

On The General Theory of Strategy and Strategic Frameworks

An Exploratory Study Notes by:

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1. Prologue

These notes represent an exploration into the nature of strategy. I start with the assumption that the various manifestations of strategy are based on common fundamental principles. The purpose of this exercise is to seek out an understanding of those common principles by examining strategic issues across different applications. This is an exploratory effort to understand the underlying general themes and determinates of large scale problem solving. As an exploratory effort, I do not claim originality of the concepts or the correctness of the interpretation, only that it is an honest intellectual effort to provide order into a chaotic field. Nor is it intended as a scholarly effort. The citations are limited to those that I have become familiar, most of which have become classic. Some ideas that I have been made aware of, I do not know the appropriate historical reference and refer to only the more recent summaries. Hopefully sometime in the future, these faults may need to be corrected. But at this point, this is merely an exercise in personal exploration.

I should note that, as with all personal exploration, this document is “uneven.” The space devoted to topics neither reflect their importance nor the amount to historical information available but only my familiarity and interested in them.

1.1. Scope of the Problems

The term “Strategy” has been applied to a huge range of problems and situations. Far to board to expect a general theory or approach. These notes, however, focuses on a narrower but still board set of problems generally involving significant resources over an extended period of time. The central interests of this investigation, as previously noted, are military and commercial situations. This is mainly due to the extensive research in these areas. However, political, economic, and financial problems and some project management situations are also of interest here.

We will not include here a whole group of shorter-range tactical and engineering problems. While these are interesting problems and some involve similar issues as the larger and longer-range problems, they are constrained by a host of conditions that will not be examined here at this time.

1.2. The Quest

This set of notes is intended as a quest to understand the nature of strategy. While there may be many routes to understanding, those most effective routes for me have been: (1) teaching the subject to bright and challenging students, (2) practicing the arts, and (3) documenting the understanding. The general nature of our quest precludes, at least this point, the first two options, leaving the third. In documenting that understanding, we endeavor to compile and correlate the relevant ideas. My endeavor is to understand the basic concepts and identify general underlying principles.

There are several key general issues that bother me. These include:

- Are there fundamental strategic principles or is each problem so unique that any generalization must be limited?
- How can the general principles of game theory, information theory, and mathematical programming be applied to strategy formulation?
- Can decision-makers both utilize and escape from their backgrounds (their paradigms) to effect successful strategy?
- Can there really be a “successful” strategy or will increasing expectations always lead to disappointing results?

Like the fictitious Don Quixote I seek a quest, in this case a quest of understanding or wisdom. As in the case of our fictitious friend, we may not get anywhere, but that may be an alternative answer to the quest. We may not get further understanding than a restatement of others thoughts. But that too may be useful.

1.3. Comparative Strategy

There has been a great deal of attempts at applying strategic principles from the military to commercial applications. However, these have been mainly an attempt to utilize the language of war strategy to describe commercial activities. While there are learnings that are obtained in this way, that process does not help in the expansion of the core concepts of strategy.

Capt. Wayne P Hughes, in his text on *Fleet Tactics* goes through the exercise of comparing "principles of war" on land (by way of Von Clausewitz) and at sea warfare. That comparison allows for a clarification of the differences between these forms of warfare. It is not that one set of principles is wrong and the other correct. Both are correct given the specific conditions and issues that prevail. Some of these principles appear to apply to both and may be "fundamentals" of strategy. In these notes, I intend to extend this approach by comparing military, commercial, and political applications. The underlying assumption here is that each of these arenas provides different conditions and, therefore, represents additional sources of insight. While we will be looking at examples from each of these areas, our major focus is for new ideas in the commercial arena. While military and political strategy has been the topic of classic analysis with widely available information sources and professional practitioners' concern for millennia, business strategy, on the other hand, has a far shorter history.

The classical references on strategy have been heavily referenced, and often abused in the process of seeking insights for commercial strategy. Any number of consultants have applied Sun Tzu classic reference to business applications¹. Since Al Ries and Jack

¹ Are short search on the Internet will give the following citations:

- "The Art of War and Its General Application to Business at Wal-Mart"
- "The Art of War meets the business of IT"
- "The Art of War Business Series"

Trout found Carl Von Clausewitz in the 1980's there has been an unending citations to the classic reference "On War" applied to marketing strategy. And ever since Antony Jay authored "*Management and Machiavelli*" in 1967, the "Prince" as been a best selling in Business Schools. Fortunately, it appears that few or any consultants have found Liddell's modern classic "*Strategy*" yet.

There seems to be lack of cross-fertilization from commercial strategy theory to the military and political in the literature. This may be due to the lack of experience by military scholars of the principles of commercial strategy and in particular those centered around marketing. Hope this exercise will add to that future effort.

1.4. Semantics and Language

A key problem in analysis across disciplines is the gap in language and particularly definitions. To paraphrase Winston Churchill, the disciplines "... separated by a common language." The same terms are often used with very different meanings. For example, military *aims* can be associated with business *objective* and military *objectives* with business *milestones*. Here the term objective has two have significant though subtle different meanings. Concepts like "doctrine" are well recognized as positive tools for military planning, but carry a very different connotation in the commercial and political world. In these notes, care will be taken to clarify the terms. Our adopted terminology, however, reflects the most convenient use of the terms with the context of our discussions.

1.5. Experience and Cases

The development of strategic thinking has been mainly based on the process of case development. Cases, in this context, are specific histories or examples of the practice of strategy. Even discourses of theory such as Sun Tzu's the *Art of War*, contains any number of examples of theory. There is basically two approaches in developing strategic methods: (1) solely by example and cases, and (2) through the application of theory and principles. As we have noted, these are not independent. Most theoretical discussions are usually illustrated by historical cases. However, cases also provide an alternative approach to strategy formulation. Strategic approaches and plans may be developed solely from existing examples. Cases developed to illustrate principles and as examples may be different from histories. They may be constructed to illustrate the point and as such may be gross simplifications of the actual situations. However, sometimes this may be straight-forward such as illustrating the power of the naval operation of "Crossing of the T" by using Admiral Togo actions at the Battle of Tsushima Straits during the Russo-Japanese War (1905) as an example. Other examples may be far more complex but used to illustrate underlying concepts.

The "Case Method" is heavily used to teach business strategy as well as used for training of military and legal professionals. This approach actually combines the theoretical

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- "The Art of War: A Management Manual"
 - "The Art of War Applied to Portfolio & Risk Management"

structure with strong emphasis on knowledge of classic cases and histories. It is not unusual that generals and admirals consider themselves historians.

This document, however, only deals with the theoretical approach. We seek to understand the general principles of strategy. This leads us to a most theoretical approach with cases used only to illustrate principles or to indicate limitations.

1.6. Default Strategies

It is important to understand that the case approach is probably the most widely used method of strategy formulation. Managers often rely on the recent past experience to develop new marketing strategies. This is often done without identification. It is done as a routine process.

In classic military strategy formulation the use of cases is better documented. Robert E. Lee had unsuccessfully used Napoleon's strategy at the Battle of Austerlitz as a model for his plans at Gettysburg. General Eisenhower² in considering war plans against Germany in the Second World War used Grant's Civil War strategy as a model. This focused mainly on attrition for success, coupled with the destruction of the opponent's ability to supply his troops (the Anaconda Plan and Sherman's March to the Sea). This war concept is now identified as "Total War". It is interesting that the Soviets seemed to have come to basically the same strategic model but based on that of Czar Alexander I in response to Napoleon's invasion of Russia (1812). Both U.S. and Soviet strategies were based on using opportunity and space to secure the destruction of the Germany army which was the primary goal.

It is a good bet, that if one wishes to understand a competitor's strategy, one should go back to their history. Alternatively, we could rely on the principle that to understand a competitor's strategy you need to look into their history.

² Michael Korda, *"Ike, An American Hero"*, Harpers (New York), 2007

PART I ON GENERAL STRATEGY

We start our exploration of "Strategy" by defining the process and the goals. Here we will look at the process by which strategy is formed. The focus here is on what strategy is about and how it is formulated. As previously noted the concept of strategy is general and defined as a plan by which assets are applied to reach some specific set of goals. However, it is not that straightforward or it is easier said than done. In our exploration we will separate out the need to organize for the solution. This is referred to as "Grand Strategy". A key part of that process is the task of identifying aims and objectives, which is critical to the formulation of strategy and should be anything but simple.

2. The Nature of Strategy

There are many definitions of strategy. Here, let me start by providing a set of overview functional definitions. Strategy should be considered the process by which problems are solved. That is, it is ultimately the direction that resources are applied in order to get a desired result. An additional view is that “Strategy” is the art of the Generals, by which it is implied that it is the “grand” design by which subordinates execute. All of these views are correct in that strategy starts with the identification of a problem. Here the concept of the problem is synonymous with the clarification of the situation. The term “situation” is probably more meaningful here in that the term “problem” implies a need for resolution and the existence of a solution or desired result. In general, there may be no desired results or multiple possible ones.

2.1. The Strategic Kernel

What are the essential elements that make up a strategy? In the simplest form they are focused on actions that might be taking. That is minimally, a strategy can be considered merely a selected set of actions that are intended to produce a specified outcome. However, we typically extend that idea focusing on the rationale for those actions. In this context, the strategic plan should be a listing of actions and the justification of why those actions should generate the desired outcomes or goals. A strategic plan fails when there is a failure to execute the specified actions. The performance may be succeed or fail, but the plan itself fails with the failure to execute.

2.1.1. Strategic Doctrine

Strategic doctrines are the principles by which a set of actions are expected to produce the desired results under specified conditions and context. Doctrines in general are the basis of analysis. They summarize the knowledge and policy that relates conditions to actions. Implicit is the achievement of goals or alternatively the reduction of detriments. As a classical example the “rules of engagement for the military” represents a doctrine that specifies the conditions by which a military unit should engage its apparent enemy with lethal force.

2.1.2. Strategic Games

Let’s take a look at this idea of strategy from a formal game, or a game-theoretic perspective. “Game Theory” is based on examining structured formal games. These games are designed to provide competitive situations where competitors provide a series of potential actions based on defined rules that produces outcomes. These games can have winners and losers based on the objectives of the games³.

³ **Andrew M. Colman**, *Game Theory and Experimental Games, The Study of Strategic Interaction*, Pergamon (1982)

2.1.2.1. Rules

Note that the rules basically define the “game”. They consist of the context, number of players, the actions that each can take, the information that they can make, and the nature of the outcomes. They contain the structure of the game. For research purposes, there are a number of “classic” games designed to examine the underlying motivations of people under “free” choice situation⁴. The rules of the game are usually specified, though information may not be.

