

The Decision Calculus of Terrorist Leaders

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Abstract

This article contributes to the literature on terrorist group decision-making by introducing a new procedure, Applied Decision Analysis, in an attempt to understand how leaders of terrorist organizations make decisions. We examine twenty-three decisions taken by leaders of three terrorist organizations: Al-Qaeda, Hamas, and Hizballah. We also demonstrate the use of the Applied Decision Analysis procedure to uncover the "Decision DNA" or "decision code" of leaders of such organizations. After reviewing the results and insights derived from this analysis, we conclude with implications for policies to counter terrorism.

Introduction

Recent studies of terrorism have tended to focus on the motivations of terrorists in general, and of suicide terrorists in particular. Nationalistic, religious, and economic factors have been found to motivate terrorists, as well as the existence of a charismatic leader, the desire for revenge, and a significant quest.[1] Although this research has contributed significantly to our understandings of terrorism and the suicide terrorist's mind, it has not examined the strategic calculus of terrorist *leaders'* decisions. However, as Terris [2] notes, the study of international events "has shifted focus from states to leaders as the main unit of analysis." This is an important change, as leaders' decisions are "the proximate cause of events that drive international politics." [3] It is the leader of the terrorist organization who makes the important decisions, even if there are a number of loose networks of terrorists that operate worldwide.[4]

Terrorists' acts are usually parts of coordinated campaigns, directed by a larger organization.[5] In this paper, we argue that understanding why a decision was made by an organization requires understanding the decision calculus of its leaders. Networks are very important, but networks as a whole do not make decisions. Individuals do. More importantly, leaders of terrorist organizations make the critical decisions. Because the leaders of these organizations drive the organization's decisions and actions, research focusing on the leaders of the terrorist organization as the unit of analysis is essential to our understanding of terrorism.

In this article, we extend the extant research on terrorism [6] while introducing a new procedure, Applied Decision Analysis, in an attempt to understand *how* leaders of terrorist organizations make decisions. We examine twenty-three decisions taken by leaders of terrorist organizations. Specifically, we analyze the decision patterns of the leadership of three terrorist organizations: Al-Qaeda, Hamas, and Hizballah. Consequently, we take a leader-centric approach to the study of terrorism decision-making. We also demonstrate the use of the Applied Decision Analysis procedure to uncover the "Decision DNA" or "decision code" of leaders of such organizations. We do so by "reverse engineering" decisions made by Osama bin Laden, Hassan Nasrallah, Khaled Mashal and Ismail Haniya.

We proceed in the following manner: we begin with a brief review of previous work on terrorist decision-making. We then introduce the Applied Decision Analysis (ADA) procedure, and explain how it can be applied to leaders' decisions. We then demonstrate the use of ADA in the analysis of 23 cases involving international terrorism, and discuss the results and insights derived from this analysis. We conclude with implications for policies to counter terrorism.

Previous Explanations of Terrorist Decision-Making

Previous research that has analyzed how terrorists make decisions has focused primarily on explaining the *reasons* that terrorists have for joining violent organizations or committing violence (or even suicide terrorism) in the name of a cause. This research has focused upon terrorist subordinates, rather than leaders. Moreover, it has suffered from the cognitive-rational divide that plagues much of the field of political decision-making.

Rational Actor Explanations

Decisions explained through rational choice rest on the following assumption: actors make decisions in line with their preferences, pursuing the alternatives that they believe will bring them closest to the optimal outcome.[7] In recent years, scholars have proposed individual level rational choice theories, often using logic consistent with expected utility theory to explain how or when it might be rational for a person to become a terrorist[8] or a suicide bomber.[9] These studies have tended to rely on insights from studies of sociological influences on potential terrorists[10] and studies on the psychology of suicide and deviant behavior[11] to construct models that forecast the circumstances under which some individuals would prefer engaging in terrorism to remaining peaceful members of society.

