
YOYO THEORY: A STRATEGY FOR ESCALATION SITUATIONS

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A frog dropped into a pot of cold water will remain there calmly while the water is gradually heated to a boil, but a frog dropped into hot water will leap out instantaneously." - attributed to Gregory Bateson [24].

Like the frog, businesses must analyze changing situations and make decisions about them in order to survive. Decisions evolve incrementally as businesses are exposed to a bewildering flood of bits and pieces of information which, by action or the lack of it, is eventually translated into a business strategy. The intent of this paper is to:

1. Describe the decision-making characteristics of managers in relationship to their past record, present organizational resources, and perceived view of the future.
2. Specify possible situations where a rational manager may make decisions dangerous to the company and himself.
3. Offer recommendations to keep the company out of boiling water.

Introduction

The most critical aspect of a manager's job is making strategic decisions that involve risk and uncertainty. Current research indicates that decisions are made incrementally [9] as many small decisions combine to make the larger decisions, and each decision (and its outcome) impact on the succeeding ones. However, three independent bodies of literature have emerged, each with its own proponents and opponents, and a single vision of the influences impacting on decision-making processes has not been persuasively proposed. Prospect Theory is focused on the decision frame: by interpreting the way superiors frame the decision, one is given expectations for the *future* [13]. Organizational Slack looks at the *present* situation by examining that company resources are obtainable for the decision [6]. Escalation of Commitment considers the *past* by focusing on the previous decisions in this sequence [27].

Bateman and Ziethaml ([2], [3]) performed a number of experiments on the relationships between these three elements of the decision process; I propose that an initial step toward a unified theory of escalating situations may be suggested by these experiments. I further propose that decision behavior can be predicted by examining the relationship between a decision-maker's *perceived track record* (his opinion of the success of previous decisions) and his *perceived goal*. The perceived goal may

be thought of as the position the decision-maker feels that he deserves based on past performance (i.e., where I should be), or the minimum acceptable position (i.e., what is necessary to keep my job).

Four categories of managers may be identified by their track record. The first category, the GOGO, has a good track record. The second, the YOYO, has some success and some failure. The third, the DODO, has a poor record. For completeness, I add the ZERO, who does not impact on decisions. Of these four categories, the DODO and the ZERO can be eliminated because they are not key players in decision making. The GOGO is (usually) successful. Therefore, we will concern ourselves primarily with the YOYO.

YOYO Theory is an initial step toward a unifying model appropriate for strategic decision-making. It considers bodies of literature relevant to the past (Escalation to Commitment), present (Organizational Slack), and future (Prospect Theory) aspects of a decision to predict the behavior of a rational decision-maker in terms of the decision-maker's position and goals, as suggested in [25]. Its focus is on identifying danger zone situations in which a rational decision-maker may not act in the organization's best interest, and proposing solutions. Section One of this paper is a brief overview of the three bodies of literature and notable opponents. The focus is on escalation of commitment situations. Section two describes YOYO Theory, the Danger Zone for decisions, and recommendations for upper management. Finally, directions for further research are discussed.

Literature Review

The first part of this section is an overview of three major bodies of literature: Escalation of Commitment [25], Organizational Slack [6], and Prospect Theory [13], with an emphasis on potentially dangerous situations.

Escalation of Commitment. Staw and Ross describe an escalation situation as "predicaments where costs are suffered in a course of action and subsequent activities have the potential either to reverse or compound one's original losses" [29].

Many variables impact on a course of action and the business' level of commitment, and most projects contain several variables which may cause problems. These variables must have initially indicated that the decision would have positive utility or it would have not been made. However, decisions do not always turn out as expected; it is the unsuccessful decisions and the commitment to them that I focus on here.

Four major determinants of commitment are psychological determinants, social determinants, long-range determinants, and structural determinants. Commitment is strongly influenced by psychological variables; reinforcement, self-justification, self-inference and information processing biases may all lead to a belief that the project will turn around ([20], [26], [15], [30]). Social determinants are another strong source of commitment. Face-saving, external binding, competition, modeling, and norms all may be powerful forces that impact on a decision ([8], [12], [22], [28]). Commitment to a course of action may be increased by long-range commitments, salvage value, and

closing costs [29]. Structural determinants such as economic and technical side-bets, political support, administrative inertia, and institutionalization may also increase commitment. For example, Lockheed proceeded with the L-1011 program in spite of a low potential for profit because the aircraft was seen as Lockheed's entry into the commercial aircraft market. The institution of Lockheed required that it build commercial aircraft and not become (in the minds of the company) "just another defense contractor" [29].