2.1.2.2. Outcomes and Objectives

The purpose of the game is to “win”, that is to obtain some outcome. Outcomes are, usually, specified by the rules of the game. But they may not be. Many, if not most, research games contain an economic incentive and the researchers are often “Experimental Economists”. Under most games, it is reasonable to assume that each player would wish to maximize their returns. However, that is not always the case, and players might wish only to “not lose”. That is even if the outcomes may be specified, the objectives may not be. It is often the most interesting part of the study of games are the alternative objectives that players may take.

2.1.2.3. Actions

As previously noted the game is played by taking actions. That is doing whatever is specified in order to play the game. The actions may be discrete in the form of a purchase or activity, alternatively the action could be metric in the form of a offered price or an investment quantity. In any event, the action drives the game.

2.1.2.4. Treatments and Conditions

However the game is structured, there are alternative rules and conditions; these are referred to as “treatments” or conditions. Much of game theory research focuses on the influence of these alternatives on the outcomes. Note that these alternatives include the nature of the participants and players. Who plays the game can and usually does influence the results.

2.1.3. Game Strategy

As previously noted in game theory, strategy is basically the actions taken. Note that the strategies of the game focuses on the individual actions of each player. It is what each individual player does. In this regard, strategy is confounded by the actions themselves. However, in a more general sense the game strategy is rationalization of the actions. It is the nature or system that drives the choice of actions. There are two key issues in game strategy, they are the time perspective and that of interaction among players or the collaborative perspective.

⁴ Wikipedia, *List of games in game theory*

2.1.3.1. Time Perspective

Games may be singular or repetitive. In singular games the players only see a single event. The outcomes of that event are an end-point and the player will theoretically never see each other again. However, most games are repetitive in that the players will see each other again over a number of events. Now these may be independent or connected. In any event, repeated game allow for “learning” and the creation of a condition based strategy.

These time or learning dependent strategy are often thought of as being either retrospective or prospective nature. Retrospective strategies are based on past experience. These can be thought of as experimental in nature. Prospective strategies on the other hand are based expectations of what the player believes the “hidden rules” of the game are.

2.1.3.2. The “Collaborative” Perspective

As previously noted, all games contain multiple players, at least two. Note that the game strategy focuses on each player's actions. In all cases, all actions, from all players, influence the outcomes. A “collaborative” perspective requires that a game strategy consider the actions or potential actions of other players. In the simplest case, one could assume that the other players will behave randomly. And as such, the actions will be made based solely on the information that the player has. Note that this is a retrospective approach. Alternatively, we could try to determine what actions the other players may take in an effort to optimize actions. This would be a prospective approach.

One of the most interesting findings from game theory is that there may exist joint, multi-player, strategies that optimize all players' outcomes. Those represent sets of actions for all players where no player could do better with any other sets of actions. This is referred to as “Nash Equilibria”. The idea that is most important here is the existence of optimum conditions considering all players, rather than focusing on each separately.

2.2. Strategic Problems

Strategy is part and partial of the process of solving a class of problems. The essential concept is problem solving. The nature of strategy is the characteristics of the problem. However the problem is more complex in that the strategy and the problem are a whole. As we will see the strategy is part of the solution but also it is part of the definition of the problem. “Strategic⁵ problems” are those opportunities and issues that either require the dedication of sufficient limited resources and coordination or that have such potential consequences to demand a broad overview planning process. That process is what we define as “Strategy Formulation.”

⁵ Note here that we are making the semantic distinction in the use of the term “Strategic” to refer to problem solving with no connection with the modern geopolitical use of the term as a euphemism for the military actions involving destruction of an enemy's population or means of production.

Clearly not all problems justify this attention. However, the consequences of actions are often unknowable and therefore, many more problems are considered “strategic” even then the resources required may be relatively small.

2.2.1. The Components of “Strategic Problems”

All strategic problems that we will be considering in these notes have three elements: (1) the situation, (2) identified outcomes, and (3) resources that can be applied to it. This is true for military, political, or commercial problems. Without these three well-defined elements the process of formulating a plan of action is meaningless.

2.2.1.1. Situation

The term “situation” defines the totality of what is going on. Its boundaries, at best, are vague. View the situation, as a story of the problem as type of “case study.” Situation describes the players, the conditions, and the intent.

2.2.1.2. Outcomes

While the identification of the specific desired outcomes is often not known at the onset of problem identification, they need to, at least, conceptually, be feasible. In this regard, all “Strategic Problems” look like “games.” This is a general concept of games not limited to single winners and losers. But games for which the participants play toward some set of outcomes. The outcomes are the set of feasible results.

2.2.1.3. Resources

If the strategic problem, the game, is defined by the situation and the potential outcomes, we also need to define the levers that can be applied to effect the outcomes. These are the resources available. The focus here, however, is in the authority to control resources,

2.2.2. Call for Action

Inherent in this definition of a strategic problem is a call for action. Strategy exists only to produce results. Like “beauty”, strategy is what strategy does and that is to produce results. But results do not come without action. Without action, strategy is meaningless. The game must be played. If not action is possible, there can not be a strategy for there is no decision to be made. This is an important concept in that if actions are not feasible then there is no purpose of the problem solving process. If you can do anything, it does serve a purpose to work on it. While this may seem to be straightforward to military planners, it is not always obvious in the political and commercial world. The inability or unwillingness to act is a dominating characteristic of these worlds.

2.2.2.1. Intent

We have to be a little careful here in the definition of action. What if the strategy calls for no action or movement. That is, we decide that no action is the appropriate route

toward our goals. In this regard, the intent to not act, is an action. The issue of the ability to act or not act. Without that option, there is no purpose for the planning process.

2.2.2.2. Resources and Assets

Key here is the control of resources and assets for actions. Without resources, strategy formulation is academic. During the late 1960's and through the 1970's there was a drive toward complex corporate and business strategy development, which lead nowhere. These strategies were not implemented since resources were never directed toward them. Even today, much of commercial grand strategy formulation is done without consideration of resources requirements.

2.2.2.3. Ability

Even with the resources, there needs to be an ability to utilize the resources to make actions happen. It must be recognized that the ability to act is critical for there to be anything like a “doable” strategy. Without the ability, once again, the process is academic and not meaningful.

2.3. The Concept of Strategy

When we think of “strategy” we envision a multilevel process of problem solving. The very term strategic implies a specific type of process where actions are conceived going from the general to the specific. It proceeds from the formulation of an overall “strategic” plan to descriptions of detailed actions.

2.3.1. The Objective of Strategy

To paraphrase Sun Tzu, “the objective ... is victory, not persistence.” This is a critical thought that the objective is to obtain the goals of the process not the process itself. The choice of the routes of getting there is the process of formulating the strategy. But the process is not the goal. We undertake a marketing effort to achieve sales not for the “pleasure” of the task. We engage in military intervention to achieve a political aim, not to exercise the military apparatus. The key word here is “achieve.” The function of strategy is the achievement of well-defined aims.

2.3.2. Strategy vs. Tactics

The terms *strategy* and *tactics*, at least among military theorists, has been used almost interchangeably. In his text, *Fleet Tactics*, Capt. Wayne P Hughes explains that due to resource commitments naval fleet strategy and tactics are one in the same. However, for our discussion here, it is useful to distinguish between the two while recognizing that there can be no clear functional distinction.

It is useful to think of the process of planning as working on non-distinct levels: strategy, tactics, and operations. They are differentiated by their control of resources. **Strategy** focuses on the **allocation** resources, **tactics** on their **deployment** and **operations** on their **use**. Resources, thereby, are found and set aside for actions by strategy. The resources

are provided to the people who will use them during the formulation of tactics and finally used operationally. While this may be simplistic and narrow, it does focus on the resource base for all decision process.

However, functionally, there is often little distinction between the two functions. How distinct they are is more a function of overall strategy planning style than any fundamentals. For example, Russian military strategists tend to plan down to fine details of actions. This merges the strategic and the tactical planning. Classical western (Germany and US) planning tends to separate the two with strategy being handled on a campaign basis and the engagements handled “tactically” by the military units.

2.3.3. *Grand Strategy and Tactics*

The classic planning process hierarchy of strategy followed by tactics already presuppose a specific well-structured problem. In the microcosm of organizations and politics, there are ample examples with this is the case. For larger problems and in the world of corporations and nations, the clarity of the problems, the organization necessary to handle them, and the direction for that effort needs to be identified. These are the functions of “Grand Strategy and Tactics.”

While it is convenient here to combine Grand Strategy and Grand Tactics there can be a difference. Grand Strategy must focus on the identification of overall aims, organization and the general means, while Grand Tactics focuses on the milestones to be accomplished and the outline of the approaches that will be used to accomplishing those ends. It might be useful to structure the four planning elements as connected boxes:



As an example consider the Grand Strategy and Tactics of Allies (US, England, and Russia) during the Second World War. Here the **Grand Strategy** is well known and documented to include:

- The general aims (unconditional surrender of the Axis Powers)
- The organization of the theaters of engagement (along with the need to appoint “supreme theater commanders”)
- The general means of “Overwhelming the Enemy in both men and material”

- With the priority of Europe first (~80/20 split in resources).

There, however, was also a set of grand tactics, though less discussed than the Grand Strategy. However, based on actions we can surmise that the **Grand Tactics** included:

- Stopping the Axis military force (Germans in Egypt and at the Volga and Japan in the Pacific and at the border of India).
- Vastly expand production and manpower training by establishing centralized control of the economy.
- Gain control of sea and air routes to the frontier and thereby secure sanctuary for supplies.
- Deny sanctuary for production and supply to the Axis (through air bombardment and land guerilla actions).
- Undermine Axis population morale through propaganda and air bombardment of civilians
- Close in on the Axis “centers of gravity” by using vastly superior combined forces.
- Establish and maintain military momentum by neutralizing (bypassing and surround) strong points.

What is interesting to note is that this same set of Grand Tactics appears to be followed by three key members of the Allies both irrespective of the theater of combat.

2.3.4. Inherent Uncertainties

Before leaving the discussion of the concept of strategy we need to acknowledge the role of uncertainty. Clearly in a certain world the process of problem solving would be much easier. However, uncertainty is reality. Results are uncertain from actions and risk taking is a requirement.

