. For that matter, they were free to use role-playing. However, none of them used structured techniques.

To reduce unintended biases, the administrator in the November 1986 experiments did not know the actual outcomes in the two cases.

4.4. Coding

The role-playing approach might prove valuable in identifying the actions that would be considered by each party. For example, in what ways might pharmacists have responded to a proposed plan by Smith, Kline and French in 1971 to offer branded generic drugs? As it turned out, the pharmacists resisted the plan, to the surprise of management.

For research purposes, however, it seemed desirable to have a set of options for the subjects to choose from. This was expected to save time in conducting the role-playing. It also reduced the potential for coding errors and allowed for the use of small sample sizes (as there would be fewer things to compare).

The subjects were asked to select from among a set of outcomes. These outcomes were based on options that had been considered in the actual cases. The options for each of the situations are described here.

For the Dutch artists case, six options were offered. At one end of the spectrum, the government would end the support program altogether. At the other end, the government would relax the entrance rules and extend the support program for artists over an indefinite period. The options in between varied the entrance requirements and the length of the support period.

The Philco appliances case offered three options. These were (1) to adopt the plan as a long-term agreement, (2) to use it as a short-term promotion, and (3) to reject it.

In the Journal negotiation case, the following four outcomes were explicitly considered by the editors and these options were offered as choices to the study subjects: (1) no agreement is reached; instead, the editors start a new journal and the publishers continue to publish the old journal with new editors; (2) the editors buy out the publisher's claim and publish the journal with a new publisher; (3) a joint venture is formed with the current publisher; and (4) an agreement is reached on a higher level of royalties.

At the end of the role-playing session, the participants filled out the response section on the last page of the case. If the groups reached an agreement during their negotiations, this agreement was used as the prediction of the outcome of the conflict. If no agreement was reached in the time allowed, each pair was asked to predict what would have happened. As in the opinion group, each pair was treated as one data point. In the role-playing case, this overstated the sample size because the interacting pairs of editors and publishers were involved in negotiations with one another. (Nevertheless, the pairs did not always agree; sometimes one pair thought the negotiation was heading toward an agreement, and the other pair did not see it that way.)

5. Dutch artists results: Calibration

The major purpose of the calibration sample was to determine whether the improved procedure for running the experiment yielded the same results. This experiment eliminated the ambiguity in the role description that had existed in the former procedure (Armstrong, 1987). It was also run by an administrator who was unaware of the hypotheses and of the actual outcome. Finally, it offered an honorarium.

In the Dutch artists case, the actual outcome was that the government gave in to the artists demands. It relaxed the entrance requirements and extended the support for artists for an indefinite period.

The direction of effects was the same in the new study as in the original (Armstrong, 1987). The levels of statistical significance were similar, a reasonable comparison because the sample sizes were almost the same. The effect was larger in the original study, but this difference was not statistically significant.³ Table 1 summarizes the results from both studies. The results add support to the validity of the prior procedure.

Table 1
Dutch artists case

Sample	Percent correct (number of groups)		
	Opinions	Role-play	<i>p</i>
Original	5.5 (18)	50.0 (4)	0.10 ^a
Current	0.0 (13)	20.0 (10)	0.18 ^a
Combined	3.2 (32)	28.6 (14)	0.04

^a Fisher Exact Test for options versus role playing.

As hypothesized, role-playing was more accurate than unaided opinions in predicting the actual outcome for the Dutch artists case. When the new results were combined with the old ones, the accuracy of role-playing was superior to opinions, 28.6 versus 3.2%. This superior accuracy was statistically significant at $p < 0.04$, using the method of adding *p*'s from Rosenthal (1978). This strengthens the finding from the prior study on the accuracy of role-playing for conflict situations.

6. Philco appliances results

The successful replication in the preceding section provides some assurance that the procedure used in the original tests with the Philco appliances case (Armstrong, 1987) was valid.

³ This was tested by taking the largest difference, that in the role-playing condition, and doing a Fisher Exact Test for the differences between the original and new results.