While the rationality of political violence, including suicide terrorism may seem somewhat incompatible with reality, there is actually considerable evidence reported in these studies that, based on the anticipated rewards of such actions, the *expected utility* of becoming a suicide bomber can be higher than continuing to live as a peaceful member of society.[12] The rational choice models that have been produced in recent years have stood out as elegant demonstrations of why a phenomenon utterly incomprehensible to most is so widespread. One such study is Bueno de Mesquita's[13] model predicting which individuals will turn to terrorism and when. Using a game theoretic model, which suggests that declining economic conditions increase terrorist supply while demand stays relatively stable, allowing organizations to choose the best from among potential applicants, he explains two apparently contradictory empirical findings: that terrorists in general and suicide terrorists in particular tend to be at least as well off as their non-terrorist counterparts[14] and that nations with declining or less developed economies are more likely to experience terrorist attacks.[15]

To some extent, these rational analyses can be extended to terrorist organizations. When rational choice studies are applied to terrorist groups, they attempt to explain why the organizations employ violent means to pursue their goals. Consistent with the rational school, it has long been noted that terrorists see terrorism as the best strategy for achieving their political goals.[16] The capstone work in this area is Robert Pape's seminal 2003 study, in which he claims that suicide

bombing is a highly effective tool for eliciting political change. To support this claim, he examines suicide campaigns between 1980 and 2001, concluding that terrorism pays. More recently, however, a number of studies have emerged that challenge Pape's conclusion, arguing that terrorists have generally been unsuccessful in extracting concessions from states.[17]

Cognitive, Psychological Explanations

Other scholars have used competing cognitive psychological approaches to understanding terrorism decision-making. Such approaches are inherently psychological and are typically focused on the individual level of analysis. These studies seek to understand *how* terrorists think and to construct profiles of the types of individuals who are likely to become terrorists. The purpose of such psychological analyses is to comprehend terrorists fully so that their actions might be predicted.

Studies that involved interviews and case analysis [18] have been able to contribute to our understanding of what drives suicide bombers. While not based on medical diagnoses, these studies do further academic knowledge of a profile of terrorists. This might be helpful in identifying potential terrorists and preventing them from taking such actions. Additionally, Post et al.[19] stress the importance, not only of individual characteristics, but of general context and social psychological factors in understanding suicide terrorism.[20]

The idea of terrorism as deviant behavior and deviant behavior as a side effect of mental illness has given rise to a vast number of proposed psychoses from which terrorists might plausibly suffer.[21] While this has been an area of study for decades, it has yielded no firm conclusions. As Victoroff notes, these psychological theories have been embroiled in “fierce controversy,” and the findings that have been reported have been based on “multiple nonscientific assumptions” and “impressionistic interpretations of...cases.”[22] The problem with these approaches is that they generally require comparative psychoanalysis. This would necessitate psychiatric evaluations of multiple terrorists in an unclassified setting. Furthermore, even those cognitive psychological studies that do not require individual psychiatric analysis are often plagued by methodological problems that severely limit potential explanatory power.[23] Thus, it is unsurprising that relatively little progress has been made.

While research on decision-making of terrorists has done much to advance our understanding of the mind and motivations of the terrorist, it suffers from a major shortcoming. The cognitive-rational divide forces us to choose between predicting outcomes and understanding processes. The most unfortunate result of this schism is that in general decision-making, “the strengths of one [school] often mirror the weaknesses of the other.”[24] This often leaves scholars with two well-told half-stories that are difficult to connect.

Rational and Cognitive Explanation

As a solution to this problem, we advocate the use of the Poliheuristic theory of decision-making in the study of terrorism. The theory has been offered as the *link* between cognitive and rational theories of decision-making.[25] Poliheuristic theory employs a two-stage process to tap the strength of cognitive explanations by providing an accurate description of the decision process,

while leveraging the ability of rational choice methods to predict an outcome accurately. According to Poliheuristic theory, in the first stage of the decision process, terrorists employ a “non-compensatory principle” to reject any alternatives that fail to meet certain criteria.[26] In the second stage, the terrorist simply selects the alternative from the remaining choices with the highest net gain. While it allows for specific information (e.g., the variability of the non-compensatory dimension) to be incorporated, the theory also provides guidelines that allow it to be applied to many different decision makers, including leaders of terrorist organizations, terrorists and activists.[27]

The second problem with previous work on terrorist decision-making is its lack of focus on terrorist *leaders*, despite the general consensus in the literature that knowledge of leaders is crucial for understanding the decisions made by terrorist organizations. Both the cognitive and rational approaches used in the past have had difficulty in addressing leaders.