Considering these determinants, Staw and Ross proceed to identify an escalation prototype. In each phase the determinants of commitment are identified. It is significant to note that in phases II through IV, the dominant determinant is psychological.

In Phase I, we have the promise of good future outcomes. Commitment is based on project determinants, which must appear positive or the project would not be funded.

In Phase II, questionable outcomes are perceived. Psychological determinants become active, becoming dominant over project determinants.

In Phase III, negative outcomes are perceived. Now, psychological determinants, social determinants and project determinants are factors enhancing commitment. The decision-maker feels anxiety about the decision.

In Phase IV, highly negative outcomes are perceived. Now, structural determinants are added to the equation, but below psychological and social determinants in influence.

Lockheed and the frog both ended up in escalation situations. To minimize these situations, Staw and Ross [29] offer the following techniques: (1) administrative turnover, (2) bifurcated decision procedures, (3) excuses, debinding and scapegoating, (4) support for failure, (5) unambiguous negative feedback, (6) bringing phase-out costs forward, and (7) deinstitutionalism.

The seven solutions proposed by Staw and Ross may be difficult to implement. Administrative turnover, bifurcated decision procedures, bringing sunk costs forward and deinstitutionalism are difficult tasks that focus on avoiding escalation situations; administrative turnover and bifurcated decision procedures add additional time, manpower, and cost pressures to a decision while reducing accountability, phase-out costs cannot be manipulated on many projects, and institutionalism is often a powerful force necessary for difficult projects.

Solutions 3, 4, and 5 offer some solutions to an escalation situation in progress. Excuses allow the decision-maker to retain face while distancing himself from the project and its outcome. Support for failure reduces anxiety in the manager, lowering the potential for escalation. Unambiguous negative feedback is a powerful tool because it allows the manager to recognize the true situation instead of believing the promise of the original project. Throughout the escalation process, the dominant factor is psychological and social determinants. Therefore, solutions 3, 4, and 5 offer the most powerful solutions to the escalation process. I shall return to this theme when I consider the implications of YOYO Theory.

Escalation of Commitment is focussed on the implications of past decisions on current ones. Other factors to be considered are the present resources of the firm as discussed by Cyert and March in *Organizational Slack*, and the influence of perceptions of the future described by Kahneman and Tversky in *Prospect Theory*.

Organizational Slack. Cyert and March emphasized the role of organizational slack in decision-making [6]. As defined by Bourgeois [5], organizational slack is “that cushion of actual or potential resources which allow an organization to adapt successfully to internal pressures for change in policy, as well as to initiate changes in strategy with respect to the external environment.”

In the book *A Behavioral Theory of the Firm*, Cyert and March conclude that “Organizational slack absorbs a substantial share of the potential variability in the firm’s environment. As a result, it plays both a stabilizing and adaptive role” [6]. In this light, slack is seen as a buffer against unforeseen circumstances. Additionally, successful companies tend to generate more slack than unsuccessful ones, not only protecting against unforeseen difficulties but allowing more creative and innovative activities to take place.

Bourgeois provides additional insight into other uses of slack, listing the following: inducement, conflict resolution, technical buffer, facilitator of strategic behavior, facilitator of creative behavior, facilitator of sub-optimal behavior, and as a promoter of political behavior [5].

Successful managers are seen to be less active in investing slack than unsuccessful ones [3]. Perhaps unsuccessful managers appear to be seeking buffers against variability, using slack as protection against unforeseen difficulties. Another possibility is that successful managers have slack stockpiles besides the traditional storehouses.

As Sitkin [23] points out, another school of thought is that organizational slack enables strategic and creative behavior in an organization. High slack conditions indicate prosperity, and allow the development of new strategies and experimentation. Low slack indicates a tight ship, allowing little deviation from the plotted course. This school of thought indicates that high organizational slack should be positively associated with strategic risk-taking [1].

The direct contradiction between the two schools of thought is not one to be reconciled in this paper. However, as the focus on this paper is on escalation situations, I will base YOYO theory on the results of empirical experiments focussed on escalation of commitment situations.

Prospect Theory. Kahneman and Tversky first proposed Prospect Theory in their 1979 article “Prospect Theory: An Analysis of Decisions under Risk” [13]. In later work, Prospect Theory evolved to consider the importance of the *decision frame* ([14], [18], [31]). (I will consider label and decision frame to be synonymous.)