The actual outcome in this case was that the supermarkets accepted the plan proposed by Philco.⁴ Those using unaided opinions concluded that the offer would be rejected by the supermarkets. Less than 3% of the groups predicted acceptance. In contrast, 75% of the role-playing groups predicted that it would be accepted. The calculated level of statistical significance was $p = 0.06$, using the addition of p 's from Rosenthal (1978). Table 2 summarizes the results. The superior predictive ability for role-playing would seem to be of practical importance.

Table 2
Philco appliances case

Sample	Percent correct (number of groups)		
	Opinions	Role-play	p
Original	2.9 (34)	80.0 (10)	0.01 ^a
Current	0.0 (3)	80.0 (2)	0.33 ^a
Combined	2.7 (37)	75.0 (12)	0.06

^a Fisher Exact Test for opinions versus role playing.

7. Journal negotiation results

In the Journal negotiation case, the actual outcome was that no agreement was reached. The editors started a new journal, and the publisher continued to publish the old journal with new editors. This led to substantial losses for all concerned.

A review of the notes taken during the role-playing exercises revealed that the subjects used many of the arguments that had been used in the actual negotiations. Furthermore, the role-players became emotionally involved in the conflict. These observations lent face validity to the role-playing process.

Predictions were obtained from 25 opinion groups and 24 role-playing groups. About 90% of the predictions were obtained during the experiments run by the administrator in the blind condition. Role-playing yielded relatively more accurate forecasts than did unaided opinions, 41.7% correct versus 12%. This superior predictive accuracy for role-playing was statistically significant at $p < 0.02$ using the chi-square test (Siegel and Castellan, 1988). The results are summarized in Table 3.

Table 3^a
Journal negotiation results (entries are the number of groups)

Group	Prediction		Percent Correct
	Correct	Incorrect	
Role-playing	10	14	41.7
Opinions	3	22	12.0

^a $p = 0.02$ using the chi-square test for opinions vs. role-playing.

Role-playing was also more successful in predicting responses to an alternative strategy. The option of having the editors purchase the journal's name from the publisher was selected as the most likely outcome by 40% of the opinion group, but by none of the role-playing groups. In fact, this option was quickly rejected by the publisher. This superior accuracy for role-playing was significant at $p < 0.01$.

Had the role-playing been done prior to the negotiation, it might have alerted the editors to the significant likelihood of a disastrous outcome. (They admitted to being surprised and disappointed at the outcome.) They might then have considered an alternative solution, such as operating without a contract.

⁴ After a short period, this plan was matched by other appliance manufacturers. It proved to be a bad decision for all concerned.

None of the role-playing groups settled for less than \$11,000. In fact, the best offer from the publisher was about \$10,000. This indicates that the publisher might also have gained insight by role-playing its strategy.

8. Discussion

This study strengthened the results from prior research on conflict situations by expanding sample sizes and by adding a new situation. Based on the results from this study and those reported in Armstrong (1987), role playing was more accurate than unaided opinions in seven of eight cases tested (there was one tie). Some alternative explanations such as ambiguous instructions and bias on the part of the administrator were tested and ruled out as factors affecting prior results.

Our primary concern in this paper is with the predictive validity of role-playing for marketing negotiations. When the results from the Philco appliances case are combined with the results from the Journal negotiations case, unaided opinions were correct for 6.61 of the predictions by 61 groups. In contrast, role playing yielded 52.7% correct predictions by 36 groups. Using the method of adding probabilities (Rosenthal, 1978), the level of significance was $p < 0.001$. Thus, the results were important in both a practical and statistical sense.

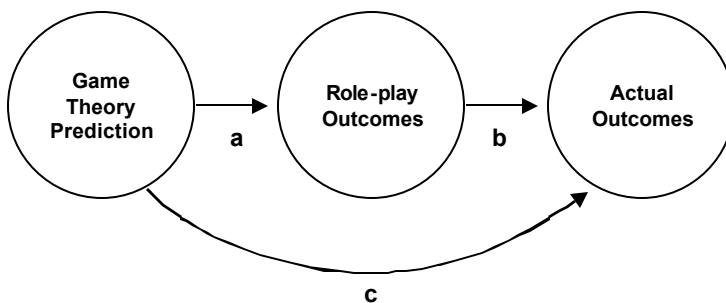
The gain in forecast accuracy was achieved with a modest increase in costs. Role-playing sessions lasted about 50 minutes and yielded two predictions. This compares with 20 minutes for the two predictions from each of the opinions sessions.