In this article, we propose the use of a technique called Applied Decision Analysis (ADA), and show that it can be easily applied to the leadership of terrorist organizations. Moreover, when used on multiple decisions of the leader of an organization, it can uncover a decision pattern or “decision DNA” for terrorist leaders.[28] The use of ADA provides a substantial increase in predictive power and insights about the way decisions are made by leaders of terrorist organizations, while simultaneously bridging both of the two major schisms in studies of terrorist decision-making. Below we briefly introduce Applied Decision Analysis and apply it to twenty-three decisions of leaders of terrorist organizations.

Applied Decision Analysis

Applied Decision Analysis is a procedure for developing descriptive (and predictive) decision profiles of individual decision makers, such as leaders of terrorist groups.[29] The procedure consists of two key steps. First, the analyst must identify the decision matrix - the alternatives, dimensions and implications of the alternatives corresponding to each dimension - of the decision maker. The second step involves the analysis of each decision through the use of multiple decision models (e.g., elimination by aspect, lexicographic, poliheuristic, or utility maximizing) to understand how the leader made the decision.

Step 1: Identifying the Decision Matrix of the Leader of the Terrorist Organization

A decision matrix consists of a set of alternatives, the dimensions (or criteria) for selecting among these alternatives, and an assessment of the implications of each dimension for each alternative. Weights (or levels of importance) can be assigned to each dimension, if the analyst observes that dimensions should receive unequal weight in the analysis. The analyst can also use counterfactual scenarios to analyze potential actions and reactions of leaders of terrorist groups.

Alternatives

The set of alternatives includes the likely courses of action a decision maker (e.g. the leader of the terrorist organization) may reasonably consider when faced with some decision problem. For

example, when involved in negotiations with a state, a terrorist organization's leader may consider the following: "Continue with Attacks," "Temporarily Halt Attacks," "Stop Attacks," or "Continue Attacks while Negotiating" (so-called "negotiation under fire"). In contrast, state leaders may, when faced with a terrorist act, consider, for example, the following alternatives: "Negotiate" or "Use Force."

Dimensions

A dimension or a decision criterion, is an organizing theme relevant in evaluating the alternatives. Thus, if the leader of a terrorist organization is concerned with the consequences of a decision while in negotiations with a state, then public support,[30] the flow of financial contributions, recruitment levels,[31] intra-group rivalries, inter-group competition, and other variables related to this general organizing theme may be used to evaluate his alternatives. Among other reasons, organizations use terrorism to increase their market share of popular support.[32] Examples of other dimensions that may influence the terrorist leader's decision are "Relations with other Countries (e.g., Iran or Syria)" and "The Likelihood of Operational Success."

Implications

The implications consist of a description of the likely consequences of an alternative for a given dimension. Obviously, each alternative has implications corresponding to each dimension. For example, in the case of the terrorist leader, the "Stop Attacks" alternative has implications for the organization's political standing, relations with other countries, and operational success of the organization – which are all relevant dimensions.

Ratings

Implications can be rated by the analyst, for example, from -10 (very bad) to +10 (very good). For instance, if choosing the alternative "Temporary Halt Attacks" is likely to result in a loss of public sympathy or a decline in financial contributions, the analyst should assign a negative rating (very bad, -7 or -8) to the political implications of "Temporary Halt Attacks." In contrast, if "Continue Attacks" is likely to lead to an outpouring of public sympathy and increasing recruitment levels, then this alternative should receive a positive rating (e.g., very good, or +8).

Weight

Weights indicate the importance level of each dimension, for example from 1 (not important at all) to 10 (very important). Thus, in the terrorist leader example, the analyst assigns different weights to the political, military, nationalistic, diplomatic, and operational dimensions, unless he/she considers each dimension to have equal weight in the decision.