Decision framing considers the positive or negative implications in the way the problem is presented. In experiments where all figures remained the same, managers presented with a positive decision frame invested at a higher rate than the same managers faced with a negative decision frame. Prospect Theory indicates that managers will invest not solely on the projected outcome of a project, but on the relationship between the outcome and the manager’s goals. In other words, successful managers will usually be risk-adverse, while unsuccessful managers will usually be risk-prone.

A successful manager invests moderately because he has established himself as a success. The present decision will impact on his position; a successful decision will

raise it and an unsuccessful decision will lower it. The successful manager sees his position as an investment and wishes to protect it; the perceived rise in position (from success to success+) is not as significant a change as the perceived fall (from success to success-), because as a pop singer is perceived as being only as good as his last record, a manager is only as good as his last decision. To protect his position, the successful manager invests more moderately in order to limit losses.

The unsuccessful manager, on the other hand, has little to lose. Unsuccessful managers are filled with anxiety about decisions because, unlike a successful manager, a bad decision often leads to unemployment. His motivation is not to retain his position (unsuccessful), but to improve it; his focus is on the upside, not the downside of the decision. By this focus on the upside of the decision, the unsuccessful manager sees only the potential to raise his position and underestimates the possibility of failure. A positive decision frame reinforces the focus on the upside of the decision because it is seen as a company prediction of success. With all of these factors, the unsuccessful decision-maker is found to reinvest heavily when faced with a positive decision frame [3].

Other bodies of literature contradict the ideas presented earlier. March and Shipira propose that a positive decision frame accentuates the potential for gain in a decision while lessening the potential for loss, therefore encouraging higher investment. The negative decision frame is thought to encourage threat-rigidity and low investment by emphasizing the loss potential of the decision ([17], [11]).

Bateman and Zeithaml Experiments. Prospect Theory and Organizational Slack have each developed contradictory bodies of literature. However, an illuminating series of experiments testing all three theories may remove some of the noise present in the literature and allow the development of a consistent theory. In a series of experiments ([2], [3]) Bateman and Zeithaml tested both students and practicing managers to reveal a decision-maker's characteristics in order to test all three theories. Most significantly, two studies revealed inter-relationships between the three factors in ways consistent with the original theories, but in greater detail. The following hypothesis were proposed and supported in [2]:

- H1. Failure feedback from a past investment decision will lead to significantly higher levels of reinvestment than success feedback (EC).¹
- H2. Low perceived organizational slack will lead to significantly higher levels of reinvestment than high perceived slack (OS).
- H3. A positive, gain-oriented decision frame will lead to significantly higher reinvestment levels than a negative, loss-oriented decision frame (PT).
- H4. Decision frame will have a greater impact on reinvestment, with positive frame leading to the highest reinvestment levels, after failure feedback than after success feedback (EC, PT).
- H5. Decision frame will have a greater impact on reinvestment, with positive

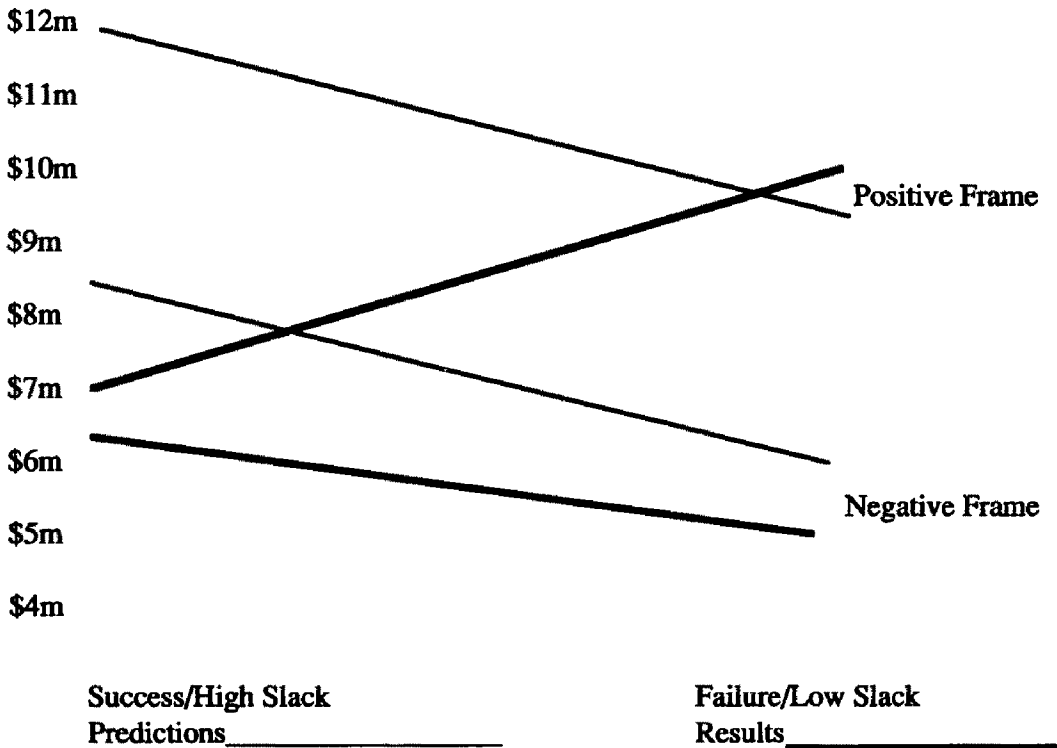
¹Theories associated with a hypothesis (by this author) are listed after it. PT is Prospect Theory, OS is Organizational Slack, and EC is Escalation of Commitment.