While our studies were done at a single point in time, the role-playing techniques can be extended to cover changes over time. This is done by allowing the negotiations to continue in the light of new information. An analogous procedure has been used in the legal field, where role-playing juries are used during courtroom testimony (Cooper, 1977).

8.1. Game theory as an alternative

This study offers support for the predictive accuracy of role-playing. This result supports previous research that used game theory to predict outcomes (Neslin and Greenhalgh, 1983; Eliashberg et al., 1986). In that research, role-playing outcomes were used as proxies for actual outcomes with the implication that game theory would be relevant for actual situations. This is illustrated in Figure 1. In other words, evidence that game theory had predictive validity for link "a" was used to imply link "c." This inference requires that role-playing provide accurate predictions of actual outcomes (link "b"). In our study, the role-playing predictions (link "b") were correct more than half of the time. This suggests that the procedure used in the game theory research has external predictive validity.

Figure 1
Assumptions behind the game theory studies



Of course, role-playing was also wrong on almost half of the outcomes. It is difficult to say how much predictive validity is needed, and it is also difficult to generalize to the situations used in the prior studies. Nevertheless, researchers who evaluate game theory as a managerial tool might consider using cases that are drawn from actual

events (i.e., where the actual outcome is known). This strategy could allow for laboratory control while adding a check for external validity.

Further research could also test the comparative feasibility and accuracy of role-playing and game theory (link "b" vs. link "c"). We hypothesize that role-playing can be used in a wide variety of conflict situations, whereas game theory will be limited to a small subset of situations because it requires substantially more information.

9. Limitations

A possible explanation for the superiority of role-playing is that the subjects invested more effort in role-playing than in forming opinions. We did not test this explanation. We did, however, instruct the opinion group to take as much time as they needed. Furthermore, we were interested in the application of these techniques to real situations. That one method elicits more effort might be regarded as an advantage.

Both the Journal negotiation and Philco appliance cases concerned events that had already occurred. This opens the possibility of biases being introduced. Biases in the wording of the instruments were not expected to create a serious problem because both groups received the same descriptions.

A potential selection bias exists in the choice of the situations to be studied. Using unaided opinions, we selected situations that were interesting; perhaps this is because they had strange outcomes. Note, for example, that the unaided opinions for the Philco appliances case led to predictions that were worse than chance. This selection bias could favor methods other than unaided opinions. To test this, Armstrong (1987) compared the results from retrospective and prospective studies. Only two prospective studies had been done. These studies, using 16 opinion groups and 11 role-playing groups, yielded results that were as favorable to role-playing as were the retrospective studies: 14% correct predictions by the opinion groups versus 80% accuracy for role-playing groups. Thus, this threat to validity does not appear to be serious, given the, existing evidence.

Still, other biases may occur in the selection of the cases. In order to determine the conditions under which role-playing is most appropriate, further research should examine a variety of situations.

Although prior research (summarized by Ashton and Kramer, 1980) found considerable similarities between students and nonstudents in studies on decision-making processes, it is not clear that this finding can be generalized to situations involving complex negotiations. However, most of our subjects had substantial work experience. Furthermore; the examination of empirical evidence in Locke (1986) indicates that, in studies on decision making, laboratory experiments usually yielded similar results to those obtained from field studies; typically, these laboratory studies were conducted with students.

The studies summarized by Locke were, like ours, drawn mostly from volunteers; thus, the method of selecting subjects was not thought to be a source of error. Nevertheless, these issues on the selection of subjects would best be examined by conducting studies within organizations that are involved in negotiations.

Another threat to validity, which we did not examine in this study, is whether or not the description of the situation matched the true situation. To examine this, one could test alternative descriptions for a given situation. For example, each party in the conflict as well as a neutral party could prepare descriptions independently.