Once a leader's decision matrix is constructed, it can then be analyzed to uncover the leader's decision rule. Previous research has used Applied Decision Analysis to understand decisions

made by national leaders [33] as well as by Osama bin Laden.[34] The technique becomes more powerful and insights become more refined when it is applied to a larger number of cases for a single decision maker.

Step 2: Uncovering the Decision Code of Leaders of Terrorist Organizations

In the analysis stage, the analyst utilizes five decision characteristics in order to categorize decisions.[35] By examining these characteristics (to the extent that they are available), and comparing them to existing decision theories (e.g., expected utility theory or Poliheuristic theory), the analyst can determine the decision rule used by the leader to make a particular choice. For example, if the leader eschews the alternative with the highest overall utility in favor of something else, then he cannot have used a decision rule based in expected utility theory. If it is clear that he stopped before considering all of the alternatives, then the decision rule may be consistent with a satisficing rule, such as cybernetic theory.

Using these cognitive process characteristics, it is possible to discern the decision rule used by an individual in making these decisions. The analyst can examine multiple choices made by an individual (e.g. leader of a terrorist organization) and classify them accordingly. This will reveal a particular decision pattern, which can be further refined by collecting additional observations.

Data to be inserted into the decision matrix can be obtained by interviewing experts, by using a Delphi technique, by analyzing classified (if possible) and unclassified information, conducting content analysis of publications of the organization, or by relying on a key expert.

Terrorist Leaders and Decision DNA

Uncovering the decision characteristics for a terrorist leader involves the analysis of multiple decisions in a manner similar to the one proposed by the Applied Decision Analysis procedure. This analysis helps us to determine how the leader of the terrorist organization makes decisions as well as his/her general decision pattern. Once one conducts such an analysis and uncovers the pattern of decision-making of the leader and/or the organization, the results can aid in designing effective counterterrorism strategies that take advantage of this unique knowledge, and exploit the weaknesses of organizations' leaders.

In this project, we have used this procedure to uncover the decision patterns of four leaders across three different groups. We have relied on a key expert (Yair Samban who is a co-author of this study) and our knowledge, to construct the decision matrix for each leader. The 23 matrices appear in Mintz et al (2011).

Table 1: Terrorist Decisions Analyzed

Organization	Leader	Decision
Al-Qaeda	Osama bin Laden	1993 World Trade Center Bombing
		Merger with Egyptian Islamic Jihad
		Attack on the USS <i>Cole</i>
		September 11th Attack
		Decision not to Claim Responsibility
		Decision to Claim Responsibility
		March 11th Bombings in Madrid
		July 7th Bombings in London
Hamas	Khaled Mashal	Boycott of 1992-1996 PLC Elections
		1993-2001 Suicide Bombing Campaign
		2005 <i>Hudna</i> (Ceasefire) in Cairo
		Participation in 2006 PLC Elections
		Kidnapping of Gilad Shalit
	Ismail Haniya	Negotiation with Palestinian Authority
Hizballah	Hassan Nasrallah	Response to Israeli Withdrawal from Lebanon
		Involvement with October 2000 <i>Intifada</i>
		Response to 2003 Invasion of Iraq
		Direction of Hizballah following Syrian Withdrawal
		Response to July 2006 Israeli Attack
		Hypothetical Decision Given No Israeli Attack
		Political Campaign Following Gemayel's Assassination

Table 1 lists the twenty-three decisions that we analyzed in order to uncover the decision patterns of the leaders of various terrorist organizations. The decisions in Table 1 represent key choices that were made by each of these leaders. Each of these decisions was a major turning point for the organization in question, and the analysis is therefore useful for furthering our understanding of how terrorist organizations make decisions. Each decision was analyzed in detail, in order to reveal the particular decision characteristics and decision rule for a given leader. Notably, we consider a variety of decision types, including both organizational and operational (i.e., choices about the use of terrorist tactics). In this way, one can get either a full picture of the decision

makers, or a more niche, limited analysis of a concrete area of their decision style and decision rule.