2.3.4.1. Drivers of Success

Let us return to Master Sun Tzu with his observation that “*Victory can be discerned but not manufactured.*” He is observing that one can not invent success. One has to find it as the solution to the problem. The world is uncertain, the likelihood of success is uncertain. Furthermore, Sun Tzu notes that “*You can make yourself invincible, but cannot cause opponents to be vulnerable.*” Strategy and tactics focus on things under your control. Unfortunately the sources for success are often not under your control. That which create success is a combination of using resources wisely and getting the opposition not to.

2.3.4.2. Non-Repeatability

One of the most discouraging observations regarding problem solving is that the process is rarely repetitive. Rare is the solution to a new problem exactly like previous ones. As

Sun Tzu observed “...victory is not repetitious..” This observation will come back to haunt us in our discussion of the organization’s decision paradigms.

2.3.4.3. The “Fog of War”

Finally we need to acknowledge the general uncertainty of information and knowledge. What we think is so, may not be. The situation may not be what we suppose. And our Aims may be unrealistic or totally impossible. Worse, the “fog of war” gets thicker as soon as action starts. Communications becomes difficult once action commences.

2.4. Defining the Desired Solution

The key tool for strategic planning is the identification of goals. At each stage in that problem solving process goals and objectives need to be identified. Unfortunately, semantics seem to get in the way here. Military theorists use a different nomenclature and used in either the political or the commercial arenas.

2.4.1. Strategic Aims

On the highest level are strategic aims. These are the goals of the pursuit of the problem solving process. Where do we need to end-up? While the military refer to these as strategic aims, the commercial planning refer to these as objectives. We will use the term of Aims for this discussion and delegate the term objectives to tactical milestones.

There are and should be a number of these Strategic Aims. We can think of them in the context of “Goal Programming” as a hierarchical set of desired outcomes including both the positive ones that are desired and “warnings” concerning those that can not be allowed to happen.

As we will discuss later on, Aims need to be determined before strategic planning can be done. The ability to accomplish the Aims is the key measure of effectiveness of any strategy or tactics.

2.4.2. Objectives and Milestones

Tactical objectives refer to local outcomes from the strategic and tactical planning activities. Here again there is a semantic separation between military planners and the commercial world. Commercial planner will tend to refer to these as milestones while they are operational objectives to the military. Once again we will adopt the military definitions and refer to these as objectives.

These objectives are formulated as part of the strategy. Their identification is a tool in strategy formulation. This is a non-trivial issue. One need not meet all of these objectives for a strategy to be successful. In fact, we may propose strategies where no objectives need be met and yet it may succeed in achieve the strategic aims. For example, few if any of the operational objectives were met during the American Revolution, while the eventual Aims were obtained. Similarly, consumer product firms often have a low rate of new product success but still are highly profitable.

2.4.3. *The Scope*

So far, we have discussed Aims and Objectives in terms of desired outcomes. However, the constraints on the problem and therefore on the Aims are also critical. One of the most fatal errors in strategic planning is not recognizing that the scope of the problem exceeds the limits that planners wish to impose. The scope of the problem is not necessarily in the hands of the planner.

In this context the term “Scope” refers to constraints that are part of the Aims. It might be useful, here, to use the results of linear programming as a metaphor. Linear programming is a process of finding an optimum solution for a simple additive objective function constrained by a large number of straight- line relationships. The mathematicians tell us, however, that the same problem can be always reformulated where the constraints become the objective and the objective function expressed as a number of constraints. This is referred to as the “Dual” problem. What is useful for us, is the concept that constraints and objectives are interchangeable. They can be considered, at least in terms of linear programming, as joint essential elements in defining the problem. We should take the same perspective that the scope or constraints as well as the Aims are required. In this regard, we consider the scope as part of the definition of the Strategic Aims.

2.5. Strategic Frameworks

Identifying successful strategy, or more directly, planning actions to solve strategic issues is always a complex problem. It is difficult both in the actual formulation and in the communications of its logic. Fortunately guidelines for the development of these strategies are usually available and well established. These are referred to as “frameworks” and are integral to the established teaching and “paradigms⁶” of disciplines dedicated to specific classes of problems.

The easiest way to identify these frameworks is through academic studies. Each of the pragmatic academic disciplines such as military studies, business colleges, and academic departments of political sciences for example have developed they framework for the specific problems that are classically studied and for which interested organizations are charged to handle. This is not new stuff. Machiavelli’s “The Prince” and Sun Tzu’s the Art of War can be both viewed as outlines of their corresponding frameworks.

While bad luck and poor resources may lead to a failure of a strategy, the success and failure in its formulation can be thought to be coming from either appropriateness of framework or alternatively the correct or incorrect application of it. The framework is so

⁶ The concept of paradigm was introduced by Thomas S. Kuhn in his classic discussion of the “*The Structure of Scientific Revolutions*”, Second Edition, The University of Chicago Press (1970). This concept of the paradigm and its relationship to the Strategic Frameworks will be discussed in detail in a separate section of these notes.

essential to the strategy formulation that a change in that framework amounts to a “revolution” in thought⁷.

Later in these notes we will discuss specific frameworks. However, at this point it is useful to define the frameworks in terms of what they are and what they contain. To a great extent most of our discussion of strategic issues will be the basis for understanding these frameworks.

There are three groups of issues that the framework must address: (1) defining the problem and the goals, (2) define the actions, and (3) present accepted strategies and principles. Frameworks establishes the language of problem solving and captures the “conventional wisdom” regarding the specific problem solving practice. Language is very important here. It sets the scope of the problem and establishes the nature of the strategic planning process.

2.5.1. Defining the Problem (It's Scope)

Each framework is specifically directed at the solution of a class of problems and situations. The class of problems defines the acceptable scope of the framework. No framework is universal for all problems. They are designed to address specific families of problems. Note that while a framework may be exclusive to a specific family of problems, several frameworks may be needed to handle a complete situation.

Establishing the scope of the problem amounts to defining the nature of its components. Those components are territory, time, assets and participants and will be discussed in detail in separate sections. At this point, we need only to understand that the specific nature of those components needs to be identified and limited. This consists of both establishing a language designating these components and a structure describing expected conditions.

2.5.1.1. Acceptable Goals and Objectives

To a great extent the goals and objectives define the scope of the framework. The definition of the framework and its acceptable goals are interlocked together. For example, an acceptable traditional land warfare goal may be to control a specific territory in the sense that that territory will be occupied or that it will be excluded from the enemy's use. But that is all the framework will deal with. It can not deal with obtaining political results beyond that which force of arms can produce.

2.5.2. Establishing Constructs and a Language

Each framework utilizes its own set of constructs and concepts. This is establishing a language. The constructs are usually abstractions which are established by their definition. Each framework has its own glossary of terms often understood only by practitioners. For example, marketing deals with market segments, brands and position.

⁷ This is analogous to the concept of a change in paradigm discussed by Kuhn .

These are abstractions which have strong specific meaning within its strategic framework. In traditional land war, one deals with a front, order of battle, and the center of gravity. All of which only have meaning within the framework but here they are critical concepts.

2.5.3. Identifying Actions

Strategy should result in actions. There are two sets of actions that must be considered: (1) those that must be taken, and (2) those that can be taken. The strategic framework defines both sets. It establishes what category of actions must be taken irrespective of the strategy. These are fundamentals and, once again, deal as much with language as with concepts. The second set of actions is more vague. They consist of potential things that may or may not be done. Their description (or lack there of) is the basis of orthodoxy and creativity in strategy.

2.5.4. Structuring Strategies

To a great extent, strategies are abstractions; they consist of concepts and ideas. The strategic framework structures them and provides the language by which, at least as general concepts, they can be described. For example in traditional land war we discuss defensive and offensive strategies as a classification. Similarly, in marketing, strategies are often divided into broad and niche approaches.

2.5.5. Recognized Principles

To this point, the framework consists of a description of the problem and the actions that can be taken to resolve it successfully. However, the means by which the strategies and tactics should be selected is still open. The strength of the framework depends not only on the description of the problem but the principles that can be applied that will allow for the formulation of a successful strategy. These are the principles and “laws” that are “accepted” as true and govern the situation. These principles often include strategic doctrines. The revolutions in strategic frameworks generally surround changes in these principles. Principles by their nature are held to be universal within each framework. They always apply. The question is how they are defined. This ranges from highly distinct and clear structures to those that are handled conceptually. As a general rule, principles within frameworks are usually well defined. Only when we seek creative approaches do we tend to apply more conceptual interpretations.

2.5.5.1. Distinct

The most distinct principles can be thought of as relating definitive characteristics. These are well defined concepts and conditions. While these are very easily conceived, they tend to be rare. That rarely can we apply a universal principle that is fully distinctly defined.

2.5.5.2. Operational

Operational principles are defined to be true. That is the characteristics are selected so that the principle is always true. A physical example of this would be the first law of thermodynamics, “energy is always conserved”. This is both a fundamental principle but also acts to define the concept of energy. If energy is found to appear to be not conserved, we need to seek out additional forms of energy that will make the principle hold. A strategic example of this would be the principle in Marketing (and Economics) that holds that all decisions are based on maximization of “Utility”. Here we define utility basically to be always to drive behavior. The principle of surprise also falls into this category. The definition of surprise is based on its result rather than a distinct set of conditions. Surprise is what surprise does. Therefore the positive value of surprise is always maintained.

2.5.5.3. Conceptual

Conceptual principles are based on abstractions. These are concepts that are defined contextually. These usually tie together strategic constructs with underlying principles of action. Sun Tzu’s concept of fluidity of strategy is one of these. The concept of being fluid is conceptual while the need to maintain it is doctrine. Much of the general strategic principles discussed in these notes fall into this category since they would need to be redefined within the context of specific frameworks.

2.5.5.4. Metaphorical

The most vague principles are those that are metaphorical. They are not applied directly but only as general guidance of action. Later, for example, we will discuss the principle and value of sanctuary. This principle depends on the definition of strategic territory which can be a highly metaphorical concept.

2.5.6. Approaches and Processes

There are usually several planning approaches that can be appended to the strategic framework to provide a planning process. It is necessary to note that these approaches and processes are not unique and may be applied together. They may or may not be considered integral to the strategic framework. But they tend always to be part of the organizational or functional paradigm. Several of the general groups of approaches and processes are discussed in separate sections later.