- H5. Decision frame will have a greater impact on reinvestment, with positive frame leading to the highest reinvestment levels, when perceived organizational slack is low than when perceived organizational slack is high (PT, OS).
- H6. Decision frame will have a greater impact on reinvestment in a context of failure feedback and lower perceived organizational slack than in a context of success feedback and high perceived slack (PT, OS, EC).

In Study 2, results of the first study are validated with a group of practitioners, but the decisions were framed differently. In Study 1, organizational slack and success/failure feedback demonstrated virtually identical behavior. Therefore, Study 2 used the decision frame as one variable and the combination of organizational slack and success/failure feedback as the other.

The results of Study 2 are especially significant. Decision frame is shown to be the dominant factor in decision-making. Positive decision frame led to higher levels of reinvestment than negative decision frame in both high slack/success-feedback and low slack/failure feedback situations. The interesting result is that highest levels of investment are reached with positive decision frame and low slack/failure feedback. These findings are consistent with Prospect Theory, Escalation of Commitment and Organizational Slack; however, they further define the situations under which dangerous reinvestment may occur. The predictions and results of Study 2 are shown in Table 1.

Table 1: Bateman and Zeithaml Predictions and Findings



As the hypothesis suggested, highest reinvestment occurred with conditions of positive decision frame. Note, however, the relationship between success/high slack and failure/low slack and decision frame. When failure/low slack situations are combined with a positive decision frame, reinvestment is dramatically higher (\$10.83m) than with success/high slack (\$7.42m).

This series of experiments provides a basis for YOYO Theory. The relationships between the three bodies of literature are depicted in terms of all three, allowing a subsuming theory to be derived and submitted for validation.

YOYO Theory

This section is an integration of Escalation of Commitment, Organizational Slack, and Prospect Theory.

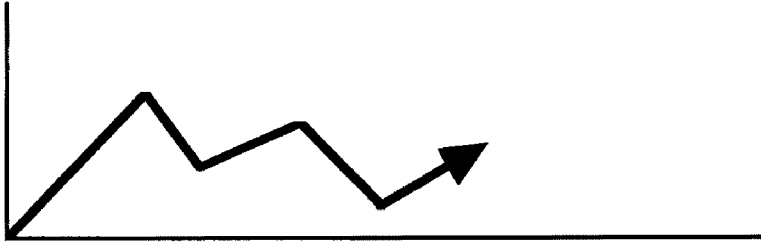
YOYO Traits. First, the cast of managers will be categorized because it is his perception of his track record (success/failure of past decisions) that must be considered. Since it is difficult to judge, the categories will be: Good, Average, and Poor. The YOYO with which we will be most concerned with is much closer to DODO than GOGO since it is highly unlikely that his negative outcomes have escaped his superior's attention.

First comes the GOGO (Good). He is the successful manager. His decisions are rated as being well above average by his superiors. He is rarely associated with failure. As side-effects of his track record, he is calm, relaxed and happy about his job. A typical GOGO performance rating (from hiring) is shown in Table 2.