Each case provides some information that can be used to construct the more general decision profile for the individual being assessed. Each leader has a unique profile, his "decision fingerprint," in terms of which dimensions are most critical, how alternatives are evaluated and which decision rule he typically uses. Once we examined each of the decisions in Table 1, separate pictures emerged for the various groups, based on the organization type and its implications for the leader's decision pattern. Specifically, we find fairly robust support for a Poliheuristic style of decision-making: leaders of terrorist organizations eliminate alternatives that threaten them politically. They then conduct a more rational analysis but only on the remaining alternatives, in a two stage process that combines cognitive and rational calculations. Such an insight could not have been detected without the use of Applied Decision Analysis, which systematically reconstructs the decision calculus of decision makers and allows the analyst to gain an understanding of both the decision processes and rules.

Specifically, using the ADA procedure allows us to move beyond simply looking at outcomes, and to trace the processes of leaders' decisions. It requires the in-depth study of various decisions (cases) in order to identify crucial decision characteristics and patterns. These characteristics would be missed by a more cursory examination of the choices. By applying the procedure in a systematic fashion, we are able to identify patterns, and to use what we learn from the decision analyses to eliminate potential alternative decision rules and explanations.

Results

The Importance of the Political Dimension

Generally, the Applied Decision Analysis we utilized to analyze 23 decisions of terrorist organizations revealed that within the various heuristics (cognitive shortcuts) used by terrorist leaders, the political dimension is non-compensatory. This means that when faced with a serious decision problem, a leader of a terrorist group will initially eliminate all alternatives that will negatively affect his political or personal survival. This dimension is "non-compensatory" in that any alternative that is unacceptable politically will be rejected, regardless of its advantage on another dimension. This is an important finding, as it demonstrates that it is not the military dimension that is always dominant in the decision calculus of leaders of terrorist organization, but the political dimension.

Secondly, having analyzed all 23 decisions, we argue that the dominant specific non-compensatory political factor (inter-group standing, intra-group standing or both) of a terrorist leader is affected primarily by the characteristics of the organization he leads.

Although all the leaders we examine appear to be concerned primarily with their political standing, what political standing entails varies by leader. In particular, the structure of the organization affects the degree of influence of the political-organizational dimension.

The effect of the structure of a terrorist organization on leader's decision-making pattern

In their early years, terrorist organizations compete for market share—they seek public support for their acts.[36] We call this inter-group rivalry, as the terrorist groups compete with one another to dominate the scene and to be the top organization in the given area. These younger groups are concerned primarily with a public opinion dimension, unwilling to accept alternatives that will damage their standing with the mass public, as this could render the organization irrelevant.

In contrast, leaders of organizations with a more solid standing in the public, are more affected by the political-organizational dimension (the internal political competition within the organization). As such, the leaders and members are concerned with maintaining and gaining power within the group, and may sacrifice the good of the organization for personal expediency. It can involve vying for position between leaders, competition for promotion between members, or power struggles between factions. What is important is that the competitors seek real power and control within the group. It is important to note, however, that the public opinion dimension, though no longer paramount, remains one of the more important dimensions. Though leaders are more concerned with their internal position, they still would prefer to lead a top organization to one that has severely fallen in the public eye.

We call the third and final form of rivalry superiority. In many ways it resembles the intra-group rivalry: leaders seek to top one another and become the top figure in their organization or for their cause. The key difference between the two types is that while the intra-group rivalry is a struggle for real authority, the superiority battle is about symbolic power. In organizations affected by superiority struggles, a figurehead leadership position might be as important as one that wields considerable power.

In our analysis of the Hamas, Hizballah and Al-Qaeda organizations, we have found that each fits into one of the categories fairly well. Importantly, the characteristics that lead the organizations to be grouped as such affect the ways in which the various leaders make decisions, and the dimensions that are of paramount importance to them. While they are all political actors, concerned primarily with their own status, the political dimension can change subtly for each actor. These political patterns are summarized in Table 2, below.