3. Formulation of Grand Strategy

So far we have discussed strategy from ethereal perspective. It will easier to clarify the issues once we get closer to the actual process of formulating strategy. We will still try to be as general as possible in the process, hopefully without loss of the function.

As previously mentioned, the operational strategy requires structure imposed by Grand Strategy. In this regard, the concept of Grand Strategy also includes general corporate strategies in commerce as well as geo-political and macro-economic strategies. Grand Strategy is the “overall direction” for the formation strategy. It is the “commanding order” to the troops. But it goes beyond that, in that it sets the objectives and directs the formulation of all plans.

The function of Grand Strategy is to provide: (1) structure to the problem in an understandable manner, (2) well-formed and worthwhile strategic aims, (3) a route and structure by which resources are converted into assets that provide competitive advantage, and (4) assignments of responsibility for accomplishing operational actions.

3.1. The Structure of the Problem

The starting point for any problem solving is the recognition of the problem. More specifically, in formulating a Grand Strategy, we need to both understand the situation and provide a means to describe it operationally. This requires specifying the components involved in the problem. It is a description of the “world” as seen from the perspective of the policy makers. We will come back to the issue of the perspective of the policy makers later in our discussion on decision paradigms.

Traditionally military planners tend to live see simple world of friendlies, enemies, and resources. But in reality the world is usually more complex particularly in geo-economic-military-political world. Michael E. Porter⁸ has proposed a structure for examining business competitive strategies, which may form a good starting point for us. This consists of five often vaguely separated elements of allies, resources, competitors, “the Market”, the environment, and but not necessarily in that order. The importance and identity of each will vary depending on the situation and the perspective.

3.1.1. “Market” or Opportunity

The problem starts by identifying the opportunity or the threat. This defined by the territory or “market” where the situation exists. This is more obvious in a commercial setting where the market consists of customers who have a need or desire worth satisfying. The opportunity is then defined as the ability to capture the “worth” in the customers. Notice that the only “competitor” here is the market itself as it wishes to get the best deal.

⁸ Michael E. Porter, “*Competitive Strategy, Techniques for Analyzing Industries and Competitors*”, The Free Press, New York (1980)

From a geo-political perspective, this is usually the territory or conditions on dispute. Here again, the issue is not directly involved with the competitor only indirectly. “Peace keeping” and insurgencies often have to focus on this aspect of the situation.

3.1.2. Competitors

Since we normally think in terms of competitive situation, the idea of competitors or enemies appears natural. These are the people we need to defeat or at least come to terms with. However, in many if not most situations, the least important character may be the competitors, if they exist. In many commercial situations, the same people are competitors and allies either sequentially or simultaneously. Here the information needed is the identity of the competitors, their capabilities and capacities, and finally their intent.

3.1.3. Resources

The concept of the resources is more general than just the funds and things that can be made available to accomplish the tasks and achieve the aims and goals. It includes the means of obtaining the resources. In many cases, the availability of resources extends over significant periods of time. The organization of those resources needs to be included here. For example, with extended conflicts and flow of funds are needed. The ability to political sustain the flow resources will be critical. Similarly, the ability of a firm to sustain a price war is going to be critical in its choice of competitive strategies.

3.1.4. Allies

Depending upon whom you read, allies are either of the greatest value or the bane of all strategy. From a practical perspective and with the recognition of always having limited control of resources, the moment that you need to utilize other people and their resources to implement a strategy, you must engage allies and form alliances. Just as in the case of competitors we need to have a full assessment of the allies.

3.1.5. Environment

The environment consists of the remainder of the situation. It contains the other influences to the problem. While these are normally considered neutral or “not” involved, in reality they can dominate the problem. Included here for example, are government and regulatory issues that constrain business options and patent law that provides opportunities. In military situations, included here are often the infectious diseases that so greatly plague traditional land campaigns. Here should noted, that there were more casualties due to the 1918 influenza pandemic than on both sides of the First World War. Clearly, the environmental issues can be critical.

3.2. Role of “Intelligence”

The understanding of these elements and their interactions are critical for the formulation of any strategy. Simply to acknowledge the elements is not enough. The more predictive the situation, the more the motives, capabilities, and intent of the participants recognized, the easier and the better the strategy. Sun Tzu last chapter deals with “Spies” though it is

probably better extended to all forms of intelligence gathering. As Sun Tzu indicated: “What enables leaders overcome others and achieve extraordinary accomplishments is foreknowledge.”

We will discuss this in more detail throughout these notes. However, it is important to embed the predominance of the gather and analysis of information from the beginning of this discussion.

3.3. Defining Grand Strategic Aims

All strategy must start and end with their aims and objective. The achievement of aims and objectives is the quintessential function of all strategy. However, the identification of strategic aims with the formulation of Grand Strategy is critical and somewhat different. Strategic Aims becomes the “given” direction of all subsequent strategies and plans. If these Aims are either unachievable or inappropriate all subsequent activities will come to nothing. Therefore, if there is one key critical activity within the formulation of grand strategy it must be the identification of strategic aims.

We will discuss the concept of Aims and Objectives in another section in greater detail. What must be noted is that the strategic Aims also include a general description of approach for the setting objectives. They are not merely a description of the end points, but includes the constraints and structure by which the goals are to be reached.

3.3.1. Strategic Aims and Objectives

Here must differentiate between strategic aims and objectives. Unfortunately, semantics becomes difficult here. In military jargon, strategic aims are those goals and directions set for the military from grand strategy. Objectives are then local milestones set during the subsequent strategy formulation. It is, therefore, not necessary and often undesirable to meet all of the objectives in order to gain the strategic aims. But it is the aims that are the goals.

In the world of commerce, the term objectives and goals are synonymous with strategic aims. Subsequent functional objectives are then referred to as “milestones.” These definitions tend to be used far more loosely in the business situation. For the purposes of these notes we will use the military terminology since it tends to be more consistently employed.

3.3.2. Descriptions of Future States

By their nature strategic aims are a “state” view. They are a vision of the future. Though its non-transience may be an illusion, it is the condition necessary for planning. Strategic aims are goals. They need to be sufficiently specific to clearly indicate their conditions for achievement and to identify when they are achieved.

3.3.3. Self-Centric

Unlike objective (milestones), strategic aims should be self-centric in that they should relate to the condition of the “us.” What we define as victory of us, not necessarily the conditions in territory or place. A firm needs to set its strategic aims or goals at the conditions that it will be at. A nation sets its strategic aims as how it will secure its interests. As we will see later, operational objectives (milestones) need to be set within territory.

3.3.4. Setting the Scope

There are, at least, two elements to the scope of grand strategic aims: (1) timing, and (2) the need to avoid other consequences. Without the specification of timing, strategic aims are almost meaningless. Aims function within a timeframe whether they are defined broadly as in grand strategy or narrowly as with sub-strategies and tactics. Without timing the purpose of the strategy is lost. Ambitious aims targeted for accomplishment within two years become lame if accomplished in ten.

The scope also needs to define the need to avoid specific outcomes and consequences. This sets the broad constraints on what must not happen as a consequence of the strategy. Avoidance of consequences sets the risk level that the grand strategy is willing to absorb.

3.3.5. End-Points and The End-Game

Aims describe the desired end-points for the grand strategy. It represents where the organization expects to be. But getting there can be complex and the arrival can be unexpected. The old Chinese warning is appropriate here; “Be careful of what you wish for you may get it.” While grand strategy itself often does not include the End-Game plan it must call for it. The aims of the grand strategy generally represent a future state. The ability to maintain that state will depend on this End-Game strategy. History is full of ultimate failures for the lack of this consideration from inability of Alexander's empire to survive to the onset of the cold war after the Second World War. All were consequences of a lack of an effective End-Game strategy.

3.4. Providing Competitive Advantage

A key function of grand strategy is to provide competitive advantage. While competitive advantage, as is discussed elsewhere, is a complex combination of assets and conditions, here we are mainly concerned with the accumulation of resources and their conversion into a series of competitively effective assets.

The Allied grand strategy during Second World War provides a clear functional definition for the focus on providing competitive advantage. The Soviet Union's and the United States' grand strategy was based on providing overwhelming attacking force. That overwhelming force was based on training of manpower (of over 40 million persons under arms including the United States, the Soviet Union, Britain and other Allies), providing tank forces (over 100,000 tanks) as well as a half million aircraft of all types and thousands of ships. While in this case, the production of assets was clearly the central

theme of the Allied war grand strategy, providing of competitive advantage is always a core element of all grand strategies whether they be in the military, commercial or political arenas.

3.4.1. Moving from Potential Resources to Actual Assets

As is discussed elsewhere, there is a difference between resources and assets. Assets are those things that produce change and are the elements of strategy. Resources produce assets. And resources are themselves obtained from the existing productive assets of the organization. A good example of this sequence is the American entry into the Second World War. It took a couple of years to ramp-up American industry to produce the flood of arms required to execute the field strategies. Potential resources had to be first converted to the means of producing arms, then those means had to be applied to produce the arms, and finally those assets had to be applied to produce the battlefield competitive advantage.

Grand strategy, in whatever arena, must focus on that process by which competitive advantage is obtained. Assets, here as we will discuss later, includes not only funds and physical properties, but skills and non-tangible sources of power.

3.4.2. Choosing the Most Effective Assets

The key is in developing the appropriate set of assets. This is not straightforward. A key concept from business analysis is the "core competencies." These are those assets that provide specific competitive advantage for the implementation of the strategy. In the business environment, these are those things that the firm both needs to do well and that are effective. Choosing those assets is usually not simple and is often confounded with history and tradition. Those things that are often thought to be important from the past may no longer be critical in the execution of the future strategy.

3.4.3. Developing Competitive Advantage

Finally the assets have to be assemble to produce competitive advantage. Having potential effective assets is often inadequate to assure competitive advantage. The grand strategy must assure that those assets are applied in an effective and timely manner to produce advantage.

3.5. Setting Structure and Responsibility

Finally, grand strategy must set the structure of the problem and assign responsibility for the required sub-strategies. The classic example of this was the assignment of strategic regions and responsibilities by the Allied command during the Second World War. World War II was clearly a global war and could not be undertaken centrally. It needed to be divided into "theaters" of conflict. Though an overall strategic approach was set as basically a "war of attrition", the specific field strategies for each theater was the responsibility of the "Supreme Commanders" and their staffs. As is the case with global military problems so is must commercial and marketing problems. The grand strategy includes the ways the problem is structured and who is responsible.