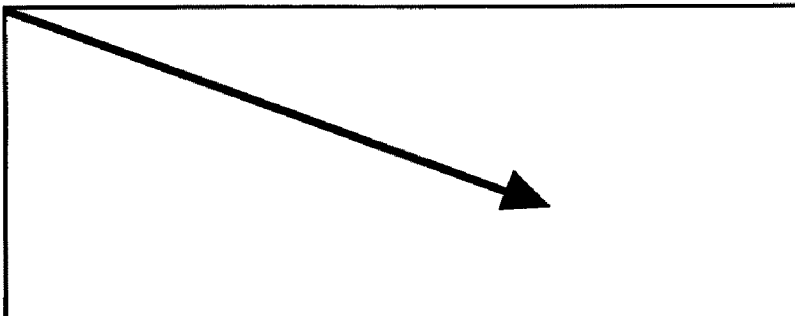
Table 2: GOGO Track Record



Second is the YOYO (Average). The YOYO usually, but not always, makes good decisions. His track record shown in Table 3 moves up and down, reflecting successful and unsuccessful decisions. He is nervous about his position and performance. YOYOs aspire to be GOGOs; it is the YOYO and his relationship to his (GOGO) goal that I examine in YOYO Theory. I will define a YOYO as one whose goal is to raise his effective position in the company. If the goal is to avoid failure or to minimize variance, escalation situations are not probable.

Table 3: YOYO Track Record

The third category is the DODO (Poor). This manager does not have a good track record (Table 4). It is unlikely that he will remain with the firm, and more unlikely that he will be involved in strategic decision-making.

Table 4: DODO Track Record

The final category is the ZERO (Table 5). Unlike the others, the ZERO does not have a track record. A ZERO may be a staff person who contributes data or information to the decision-makers, or a surrogate to another decision-maker. For example, a young decision-maker being groomed may duplicate the decisions of his mentor. A ZERO is not someone who has major impact on decisions, although he may in time.

Table 5: Zero Track Record (None)

Now, the behavior of the YOYO and GOGO in different decision situations will be examined. Experiments show that most rational decision-makers have a preference curve that is decreasingly risk averse in the positive quadrant and increasingly risk-prone in the negative quadrant [7]. In the case of success, the GOGO is near his goal, and acts cautiously to protect his gains [3]. On the other hand, the YOYO's track record is lower than his goal. To reach it, he will therefore try to achieve a success larger than his previous failure, discounting the possible losses. This escalation of commitment can be destructive to both the decision-maker and the company.

The decision frame is considered to be the most significant factor in the equation [2]. In essence, the decision frame is the official company prediction of the success of the decision. The decision-maker who is presented with an opportunity to be successful will make larger investments than one presented with an opportunity to fail, even though the opportunities have the same value. Again, the GOGO will invest moderately. The most extreme case is when a YOYO is presented with a positive decision frame. Here, the YOYO sees an opportunity to move much closer to his goal (because management has predicted success) and invests heavily.

Scarce resources are another important part of any business decision. Experiments show that decision-makers are fairly consistent investors when presented with a negative decision frame, but raise their investments when presented with a positive decision frame and either previous failure or low slack. A GOGO is near his goal position and will take his fair share of the slack, where a previous failure (and distance from his goal) encourages a YOYO to invest more heavily and request a larger percentage of the slack resources.

In the previous section a manager's reaction to a single variable was considered. Following, the effects of all three simultaneously on a YOYO as they would occur in a decision situation are examined. First, consider the two negative decision frame situations. In both, survival becomes more important than success. In Study 2, negative decision frames resulted in the lowest reinvestment (\$6.08m with high slack/success, \$5.33m with low slack/failure) of the four situations.² In both situations, the YOYO treats a negative decision frame as a threat that the company is not convinced of future success and therefore lowers his reinvestment. In essence, he is lowering his personal commitment to the decision. A negative decision frame discourages investment. In both cases, a negative decision frame leads to low reinvestment. This is consistent with the threat-rigidity opponents of Prospect Theory and with the original theory.

Consideration of the actions of a YOYO making a decision with a positive decision frame and success/high slack follows. His track record is successful, so he is near his goal position. High slack is available, so there is little need to lay in stockpiles of slack for protection against unavailability. The decision frame is positive, indicating that the company has a favorable vision of the decision and will support it. As he is near his goal position, he invests moderately (\$7.42m vs. \$6.08m with negative frame) to protect his position.

²Dollar figures are from Bateman [3] tests of practitioners. All figures in \$ million.