Table 2. Dominant Political Consideration

Organization	Dominant non-compensatory dimension of leader	Decision-making pattern
Hizballah	Inter-group rivalry	<i>Public:</i> Primarily sensitive (risk-averse) to challenges to the leader's public-political standing vis-à-vis other political groups (outside of the organization)
Hamas	Intra-group rivalry	<i>Organizational:</i> Primarily sensitive to challenges to organizational cohesion and the leader's standing <i>within</i> the organization
Al-Qaeda	Both	<i>Superior:</i> Primarily sensitive to challenges to the leader's symbolic standing; constantly attempts to overshadow other competing figures.

The most important political factor for Hamas is the intra-group rivalry. That is, factions within the organization battle one another for supremacy. Because Hamas has established itself as a powerful and formidable organization, it need not compete for market share to establish itself anymore. Rather, leaders of the factions within Hamas select alternatives that will increase their power relative to their intra-group rivals. This is characterized, for example, by the rivalry between the three major contenders for leadership of Hamas after the 2004 assassinations of Yassin and Rantissi. While each of the three presumably desires what is best for the organization, they also hope to propel themselves above their rivals and to assume the leadership of Hamas. This means that the structure of the organization leads decision makers to place primary importance on the personal political dimension. In the first stage of decision-making, the leader of the terrorist organization rejects those alternatives that will damage them relative to their intra-group rivals. They then select the overall best decision (i.e., the best decision for the organization) from the remaining alternatives.

In contrast, leaders of Hizballah face an inter-group rivalry. However, unlike many terrorist groups in this situation, Hizballah is not some fledgling organization competing for name recognition. Rather, the group finds itself in this position due to its attempt to enter into Lebanese politics as a legitimate political party. As such, it must compete with other Lebanese parties for electoral victories, while attempting to maintain relevance among the traditional supporters of such organizations (i.e., the extremists). Leaders of Hizballah, then, are forced to seek alternatives that will maintain or increase the standing of the organization in the public eye, thus solidifying their power in Lebanese politics and the Arab world. Because of the necessity of balancing public opinion, ambitious individuals and factions within Hizballah do not have the

luxury of engaging in intra-group rivalry. The delicacy of the situation could potentially lead to a weakening of the organization if its leaders chose not to consider the public's view of the group first and foremost. Indeed, the compartmentalization and strict hierarchy of Hizballah both follow from and reinforce this situation. This makes the personal political dimension far less important than the organizational political dimension for such a group.

The late Osama bin Laden and his Al-Qaeda organization personified the superiority principle. What is important within Al-Qaeda is not simply gaining authority within the organization or even gaining power *for* the organization. Rather, bin Laden in particular was concerned with attaining a status akin to "top terrorist." That is, he hoped to be seen as the world's foremost crusader for his cause. In order to do this, he must have had to maintain his position as leader of Al-Qaeda, and must have also made Al-Qaeda into one of the world's most fearsome and prominent terrorist groups. The actual ability of Al-Qaeda to damage its enemies and bin Laden's actual control over the day-to-day affairs and planning were less important than this symbolic aspect. This was apparent in several of bin Laden's decisions. In earlier years, it was at least as important for bin Laden to maintain control over Al-Qaeda following the merger with al-Zawahiri's Egyptian Islamic Jihad because of the prestige that the position carried as for the power. Even more telling were bin Laden's recent decisions regarding attacks against Europe. In both cases it would have benefited Al-Qaeda more to concentrate fully on the insurgency in Iraq, while bin Laden would have gained nothing concrete by taking the offensive (i.e., his real authority over Al-Qaeda would not increase at all). However, by returning his name to the papers – at the expense of his lieutenant, al-Zarqawi – bin Laden was able to reestablish his status and symbolic importance. The superiority principle requires that the leader take into consideration both the personal and organizational political dimensions, as both are necessary for the attainment of superiority. As such, both are non-compensatory. In this case, the decision maker was not so much constrained by the organizational structure, but rather by bin Laden's own egomania, which in turn structured the organization to some degree.

For each of these organizations and each of the archetypes into which they have been grouped, politics is always important. Indeed, both the inter-group (personal political) and intra-group (organizational political) dimensions are among the most important decision criteria in each case. The rivalry types that we have described here determine the relative importance of these two types of political dimensions. By understanding the rivalry, we can understand which dimensions are paramount, and thereby better predict the organization's path and subsequent decisions.