3.5.1. Structuring the Strategy

In military conflicts the structure usually follows territorial considerations and the control of assets. For commercial grand strategies in large "multinational" corporations, the strategic structure follows the corporate organizations usually organized by "Strategic Business Units" or functional units. In any event, some structure is always required for all but the simplest strategic problem.

3.5.2. Delegating and Delimiting Authority

To be effective, authority needs to be both delegated and delimited. That is authority in the form of control of resources, must be clearly assigned and its limits specified. Note that this usually corresponds to the structure of the problem and of the organization. While this appears to be straightforward, it is often the most difficult part of developing a new grand strategy. New grand strategies that conflict with older ones require reassignment of responsibilities and authorities, which often lead to conflicts.

3.5.3. Providing Integration and Coordination

Providing authority is, however, insufficient in most cases. Most grand strategies involve the interaction of multiple components or strategic planning units. Success in one area often depends on success in others. Effectiveness and efficiency often requires shared use of limited assets. This requires an integrated and coordinated effort. Once again, it is the requirement of an effective grand strategy to provide mechanisms of this integration and coordination.

3.6. The Grand Strategy and Frameworks

Strategic frameworks as discussed in the last section structures the solution of sets of problems. They are the essential mechanism by which "rational" strategy is formulated. However, frameworks are typically developed within a narrow scope or focus. This is required to both from a functional perspective and from asset authority considerations. For example, in a business situation, there might be a marketing framework focusing on the promotion of a product which might be separate from the decisions on how to manufacture the product, or how to finance the venture. However, all of these are required for a successful venture. Similarly, all real problems require a number of strategic frameworks working together to constitute the action plan. As previously noted, key purpose of the grand strategy is to structure these functions to work together.

3.6.1. Hierarchical Frameworks

The organization and the corresponding strategic frameworks form a hierarchy. For example, the corporate strategic framework will contain directives on the formulation of the venture strategic framework, which in turn provides structures and constraints on the manufacturing and marketing strategic framework. Similarly, geopolitical frameworks provide the structure and limitations upon strategic military frameworks which in turn provides the aims and objectives of tactical military frameworks. The upper level

frameworks provide the boundaries and options for the lower level frameworks. Once again it is the responsibility of grand strategy to provide this structure.

At this point it is critical to recognize that the inability of frameworks to provide successful plans can often be attributed to limitations imposed by the upper level framework. That is the inability for example of a business to market a new product may be due to the limitations imposed by broader business considerations which are imposed by a higher level framework. Similarly, the failure of a military strategy may be due to imposed political constraints⁹.

3.6.2. Conjoined Frameworks

Not only are these frameworks hierarchical they are also conjoined. Critical assumptions and conditions imposed on one framework are the output of others. For example we typically consider the decisions on product manufacture to be held by a different framework (and usually a different organization) that those charged with the marketing of the resulting products. However, these decisions are clearly conjoined. Each should depend on the other. However, in reality, they tend to be sequential and therefore structurally hierarchical. The decision on what type of manufacturing facility is usually made before marketing is even considered.

In military situations the conjoined nature is usually better recognized. For example, the logistics problem is always conjoined to military action. Success in the field is almost always recognized to depend on the availability of assets made so by the logistic plan, even though the two processes and strategic frameworks may be distinctly different.

A way of looking at this conjoined nature is through an influence diagram which shows the sequencing of decisions and a Vern diagram indicating the overlap of responsibilities. However, in both cases, the processes are contextual. It is the responsibility of the grand strategy to structure these relationships.

3.6.3. Structural Dominance

The net effect of these factors is to limit the options available within the frameworks. These limitations greatly affect the operational alternatives. Furthermore, they act to provide a conservative structural dominance. That is they act to provide a standard historical approach. This structure becomes part of the “paradigm” of the organization. The positive side is that it allows for control of complex organization decisions. However, on the downside, it prevents creative alternative approaches being considered seriously.

This type of structure becomes so ingrained that it is often not recognized. Organizations may pride themselves on open options and “forward” thinking, but still be hog-tied by this structural dominance. This will be discussed in more detail when we look into specific sets of strategic frameworks.

⁹ An example could be the American involvement in the Vietnamese War.

4. Strategic Aims and Objectives

Aims and objectives form the basic building blocks for strategy. As previously mentioned the selection of strategic aims should be done in the formulation of grand strategy. Formulating objectives follows during the construction of the strategies and the planning of operations.

4.1. Defining Aims and Objectives

Dealing with the terms "aims" and "objectives" we get into a semantic dilemma. The military uses the term "strategic aims" to refer to overall goals. The term "objective" is used by the military to refer to a tactical or local point of reference. We will be using both of these terms in this way. However the terms aims, goals and objectives are used much more interchangeably for commercial, political and marketing strategies. In these case our term "objectives" refers to milestones though they are often referred by the same set of descriptors. While it would be nice to dismiss the confusion in terms, they are critical here.

4.1.1. Aims Drive Strategy

Aims or goals are imposed upon strategy. They are the reasons or justifications for the activities. While we generally think of these as static, intransigent, or inherent, in reality they will change over time. The trick in well-formed strategic aims is to understand the scope of the aims so that they encompass the potential range.

4.1.1.1. Justification for Action

While it would make logical sense to formulate aims before undertaking strategic decisions that is rarely the case. In most cases aims are formulated after key directions have been decided upon. Typically we enter a war and then decide on the war aims. Similarly, the need to change direction for a firm is agreed upon before the specific aims for that change are sought. In this regard, a function of the aims is to justify the action that was already agreed upon. It is a consensus building process as well as one for directing strategy.

4.1.1.2. "Constancy of Purpose"¹⁰

The key role of strategic aims and goals is to provide the structure for planning the activities. In order to proceed in preparing a plan, those aims need to be apparently rigid. At least for planning purposes, the aims are fixed. All strategy then follows the aims. As such, defining the aims is the critical output from the formulation of any grand strategy.

¹⁰ "Constancy of Purpose" is the first, and probably the most important of the principles of Total Quality Management proposed by Edwards Deming. As with all strategic processes, having clear direction is critical.

4.1.1.3. "The Vision of Victory"

Aims are "the vision of victory". That is we define victory in terms of the aims. If you can not envision victory, the aims have not been properly defined. Imagery can be critical because it requires a full picture of what victory is¹¹.

4.1.1.4. "A State of Being"

Aims should be a "state of being" for the organization. While objectives focus on real measurable achievements in terms of territory, aims focuses on the advantages or conditions of the organization itself derived from meeting objectives. This is a very different condition and can produce a multiplicity of approaches and, therefore, strategies. In this context aims are inward focused while objectives are external.

4.1.1.5. Real and Feasibility

In order to build operational activities, the aims must be real, feasible, and achievable. It is often far easier to place aims into an ethereal realm and built on platitudes and wishful ideas. However, for aims to guide real actions, they need to be built closer to the earth. They need to rest on the reality of what can be done and what can happen.

4.1.1.6. Time Independence Aims

Well-formed aims tend to be time independent. Time constraints or horizons and time frames are imposed normally by the strategy rather than being a part of the aims themselves. In this regard aims and objectives are different. Objectives are always time specific while the aims are not.

4.1.1.7. Event or Eternal Conditions

There are two general types of aims depending on what the results look like. Timed aims are those, whose attributes take place at a particularly point in time. Though that point in time is most likely not specified. For example, victory in war against a well-defined enemy would take place at a point in time. These are event driven. Alternatively, the aims could be targeted to be eternal such as an "end to all wars". Under most military conditions, these tend to be interchangeable, that is such term events are hoped to lead to permanently peaceful conditions. However, commercially these are very different aims. Event objectives are targeted here to obtain well-structured timed results while eternal aims tend to focus on structural change in the firm.

4.1.1.8. Specification

Aims should not constrain strategy but expand it. They need to be a first stepping stone in a creative process. As we discuss later, strategy needs to be both orthodox and

¹¹ With this definition of strategic aims, it is not surprising that many commercial firms do not have well defined aims, but rather expressions of hopeful future performance.

creative. As such, the aims need to allow a broad strategic scope. If aims are overly specific, they limit what strategies are possible. In fact, they can be so over specified to become infeasible. The trick is to make aims clear enough and sufficiently embedded into reality to drive the strategic planning process, yet be sufficiently under specified to allow multiple directions¹².

4.1.2. Objectives¹³ within Strategy

Objectives (or milestones) are inherent and essential components of strategy. They represent the path of the strategy and are shown as points of reference. Unlike aims and goals they are within the strategy not imposed on it. As such, different strategies may have vastly different objectives while trying to deliver the same strategic aims. In a real sense the strategy is defined by its objectives.

4.1.2.1. Well-Defined and Singular

While we can consider alternative aims, the objectives must be clear and singular. Even if secondary objectives are noted, they reflect additional rather than alternative objectives. This is a critical difference between aims and objectives. Though not anticipated, aims can change without changing strategy. This is not the case with objectives. Changes of objectives are, in fact, changes in strategy.

4.1.2.2. Operational and Measurable

Strategic objectives in this respect must be operational. . They can not be vague. They need to be clearly achievable. Furthermore the achievement must be measurable¹⁴.

4.1.2.3. Territory and Criteria Specific

Objectives need to exist within the real world. For that to be true they need to be constructed within specified territory. As we will discuss later, this also implies a measure of control or criteria. That is we need to be able to specify who controls that territory. Note here that the territory need not be defined geographically, but may be in terms of other characteristics.

¹² One of the problems of specifying commercial aims in terms of cost reduction or market share is that it tends to limit action within current operations. Corporate strategy then tends to follow traditional rather than creative approaches.

¹³ Sometimes these are referred to as "tactical objectives" within the military or milestones in commercial strategies.

¹⁴ Measurement of achievement, however, has been debated. For example, during the Second World War in the Pacific, islands were declared secured often before all resistance ceased. However, the principle still remains, strategic objectives need to be able to declared "achieved".

4.1.2.4. Time Limited

Tactical objectives are always limited to specific time. There are points to be reached at a given time. Missing the time frame is paramount to failure.

4.2. Abstracted Strategic Learnings

Aims are statement of the goals for strategy while objectives or milestones are the points along the strategic path marking progress. If the strategic aims are not known to the organization, it is unlikely that the organization knows where it is going. However, while aims should be viewed as permanent they may be several of them and it may be necessary to change aims during the course of the strategy to obtain the best feasible outcomes.