One aspect of the description that should be examined is the extent of detail used in specifying outcomes. Might role-playing be relatively better at predicting general outcomes or in predicting the details of an outcome?

Another limitation is that the results were drawn from only two marketing situations. On the other hand, the results are consistent with findings from prior research on conflict situations.

Further research is needed to determine whether or not these findings hold when tested in organizations facing change. For example, how should marketers respond to threats from pressure groups, such as whether or not the firm does business in South Africa? How will current suppliers and consumers react if a new channel of distribution were added? What is the most appropriate pricing policy in times of shortages?

10. Conclusions

This study examined two threats to the validity of prior research: the instructions were clarified, and an administrator who did not know the actual outcomes ran most of the experiments. The results support the conclusions from previous studies that role-playing has predictive value in conflict situations.

The study also provided additional evidence for a specific type of conflict situation - marketing negotiations. Combining the results from the two marketing negotiations examined to date (Philco and Journal), unaided opinions by 62 groups resulted in 7% correct predictions. In contrast, the 36 groups using role-playing were correct for 53%.

Role-playing is expected to improve accuracy only when substantial changes are being considered such that the parties have had little relevant experience. In repetitive negotiations, the parties will learn from experience; here, their unaided opinions are likely to be as accurate as role-playing.

Parties in marketing negotiations can use role-playing to predict more accurately how other parties will respond to a given strategy, and how they, in turn, will react. The improved prediction of outcomes should help them to select strategies that could lead to favorable outcomes in negotiations with major customers, suppliers, or government regulators. For example, by role-playing the change in the Coca Cola formula, the company might have been able to adopt a strategy to avoid the resistance from the customers and suppliers.

Direct comparisons of the predictive ability of game theory and role-playing would be useful. Under what conditions would each approach be most useful to management? Perhaps each offers useful predictive information, in which case a combined forecast might lead to still further improvements.

Acknowledgements: Jehoshua Eliashberg, Arthur Elstein, Eric Johnson, Arvind Rangaswamy, William Ross, and three anonymous referees provided helpful comments.

Appendix A. Distribution plan

The year is 1961: The Ace Company has been in business over seventy years and has become a major producer of home appliances. The home appliance industry has had a terrible start this decade. Sales have been weak, inventories are high, dealers are demoralized, and mass merchandisers and foreign competitors have entered the market by slashing margins. While the recession seems to have bottomed out by mid-1961, Ace's operating deficit is approaching US \$6 million for the year. The company, however, feels the fall introduction of the color TV set might recover some of the loss.

Ace's problems seem to be short term. Some existing new products in the development cycle are draining funds and the year's poor sales has created a cash flow crisis. Now that consumer purchases are picking up, funds aren't available for heavy promotion and prices are still soft due to foreign competition and excess inventories. One component of the marketing mix can be attacked - distribution.

A. I. Appliance discount plan

Competition between supermarkets for customers has always been heavy. Discount houses are opening up and every store seems to be giving trading stamps or running some kind of promotion. Ace feels it has come up with an excellent new distribution plan that will make everyone involved happy and yield much needed appliance sales. It's called the Cash Register Tape Plan (CRTP). An Ace dealer will link-up with an area supermarket.

The supermarket will be given an exclusive contract in return for floor space to display some major appliances. The dealer will supply a salesperson to explain the appliances and show pictures of items not on display. A shopper accepted by Ace Financing receives a 12-36 month, no down payment installment plan and has the item immediately delivered by the dealer. Each month, the purchasers bring in their cash register tapes from that supermarket. Five-and-a-half percent of the tape total is taken off the monthly installment (up to 75% of the payment). The payment of the monthly discount is split between Ace and the supermarket based on a sliding scale. If a shopper purchases less than \$50, Ace pays the full 5½% . If he purchases more than \$120, then Ace pays 2½% and the supermarket 3% .

The CRTP is designed to benefit all those involved. Naturally, Ace and their dealers expect to enjoy increased sales. The shopper will get a reduced price on a major appliance by altering purchasing habits. The supermarket should be able to reduce split market shopping, increase purchases by regular customers of items often purchased elsewhere, obtain new customers, and generally build traffic. There are, however, costs to the plan. Ace receives a lower price, the dealer has a salesperson at a remote location, the customer won't be able to 'shop around' for the lowest prices, and the supermarket has to give up floor space and pay part of the discount.