Implications for Counterterrorism

Our findings demonstrate the key dimensions on which terrorist leaders make their decisions and their dominant decision pattern. Knowing this, states that are targeted by terrorist groups can act strategically, in order to force terrorist leaders into particular decisions and not other, less desirable decisions. Since we find that terrorist leaders are averse to risks on their critical dimensions, increasing the expected risk on this dimension might "push" the organization into a certain behavioral pattern, or policy decision, which is more suitable or acceptable from the state's point of view.

In general, we identify two types of counterterrorist strategies that can affect the critical political dimensions of leaders of terrorist organizations. A friction strategy focuses on sowing internal discord within the organization. This strategy forces the leader to concentrate on internal, rather than external enemies. Friction tactics are most useful when dealing with an organization whose leader's dominant political dimension is located at the intra-group level, such as Hamas.

In contrast, when facing a leader whose key political dimension is at the public-political level, a coalition strategy is more effective. This is meant to encourage divisions between competing organizations, political rivals, or potential supporters. Coalition tactics reduce the leader's standing in the public eye, and might involve establishment of relations with competing organizations, support for rivals in elections, or preventing the group from gaining or wielding any political power. The usefulness of our study is that uncovering the dominant pattern of decision-making of leaders of the organization allows us to "personalize" counterterrorism, creating strategies that are tailored to the decision style of the leader being analyzed.

Conclusion

Defeating terrorism requires a greater understanding of how leaders of terrorist organizations make decisions. The Applied Decision Analysis procedure discussed in this paper offers a unique and flexible means for understanding how decision-makers, including leaders of terrorist organizations, make decisions. In our project, we use this tool in order to answer the following questions:

1. How do leaders of terrorist organizations make decisions?
2. What factors influence their decisions?
3. What decision rule(s) do they use?
4. What is their "decision code?"
5. How can we counter their acts?

By carefully "reverse engineering" 23 individual choices, we were able to determine the dominant decision pattern of the leadership of three major terrorist groups: Al-Qaeda, Hamas, and Hizballah.

Our analyses indicate that decision-making by terrorist leaders is systematic, and reveals sensitivity on the part of leaders to political challenges. However, the leaders vary in the types of challengers that they fear. Hizballah's Hassan Nasrallah, for example, is particularly sensitive to inter-group rivalries, fearing challenges from other organizations in his quest to politically control Lebanon. By contrast, Hamas leaders Khaled Mashal (who has recently resigned from the leadership position) and Ismail Haniya have worried more about deterring intra-group challenges (to each other) and maintaining organizational cohesion. Finally, the late Al-Qaeda leader, Osama bin Laden, as the leader of arguably the world's most feared terrorist group, was worried about challenges to his standing from both within and outside of the organization.

Identifying this variation across leaders, in terms of how they make decisions, suggests counter-terror tactics that are unique to the group being targeted. ADA is a powerful tool that will allow researchers to understand the terrorist mind more fully, which is a necessary condition for

combating terrorism. The ADA procedure is useful for understanding terrorist decisions, but is also extremely simple to implement, requiring only some knowledge about the decision maker. Given an input of this knowledge, the procedure returns additional information that can be used in analysis of future decisions. These results continually sharpen the analyst's knowledge, allowing for more accurate understanding and prediction.

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[12] Ronald Wintrobe 2002; Mark Harrison 2005

[13] Bueno de Mesquita 2005

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[34] Alex Mintz et al. 2006.

[35] These five characteristics can largely define any decision rule: whether the search was holistic or non-holistic (i.e., how much information was used); whether the decision maker acquired information about each alternative sequentially or about implications along dimensions, looking at each criterion successively; whether the search was order-sensitivity; whether implications were combined in an additive or multiplicative manners (i.e., whether or not a high score on one dimension can compensate for a low score on another); and finally, whether the decision makers chose the alternative with the highest overall utility or the alternative that was "good enough."

[36] M. Bloom, 2004.