4.3. Designing Aims

Aims often follow rather than lead the situation. That is, typically a program or action has already been initiated before the aims are considered. The aims therefore can represent a justification of actions as well as the ultimate goals. The process of developing aims is therefore part of the exercise of the "call to action". Aims are determined as much to clarify why action is taken, as it is to direct that action.

4.3.1. Aims as Natural End-Points

Strategic aims must be the end-points of actions. As noted earlier, these end-points focus on the participant and describes a new state-of-being. However, those end-points must be the natural consequence of the proposed action. The strategic aims are the definition of "victory" of the strategy. But that image must follow naturally from the process.

4.3.1.1. Fictitious Aims

Fictitious aims produce fictitious results. This is a critical concept. Organizations always strive to meet goals and aims. If those aims are blatantly infeasible and unrealistic, the organization will find ways to apparently make them real. Real results can only come through believable aims. Examples of this in commerce can be seen in the rise of "financial engineering" also known as "cooking the books". If commercial goals and unrealistic than businesses tend to make the appearance of victory whether real or not.¹⁵ Similarly, the Vietnam War may also be an example of the striving to meet fictitious aims with equally fictitious results¹⁶.

¹⁵ Classical financial frauds such as the Ponzi and pyramid schemes can be thought as fictitious aims gone wrong.

¹⁶ During the Vietnam War the US military used "body counts" to substantiate its claims of victory. Unfortunately the "body counts" were generally fictitious or at least vastly overestimates resulting in "virtual" victory.

4.3.1.2. "Stretched" Goals

But shouldn't "one's reach always exceed one's grasp"? Simply No! Aims and goals should never be unreachable though that is not to say they should not be difficult. The abilities of an organization (or for that matter any individual) can not be assessed without a challenge. The term goals imply some degree of stretch and difficulty. This is not only appropriate for aims and goals, it is to some extent a requirement. This is a balance, of course, of how far to stretch goals before they become blatantly fictitious.

4.3.2. Aims as Fact

Since aims are the natural consequence of actions, their details need to carry the impression of "fact". For example, in January 1943 Franklin Roosevelt and Winston Churchill expressed the war aims against the axis powers as demanding "unconditional surrender" to all of the allies. While an expression of victory was clearly expected for war aims and the inclusion of all allies was an expected political requirement, the inclusion of "unconditional surrender" was merely a statement of a recognized fact. Since Germany had systematically disregarded its past treaty obligations, anything other than unconditional surrender would not be meaningful. The inclusion of such facts expands the description of victory but did not define it.

4.3.3. "Form Follows Function"

There are clearly multiple purposes of aims in addition to the strategic planning function. The nature of the aims follows those purposes. As such, it is important before formulating aims to clearly identify the purposes for them.

4.3.3.1. Explicit Aims

How explicit the aims need to be expressed depends on their specific use. Clearly for planning purposes, the more explicit the aims the better. However, since aims may need to be interpreted differently by different groups some degree of vagueness may be called for. Here we differentiate between explicit description and detailed specifications. Explicit description indicates the picture of the final results while aim's specifications describe the constraints that are imposed on the means of getting there.

4.3.3.2. Aims as Inspiration

As previously noted aims act as the justification for actions. They are often intended to provide inspiration; they are the reasons why we "fight" and struggle. Here, as in the last example, words are important. How the aims are expressed is often as important as their content.

4.3.3.3. Aims follow the Situation

Strategic aims must be feasible. As the situation changes, the aims likewise may need to change.

4.3.4. Multiple Aims

It should be obvious at this point, that there is usually need to be several sets of strategic aims. Not all of which can be made public. For example, with military aims, there are often political and economic aims as well as those expressed as war aims. As such the set of aims can be viewed as a portfolio. One of the causes of poorly designed strategies is the focus on a single aim, which may be stymied. The purpose of multiple aims is to provide flexibility in the strategy design.

4.3.4.1. The Hierarchy of Aims and Goals

Not all aims have the same value. We typically look at sets of aims in terms of "Goals" in which we desire to meet a set of aims. Some goals are more desirable and other are "safer" or more feasible.

4.3.4.2. Confounded Aims

Goals and aims may be confounded in that they are mutually exclusive. Here consistency is necessarily required. Commercial or military victory does not normally result in good relations or an "orderly" market. The very fact that action has been taken will result in disturbance yet strategic goals is often stated "to create a highly favorable, peaceful, environment".

4.3.4.3. Hidden and Revealed Aims

Not all aims need to be fully revealed. The choice of aims that are to be revealed, however, depends on their function. The aims used for strategic planning may need to be different than those used to "inspire the troops". However, such duplicity is often difficult to maintain. Typically, alternative and potentially disturbing aims are hidden.

4.3.4.4. Maintaining Options

The key issue for maintaining confounding aims is to provide a basis for maintaining options. As previously noted the Germans and to a lesser extent the Japanese during the Second World War had taken actions, which precluded alternative allied war aims. This made the corresponding Axis war aims rigid and left little or no options. This was particularly evident in the latter stages of the war in the Pacific.

4.3.5. Aims Under Uncertainty and Game Theory

Game Theory gives insight into the choice and development of aims. From a Game Theory perspective, aims are associated with potential outcomes of a competitive process. Choosing an aim is then equivalent to choosing the desired outcome. It should be noted that these competitive processes are uncertain or stochastic. From this perspective, the aims are then designed to provide the "best" expected result. To a great extent the approach that is chosen reflect the risk aversion of the players.

4.3.5.1. Maximum Gain

Seeking the maximum gain is a traditional military perspective. It is a win-or-lose solution. The aims are to, of course, to win. This is a high-risk approach. If you lose, you lose everything. In some military cases, this is forced onto the combatants by the action of one or more participants. On the Eastern Front of during the Second World War is a good case in point. The actions of the Germans made reduced the options of either win or die to the Russians. However, this is more the exception of history, than the rule. In most cases, other alternatives exist when there are a number of possible outcomes that are feasible.

4.3.5.2. Max-Min Solutions

An alternative is to try to minimize the impact of failure. That is selecting outcomes that provide best of the bad potential results. This is referred to as a Max-Min solution. Game Theory is established that for many conditions this is equivalent to minimizing the best condition or Min-Max solutions. Note however, striving to minimize the disaster could still result in the maximum gain. There is not contradiction in this. An organization trying to survive may become highly successful. But the aim is still to survive not to "win big".

4.3.5.3. Minimum Regret

The third alternative is to select aims that will not result in cases where it would have been better to aim for something else. I usually think of this in terms of the old Chinese warning of "beware of what you wish for, for you may get it". Here we select the alternative "safe" aim given the uncertainty of results. This is particularly useful in dealing with product pricing strategies in a highly uncertain environment. Here we wish to select a pricing policy that would be satisfactory over a broad range of competitive actions.

4.3.6. Rules for Strategic Aims

Rules for developing and selecting aims usually follow the appropriate functional strategic framework and the organizational paradigms. These rules are usually hidden or implicit which makes it difficult to use explicitly. However, occasionally such rules have been openly described. Below are a set of six rules developed for American war aims based on the Vietnamese War experience. It should be noted that these rules are not transfixed. Rules of this type vary¹⁷.

Weinberger's Six Tests for weighing the use of U.S. combat forces abroad
(28 November 1984)¹⁸:

¹⁷ A similar set of rules has been associated with Colin Powell for the considering war aims of the first Iraq War (1991).

¹⁸ Michael I. Handel, "*Masters of War, Classical Strategic Thought*", Third Edition, Frank Cass (1992)

FIRST, the United States should not commit forces to combat overseas unless the particular engagement is deemed vital to our national interests.

SECOND, if we decide it is necessary to put combat troops into a given situation, we should do so wholeheartedly, and with the clear intention of winning. If we are unwilling to commit the forces or resources necessary to achieve our objectives, we should not commit them at all.

THIRD, If we do decide to commit forces to combat overseas, we should have clearly defined political and military objectives. And we should have and send the forces needed to do just that. As Clausewitz wrote, 'No one starts a war - or rather, no one in his senses ought to do so- without first being clear in his mind what he intends to achieve by that war, and how he intends to conduct it.' If we determine that a combat mission has become necessary for our vital national interests, then we must send forces capable to do the job - and not to assign a combat mission to a force configured for peace keeping.

FOURTH, the relationship between our objectives and the forces we have committed - their size, composition, and disposition - must be continually reassessed and adjusted if necessary. When they do change, then so must our combat requirements. We must continuously keep as beacon lights before us the basic questions: 'Is this conflict in our national interest?' 'Does our national interest require us to fight, to use forces of arms?' If the answer is 'yes', then we must win. If the answer is 'no', then we should not be in combat.

FIFTH, before the U.S. commits combat forces abroad there must be some reasonable assurance we will have the support of the American People and their elected representatives in Congress. We cannot fight a battle with Congress at home while asking our troops to win a war overseas or, as in the case of Vietnam, in effect asking our troops not to win, just to be there.

SIXTH, finally, the commitment of U.S. forces to combat should be the last resort.

4.4. Evaluating Aims

It is always difficult to determine if sets of aims are "good". Leadership groups tend to feel that it is inappropriate to challenge strategic aims. However, in our discussion the issue is not if the goals are correct but rather do they do what is necessary for the planning process. Do they provide the guidance necessary for the construction of effective strategy and actions? There are certain key criteria that all strategic aims need to be tested against.

4.4.1. Feasible (Plausible)

Note that this criterion refers to the feasibility of meeting the aims without incurring inordinate negative consequences. Another way of putting this is old adage "beware of

what you wish for, you may get it.” Are the aims inherently flawed? Here we focus back on the idea of an image of what we want. Is that image possible or is it inherently confounded? However, from an evaluation perspective, we go beyond the possible to the realistically plausible image of the future.

4.4.2. Desirable

Effectiveness goes beyond the doability or feasibility of obtaining strategic aims within the specified scope. It represents the desirability in the context of the situation. Effectiveness is hierarchically subordinate to feasibility. Here we may deal with a number of aims each of, which is feasible under a set of conditions. However, with in each of these conditions there will be a number of feasible aims. These then can be viewed in terms of effectiveness. To some extent desirability focuses also on the efficiency of the aims. That is are the aims worthwhile? Should we really be doing this?

4.4.3. Complementary

So far we have dealt with only single aims. However, as previously noted, it is wise to consider multiple aims. These may be a hierarchy of aims or aims that coexist together. The term complementarity derives from the agreement among theories (waves and particles), but here we apply to the collection of other aims particularly competitive aims. The more that aims can coexist, the easier and more feasible are they accomplished. The extreme case, is the aims of unconditional surrender where the situation reduces to a zero or negative sum game. There can only be one victor and therefore the competitive aims are not complimentary. This concept is particularly important regarding alliances where the strategic aims of the allies should be complimentary wherever possible.