A.2. Selection process

Ace wants to deal with regional chains. This strategy will require getting agreement from only one source (per regional market) before they're able to start up the CRTP in the metropolitan areas they've selected. Expansion to additional cities will also be easily accommodated. Ace will select the dealers who will participate based on their proximity to the individual store selected to participate from the supermarket chains. Both the dealer and the supermarket must be approved by Ace Financing before they can join the CRTP. Dealers not near a selected supermarket or in a region not selected for the plan won't participate. If dealerships overlap a supermarket's territory, they will sell in the stores on alternate days.

A.3. Additional information

??Ace carries a full line of major household appliances and is a well-known national manufacturer.

??Small appliances (like toasters) have been sold through supermarkets as promotion items.

??Assume Ace can present some attractive return figures for the supermarket based on the given sliding scale discount payment procedure.

??No actual test of the CRTP has been conducted.

Appendix B. The journal negotiation

In 1976, a contract was signed between four professors and [a publisher] to publish a new journal. This contract was to run until December 31, 1979.

The *Journal* proved to be highly successful. Papers in the journal were among the most frequently cited of 85 academic journals in business, management, and planning. Sales were also good, with a circulation of 1,000.

Despite the success, relationships between the editors and the publisher deteriorated. The publisher did not think it was profitable to advertise the journal after the first year. As a result, a not-for-profit institute, started by the same four professors, promoted the journal. Difficulties also arose in that the publisher did not provide adequate copy editing and consistently missed deadlines (e.g., once an issue was lost “in the mail” for about three months). The matter was compounded because the publisher was lax about responding to mail and phone calls from the editors.

A meeting was held in San Francisco in July 1979 and it appeared some progress was made in resolving problems. For example, the publisher agreed to prepare a promotional plan which would call for an expenditure of 10 to 15% percent of resources, an amount to be matched by the institute. Contrary to this 1979 agreement, the publisher did nothing about promotion and ignored letters on the subject. The publisher was content to operate without a contract and avoided communications with the editors. In December, the publisher sent telegrams to each of the editors suggesting that the contract be renewed on similar terms as previously. In fact, their terms were worse in many respects.

The editors then obtained costs estimates from various sources. (The publisher would not share financial information.) The editors' conclusion on profits (which was not challenged by the publisher) was that the publisher was earning profits of US \$45,000 while the editors (through their institutions) had out-of-pocket expenses of \$17,000 (after receiving \$8,000 for royalties).

The editors pressed for a meeting and such a meeting was arranged in March 1980 in San Francisco. One of the editors had recently read a book on negotiation called *Getting to Yes*. This book advised the parties to negotiate principles, not positions.

The editors expected to reach a negotiated, settlement, but the bargaining range was wide. For the current subscription level, they received royalties of \$8,000. Two other publishers had recently offered contracts that would pay about \$30,000 for this level of subscriptions. And they concluded that the publisher was currently earning a net profit of \$45,000 for a small annual investment. (Essentially, the publisher was printing, billing, and mailing the issues.) The publisher did not seem confident that an agreement could be reached. Prior to the meeting, it had offered royalties of \$11,000. Although its profits were high now, it said this was necessary to recover its initial investments from 1976 through 1978. The editors told the publisher that an agreement must be reached at the March meeting. Otherwise, they would start immediately on a new journal. They felt that most of the editorial board and 40 associate editors would switch to a new journal, and that most authors would choose to publish with the new journal, though there was some uncertainty about this. There was also concern whether the market was big enough to support two journals. The editors were not particularly anxious to start a new journal because the journal was by now so successful and by law it seemed that the publisher would be able to retain the name. Starting a new journal would be time consuming, and the editors do not get paid for their time. They were willing to compromise at a level considerably below the outside offers assuming that they would have some possibility of covering all their costs in the years to come. They were willing to consider a variety of alternative arrangements such as buying out the publisher's interest or publishing with the publisher on a joint venture.

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