A positive decision frame will lead to moderate investment if high slack or success feedback are present. Moderate investment occurs when the situation is optimum; good past record, good decision frame, and high slack. This finding is consistent with the tendency to protect gains described in Prospect Theory and Escalation of Commitment, as well as the school of thought which considers high slack as a means to develop new strategies.

Next, the situation where a decision-maker is presented with a positive decision frame and failure/low slack will be considered. The positive decision frame is the dominant force in this situation. The YOYO interprets the positive decision frame as an endorsement of the project or decision. He takes aggressive steps to ensure adequate organizational slack so that his project will not lack for materials. His previous failures places his track record as low, so he may see this project as the one to return him to his goal position. To achieve his goal, he invests heavily (\$10.8m). In an extreme situation, a moral hazard develops where the manager reinvests everything he can because a failure will result in dismissal; he has nothing to lose.

A positive decision frame coupled with failure feedback or low slack will result in high levels of investment. This combination encourages high levels of commitment to a decision. This finding is consistent with Prospect Theory, Escalation of Commitment and Organizational Slack.

Finally, consider the relationship between a YOYO and his goal. In negatively framed decisions, avoidance of failure predominates because the probability of improving his position is low. In positively framed decisions, the YOYO sees an opportunity to raise his position and invests heavily in order to get closer to his goal, and that failure feedback and low slack encourage higher levels of investment.

A greater gap between position and goal leads to a higher level of investment. If coupled with a positive decision frame, failure feedback and low slack, a dangerous situation occurs where excessive investment takes place. This hypothesis offers a more refined view of Escalation of Commitment, Prospect Theory, and Organizational Slack.

Danger Zone. The description of YOYO behavior presented above defines a danger situation in which the YOYO is presented with a positive decision frame, low slack, and/or failure feedback, causing him to reinvest heavily to raise his track record closer to his goal. Remember that a similar behavior does not occur when a negative decision frame occurs, even when a low slack/failure feedback condition is present. This situation corresponds to those described in Escalation of Commitment, but is further refined by the interaction of slack and decision frame.

In most situations, the decision-maker makes reasonable decisions. It is only when a positive decision frame is combined with either failure feedback or low slack that a dangerous situation occurs. The danger zone can then be defined as situations where:

1. The decision-maker's perceived track record is average or below.
2. The decision-maker receives a positive decision frame.
3. The decision-maker has received failure feedback about this project.

It is also hypothesized that a greater gap between track record and goal leads to

higher investment.

Table 6: YOYO Danger Zones

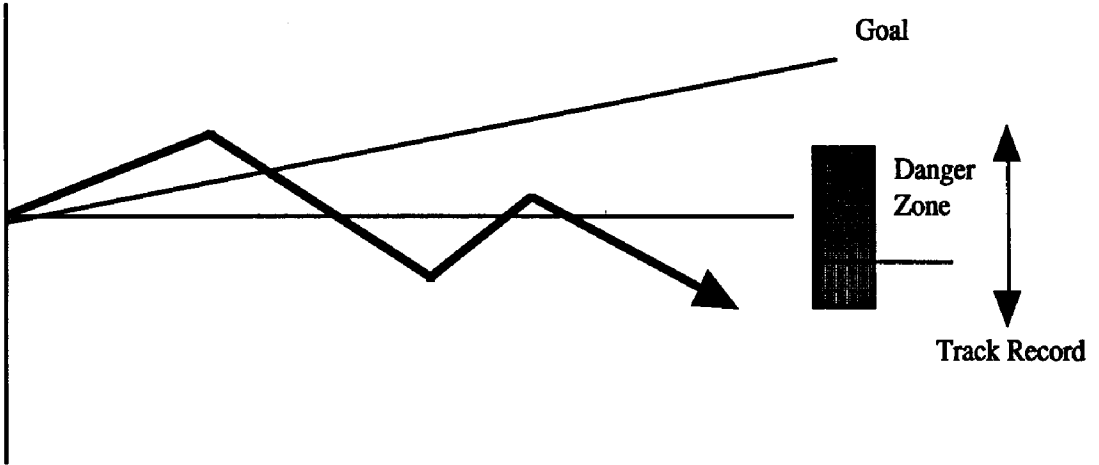


Table 6 shows the Danger Zone in terms of the YOYO's track record and goals. A YOYO is defined as a manager who wishes to raise his perceived track record. The closer he is to his goal, the more protective he becomes of his track record. When track record and goal are not close together, the YOYO becomes more risk prone in an attempt to raise his track record. When failure feedback is combined with low organizational slack and a positive decision frame, a Danger Zone situation is possible.