4.4.4. Flexible

Beyond the ability for a set of aims to coexist is the ability to move among aims. This is particularly important if the consequences of action may be highly detrimental. As such, events may drive a reassessment of the situation and a new priority in aims. The ability to move between aims can be, therefore, a highly advantageous characteristic.

4.4.5. Strategically Effective

Aims and goals need to stimulate action. There is an old adage that "the definition of stupidity is the belief that if you do nothing, things will change to your benefit". The key function of aims and goals is to generate an active rather than a stupid organization. Effective aims do precisely that; they stimulate action.

4.5. Reestablishing Aims

Typically we think of aims and to a lesser extent tactical objectives as permanently set. However, as noted earlier in reality even strategic aims need to change with the changing situation. Flexible aims and objectives allow for this type of reestablishment without destroying the integrity of the strategy. Note that such changes should never be taken lightly. Once again the constancy of purposes is the critical factor in maintaining the

integrity of the force and its "will" for victory. As such, changing aims is usually viewed as a radical action¹⁹.

4.5.1. The Challenge of Feasibility

While aims may appear totally consistent when first formulated, may become inherent confounded with either success or failure. Jack Welch tells the story of an observation from outside consultants that GE's general corporate aims of having businesses that were leaders in their arena, high market share, and growing at double-digit rates were inherent confounded. That is businesses with high market shares will find it difficult if not impossible to maintain high growth rates. There is just no where to go. Success itself made the definition of aims infeasible.

The inability to change aims often leads to disaster. The Japanese toward the end of the Second World War, for example, found it extremely difficult to change direction even after it could see that the existing aims were not longer feasible.

4.5.2. Changing Efficiency

The desirability of aims can change as well with the situation. What was a highly desirable aim may no longer be so or the reverse. Industries that had apparently good corporate acquisition candidates may rapidly have become unprofitable or alternatively become extremely expensive and no longer worthwhile. Furthermore competitive actions could make previously desirable objectives and aims no longer of interest.

4.5.3. Nash Equilibrium

John F. Nash introduced a concept through mathematical game theory that a mutually optimum set of aims may exist within a competitive situation, which would produce far better results for all participants than pursuing individual maximization. Furthermore a process of seeking independent aims among competitors if allowed to proceed may produce this mutually desirable set. This is rather radical idea that the aims themselves could be mutually optimized. It is an interesting prospect that the Cold War between the United States and the Soviet Union could actually have approached a "Nash Equilibrium" in its later stages by which the aims of each formed a mutually desirable set that produced overall global stability.

¹⁹ In some places even questioning the strategic aims lead to accusations of "treason".

5. Formulating Strategies and Tactics

Strategies and tactics are plans of action. They are usually distinguishable only in their scope and details. As previously noted, some authors simply merge the two as extensions of each other. For our purpose that is probably justified. Our discussion of strategy, at least at this point, covers both. However, there is an implication that strategy deals with the broader issues and that will still be our orientation here.

5.1. The Function of Strategy

Strategies serve a number of functions both tactically in terms of the actions that need to be carried out and organizationally. Tactically they function to give an outline of actions. Organizationally it provides the means of directing those actions.

5.1.1. Planning of Action

The most obvious function of strategy is developing the action plan. It is so obvious that one can lose sight that only giving direction or a "path forward" is insufficient. Effective strategies need to describe the totality of the action. This is not to say that the description needs to be fully detailed. As will be noted later, strategic plans tend to be hierarchical constructions with increasing detail at lower levels. But the structure of the strategy should be fully described.

5.1.2. Setting Objectives

Strategy is set by the accomplishment of milestones or (strategic) tactical objectives. It moves from one objective to the next until the total task is completed. However, these objectives are not given but derived as a key part of the strategy. This may appear radical, but in reality it is a necessary condition. The major outcome of strategy then must be a series of objectives leading to the achievement of the strategic aims.

5.1.3. The Proposal (Costs and Timing)

The strategy is the basis for allocating resources and assets. The "bottom line" of the strategy must be the request for resources. It is a statement of kind, amount and timing of assets that are required to achieve goals. In this respect it is a proposal for completion of a series of tasks. This includes the estimate of costs and the promise of closure at a deadline.

5.1.4. Building in Advantage

Strategies should be designed to build-in advantage. Strategy is selected to help assure success. That implies that its function is to build advantage. Advantage here is defined by the various conditions that leads to victory and is discussed in the section on the Calculus of Victory.

5.1.5. Reducing or Reversing Operational Difficulty

Similarly difficulty reduces the likelihood of success. Good strategy is designed to reduce or eliminate these difficulties and where feasible turn them into opportunities and advantages. This might seem to be paradoxical but it forms the basis of "brilliant" strategy.

5.1.6. Handling Risk

All strategies designed to achieve specific aims are inherently uncertain. They contain both knowable and unknowable risks. A function of strategy is to find ways to accommodate those risks. That is the task is to build-in sufficient robustness into the plan to assure success. This is rather daunting requirement which is discussed in more detail in a separate section of these notes.

5.1.7. Building Consensus

An implicit function of strategy is to build consensus. This is both a result of the strategy and plan and a product of the process of formulation. Here it is important to focus on the process of formulating the strategy as much as content.

5.2. Formulating Strategies

In formulating effective strategy several activities are usually necessary. However, they do not take place sequentially but are usually simultaneously undertaken.

5.2.1. Clarifying the Aims

While we generally think of aims as well-defined directives for strategy, in reality they contain a degree of vagueness. They are ethereal by design. The process of formulating strategy acts to put structure and details into the aims. Aims become real as they are built into the strategy. This is somewhat circular in that aims are used to initiate the strategic process and yet it is through strategy formation that strategic aims and goals become pragmatic.

This circularity is no mistake; it forms the fundamental cyclic nature of strategy formulation. The process must periodically return to the aims in order to verify the direction and to redefine the aims.

5.2.2. Establishing "Principles" of Strategy

Strategies are not formulated in isolation or without history. Organizations have established assumptions and implicit definitions that guide the process. These assumptions are integrated into the "way we look" at the situation. They are included as doctrine and within the organization's "paradigms". These assumptions are so well integrated into the "strategic" thought of the organizations that they take on the aura of invariant "Principles". Failure of strategy can often be traced to these as inappropriate strategic assumptions.

5.2.3. Understanding the Situation

Ideally strategy follows from understanding of the situation. Conventional wisdom suggests that the better we understand the situation, the more likely we can develop an "optimal" strategy. Intelligence gathering is the key component to understanding the situation; however, it is filtered through the strategic assumptions of the organization. We see things as we are prepared to see them. The situation is defined in the terms of the "strategic principles" as they are understood. The situation then is a historical picture. It integrates both what we know and what we believe. Here again, the selection of the improper framework as well as incorrect, imprecise, inaccurate or incomplete intelligence can provide a fatally flawed understanding of the situation.

5.2.4. Finding a Path Forward

The path forward provides the direction of strategy and the overall pattern. They should follow from the aims. They provide the general outline of what needs to be done and what resources and assets will be available to do it. The path forward should be designed to assure three things: (1) building strength and advantage, (2) driving toward goals, and (3) assuring success. That is, each action along the path should assure that one or more of these elements are accomplished.

5.2.4.1. Building Strength

The success of actions is related directly to "strength." The better the competitive advantage is in position and assets, the better the chances of success. This is self-evident. What is not self-evident is that the process of building strength must be an integral part of the strategy and path forward.

5.2.4.1.1. Competitive Advantage

Advantage describes the specific conditions, which favors success. The path forward needs to exploit those advantages while reducing those of its competitors. The effective paths forward tend to provide increasing competitive advantage. This usually tracks both improvements in appropriate assets and in advantaged "position".

5.2.4.1.2. Accumulating Assets

Special attention needs to be put on the accumulation of effective assets. This is particularly true for strategies covering long periods of time. Assets are usually the major source of strength and their accumulation and targeting are usually decisive in the implementation of strategy.

5.2.4.2. Driving toward Goals through Objectives

All effective paths forward strive to obtain the final goals and aims. However, the means of doing so should be directed toward meeting of objectives. Note that setting strategic objectives or milestones are part of the strategy designed to lead inevitably to the goals.

The path forward needs to layout the structure by which achieving those objectives form the basis of success.

5.2.4.3. Increasing the Likelihood of Success

Paths should be designed to take advantage of opportunities and to cover vulnerabilities. They directly impact the likelihood of success. The function of the path forward is to assure that the vulnerabilities are reduced and the opportunities increased.

5.2.4.3.1. Invulnerability

Early in the strategic process there are always inherent or starting opportunities and vulnerabilities. These should change over the course of actions. In particular, to assure success, the vulnerabilities need to be reduced. An alternative way of thinking is that the path forward needs to be designed to make the endeavor invulnerable to competitive actions.

5.2.4.3.2. Opportunities

The opportunities are not merely the flip side of vulnerability. It represents the means by which success is obtained. They are the targets for strategy. And therefore, they represent the increased chances that strategy will work. An effective path forward needs to focus on the generation of increased opportunities and thereby the increase in likelihood of success.

5.2.5. Identifying the Elements of Strategy

The focus of the strategic planning process is identifying and clarifying key action elements. This clarification becomes lynchpins which hold together the strategy and allows for the plan to be easily communicated. The following are key elements but not an all-inclusive set. The Strategic Operational Frameworks should provide a more extensive list of items.

5.2.5.1. The Strategic "Center of Gravity"

The concept of the strategic "Center of Gravity" originated with the military to indicate the critical point, which holds together the opposition. We are using the concept more generally to focus on the key concept that drives the strategy. It is the focal point of the strategy and its "theme" and essence. It answers the question of "***What is the strategy?***"

5.2.5.2. Objectives

Objectives of the strategy need to be clearly identified. Remember that these are milestones and are inherent to the strategy. These are not the overall aims but the means of getting to the aims. It answers the question of "***How do we know we have succeeded?***"

5.2.5.3. Advantage

Advantage covers all aspects of *"Why do we expect this strategy to work?"* While this usually focuses on competitive advantage and relative issues of strengths, it also needs to establish the key difficulties. This is discussed in a separate section.