Implications for Top Management. Special care is demanded when a positive decision frame is used if the decision-maker has failure feedback from his earlier decision or perceives low organizational slack because the situation is ripe for a dangerous decision. It is important for management to both recognize and utilize the decision frame to control managers and their decisions.

Consider a YOYO who has received failure feedback. If management tells him that the new project/decision is expected to do well, this is seen as an endorsement of the impending success of the project. With this endorsement, the YOYO will display the dangerous behavior illustrated by both Escalation of Commitment and Bateman and Zeithaml, investing heavily.

In situations such as this, management should temper enthusiasm for the YOYO and the decision while considering psychological and social characteristics. A current analysis should be done with current data to see if the decision is, after all, a good one or not; managers faced with unambiguous negative data will withdraw instead of escalate [29].

Several techniques may be applied to lower the possibility of an escalation situation.

1. Make decisions more team-oriented, lowering individual commitment, gathering more input, and sharing blame for bad results.
2. Use analysis of current data to find realistic levels of reinvestment.
3. Be wary of behavioral determinants of commitment such as self-justification, self-inferencing and information processing biases, as well as the social determinants of face-saving, external binding, competition, and norms. Excuses may be used to lessen the commitment of the decision-maker.
4. Support failure (especially fast failures [21]) to lessen the anxiety and commitment of the decision-maker as well as reducing costs to the company.
5. Use unambiguous failure feedback gracefully, as it may lower the decision-maker's perceived position and encourage escalation.
6. Be especially wary of large requests from YOYOs. I hypothesize in this paper that a greater gap between perceived position and goal leads to higher reinvestment levels.

By lowering expectations and penalties for failure, the decision-maker's tendency to escalate his commitment is also lowered. By placing a neutral or negative decision frame on the decision, the situation is managed so that the YOYO's decisions are basically rational.

Summary

YOYO Theory is derived from Escalation to Commitment, Organizational Slack, and Prospect Theory. It is consistent with all three, as well as with the series of experiments performed by Bateman and Zeithaml.

In YOYO Theory, special care is used in framing a decision where the decision-maker has received failure feedback or perceives low organizational slack. These situations, combined with a positive decision frame, may result in the dangers of Escalation of Commitment. However, YOYO theory refines Escalation of Commitment by further explanation of the causes in terms of decision frame and organizational slack.

The importance of decision framing in Prospect Theory is validated. Decision framing is consistently the most significant element of the decision environment. YOYO Theory refines Prospect Theory by considering the effects of decision feedback and organizational slack.

Finally, Organizational Slack Theory is supported by recognizing the importance of slack and refining the situations in which it is critical. Organizational Slack is the least significant of the three determinants.

To lower the commitment to a decision, YOYO Theory recommends making decisions group-oriented, using current analysis to determine reasonable reinvestment levels, considering psychological and social determinants of commitment, supporting fast failures, and using graceful failure feedback to inform the decision-maker of the situation without causing further escalation.

Further Research

YOYO Theory is an attempt to explicate and understand the intersection of Prospect Theory, Escalation of Commitment, and Organizational Slack. As such, it is a first step toward a more unified theory for decision-making. Empirical testing to both confirm YOYO Theory and to validate the findings of Bateman and Zeithaml is the next step toward this more unified theory.

YOYO Theory extensions should be considered to include other elements of the decision. Note that we have only discussed psychological and social aspects of the decision-making environment. As suggested by Staw and Ross, the decision environment also includes program and structural determinants. For an all-encompassing theory to be developed, these other determinants must be integrated into it.

Additional research is also needed into the decision frame and its impact on decision-making. As the decision frame exerts powerful (and possibly dangerous) influence on the decision-maker, considerable research should be expended to determine the correct decision frame for a given situation to extend the primitive guidance given here.

Strategic decision-making is an important area for organizational research. It is hoped that this paper will make a contribution to further understanding the inter-relationships between the three established bodies of theory, predicting decision situations when a decision-maker may make dangerous decisions, and by guiding management in these situations.

Like the frog in the story, businesses must be aware of the environment in which they operate and react to changes. They must understand the decision-making situation and the characteristics of managers in making decisions. If not, they, like the frog in the boiling water, may not survive.

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