5.2.5.4. Psychological Strategy

The success of all strategies usually hinges on changing the mind of people. That is getting people to do what is in our interest for them to do. While this is part and parcel of the objectives and strategic and tactical activities, it holds a unique position. Actions usually focus on the things that are done, not on the influence on people. Success usually requires that expression. It answers the question of *"How are we going to get people to do what we need done?"*

5.2.5.5. Logistics

Logistics focuses on *"What assets do we need to successful execute this strategy?"* This requires not only a statement of the request assets and resources but also the means of obtaining, controlling and moving them.

5.2.6. Forming the Hierarchy of Actions

We can think of strategy formulation as a two directional process, top down and bottom up. That is a top-down process starts with the aims and generates the plans of actions to meet those aims through a set of milestones and objectives. The bottom-up approach starts with tactical objectives and builds up the overall strategy. As previously mentioned the strategic planning process is cyclic and can actually follow sequentially both approaches, in a "predictor-corrector" style.

However to do so, the actions need to be structured into a hierarchy allowing for them to be subordinated. Higher order tasks are derived from the results of lower order tasks. From a military perspective, this is straight forward. The results of the action of small groups become aggregated to form the action of larger units. In corporations this can be more complex, where the success of business units effects the resources that lead to the success or failure of other business units.

5.2.6.1. Top-down Planning

The traditional view of strategic planning is top-down, starting from the aims and producing the action plan. As one level of the hierarchy produces its plan, it generates the objectives and "sub-aims" for those below it. The process ends with the total strategic plan. This is the traditional war planning process.

5.2.6.2. Bottom-up Percolation

A more "enlightened" approach focuses on plan proceeding in the opposite direction. This is mainly a focus on resources and assets. Sub-aims, objectives and plans for action

are created from a general concept at the lower levels and merged to form the larger picture and requirements. This reflects much of corporate strategic planning where each Business Planning Unit semi-independently creates its plans, which are then merged for the corporation.

5.2.6.3. On Micro-management

How deeply or how much detail the strategic plan should include is an issue of tactical design. There are two historical military philosophies involved. The German approach is to give the lowest levels of command the option of how to accomplish tasks. Under this practice, field commanders are given resources and objectives and are then required to formulate their own tactical approach. This allows them to take advantage of local opportunities. The Russians on the other hand believe in providing detailed plans on all levels. They set the objectives and provide sufficient resources to make it happen. The same philosophical dilemma exists with sales strategy. This focuses on how much freedom should the sales force have versus the imposition of "marketplace discipline".

5.2.7. Assembling the Plan

In its final form, strategy is the plan. It is the pragmatic description of the actions that are required. As an action plan it is also a proposal of a path to obtain specific results with the application of specified assets and resources. It represents a commitment to results and as such is a time-table of actions.

The strategy needs also to produce support. The strategic plan should be designed to produce support. It should be noted here, that we are not necessary referring to a document. The strategy and plan can take on any number of forms. But the type of form used is generally determined by the paradigm of the organization. That is the strategy appears in the form that is expected by the organization.

5.3. Frameworks of Strategy

Clearly strategy must be formulated using some tools and structure. These tools are necessary to provide a means of developing strategy and form a historical basis for learning. As previously noted strategic frameworks and the organization's paradigms provide this basis. The organizational paradigm is the basic view of the situation and the opportunities. It selects the strategic frameworks that are applied. The frameworks in their part provide both the structure of how to develop strategy and the strategic assumptions. As part of the framework are the Strategic Planning Approaches. These Planning Approaches provide the tools and form by which strategy is formulated. The remaining parts of the strategic frameworks provide the strategic assumptions and structure of the strategy. The form of the strategic framework has been previously discussed and the descriptions of specific frameworks are discussed in detail later. However, it must be noted that strategic frameworks are not mutually exclusive or singular. Several can be used at the same time on the formulation of strategy.

5.4. The Strategy Process

As previously noted strategy focuses on the actions that will be undertaken. The planning approaches and strategic frameworks tend to give their own standard direction to the process. However, all tend to require the following key elements and steps. Note that these are not an inherent sequence. The strategic process has to be heuristic. The strategy should progress from the general path into the specific detailed action plans. The items listed below, therefore, need to be revisited based on changes in the structure of the strategy as it is formulated. Many of these items will be discussed in detail in separate sections in these notes. Here we are intending to show only the level of detail and structure that is required by the strategy formulating process.

5.4.1. Defining the Situation

All successful strategies rest on understanding the situation. This is the arena of intelligence. Knowing the conditions that give rise to opportunities and vulnerabilities provides the call for action. What we mean by the situation is the nature of the forces that define the problem. Typically some event or condition arises that triggers the call for action. As previously discussed, grand strategy should have already structured the problem. Here we look at the actual actions that need to be undertaken. As such the function of defining the situation needs to be in sufficient detail that allows for the construction of plans and the evaluation of consequences of actions.

5.4.2. Structuring Aims

Grand strategy should have developed overall aims and goals for actions. However, these aims and goals are usually stated broadly. They need to be specified specifically for the actions that need to be detailed and understood. The end point of strategy is to meet these aims. Note that the aims are both positive and stated to avoid negatives. This is important since it provides guidance in formulating the path forward.

5.4.3. Developing the Path Forward

The path forward represents the general strategic approach. It outlines what should happen and provides the framework for the details of the strategy and action plans. Note, however, that the path forward should never be the end point in the strategy formulation. It lacks the details of the plans and therefore can not be fully evaluated. It provides the starting point.

5.4.3.1. Identifying Structure

The path forward is formed based on understanding the structure of the situation. It must be embedded into reality. Here knowledge is critical. The purpose of the path forward is to provide a skeleton for the strategy and action plans. The focus in developing the path forward is to provide sufficient flexibility of action and to assure likely success. The more that the competitive reality, the opportunities and the vulnerabilities of the situation are integrated into the path forward, the easier it will be to formulate effective strategies.

5.4.3.2. Potential Roles

One needs to recognize that the roles of adversaries, allies and participants need to be specified. Furthermore, the potential assignments need to be identified along with their consequences.

5.4.3.3. Timing and Dynamics

Timing is everything. The path forward needs to be linked with the dynamics of the situation and the dynamics of competitive advantage. It needs to be constructed on a time-line that indicates not only the direction of strategy but when results are to be expected.

5.4.3.4. Seeking Creative Paths

An effective strategy development process should be "creative". Typically multiple alternative approaches should always be explored. If there appears to be no options in the path, you have not explored the problem creatively enough. As Sun Tzu had observed, effective strategies need to include both conventional or orthodox approaches and the creative or non-orthodox.

5.4.4. The Components of Strategy

The collective strategy is made up of a series of actions with associated targeted objectives. These need to be organized in sequential fashion. There is a hierarchy of these strategies. These strategies and objectives take on specific characteristics. It is useful to break strategy in to specific parts.

5.4.4.1. The "Action" Strategy

The "action" strategies represent the general plan to achieve aims through directing assets. They center on the means of actions. These focus on effecting change and include research and development, marketing and communications strategies.

5.4.4.2. Competitive Strategy

When overcoming an adversary is critical to the overall path then it needs to be the center or focus of strategic development. This is referred to as the competitive strategy. In military and political strategic frameworks, this dominates strategic thinking. These strategies are usually the most active and aggressive and therefore, most targeted to get results. It is often useful to construct an adversary as a means of getting action.

5.4.4.3. The "Home" Strategy

The "home" strategy focuses on the ability to husband adequate assets for the execution of the other elements of the path forward. By necessity this usually requires the maintenance of support and organizational morale.

5.4.4.4. Entry and End-Game Strategies

How one enters and leaves the action is usually critical to the success of the overall strategy. As such, it is important to think out the various possible entry and exit strategies that must be considered. While an effective entry strategy is useful, having a feasible and efficient exit strategy is critical.

5.4.5. Setting Objectives

Notice that we have put the evaluating of paths before identifying the objectives. This is critical for unlike aims, objectives are creations of strategy. One needs to know what direction one intends to go before setting targets. However, the objectives need to be set before the details of action can go forward. Strategic objectives are milestones in the process of formulating strategy. Their achievement maybe important to the overall success, but not inherently so. They maybe a set of potential objectives some of which are critical but other are supportive. As such, the critical objectives need to be set and achieved.

As noted earlier, these objectives are territorial and quantitative. That is their achievement must be easily recognized and indisputable. Objectives contain two elements, the identity of the target or specification of the objective and the definition of what achievement of the objective means.

5.4.5.1. Identifying Targets

In order for the objectives to be set, the targets be identified. A target is territorial in the general sense. It is "real" and identifiable. When targets are vague so are the objectives and the achievement not meaningful. At early stages of strategic development the specifics of the targets and potentially alternatives may be left open. However, the nature of the targets has to be specified. For example, under combat conditions, the specific targets for an attack may be specified as a part of tactics. But the existence of such specifications, their nature and timing need to be confirmed by the strategy.

5.4.5.2. Defining Achievement

Along with the need to set targets is the need to define what achievement of the objective means. This is often not straight forward even under military conditions. When is a territorial objective secured²⁰? Or when is a business objective obtained? For political reason, these are often made vague. However, they just add to the difficulty of implementing strategy and adjusting to the realities of operations.

²⁰ The recent history of the United States' military in Iraq is an example of an ill-defined measure of achievement. At this writing it has been three years since President Bush declared the mission in Iraq accomplished, while the U.S. has since sustained several thousand dead and seriously wounded soldiers.

5.4.6. Sequencing and Subordinating Strategies

To this point strategy has been considered from an encompassing perspective. It is viewed from a single path-forward. However, functionally, it is usually and often necessary to break-up the strategy into components. This is due to both the size of the undertaking, the span of the territory required, and need for diverse skills and assets to be applied.

5.4.6.1. Dividing the Battle Ground

The traditional manner of dividing strategy is over territory. The classic example was that of the Allies during the Second World War. They divided up responsibility into "theaters of operations". This is a good example of the complexity of the process. While Western European operations were consolidated essentially into a single theater of operation, the Pacific and Asian activities were divided into four: (1) South Asian under Lord Louis Mountbatten, (2) the Chinese operations normatively under Chiang Kai-shek²¹ (3) Southern Pacific under Douglas MacArthur and (4) the Central Pacific under Chester W. Nimitz. Strategic theaters were defined in this case by political and structural considerations as well as geographic. Similarly, sometimes weird divisions are made within corporations based on function, products, materials, or markets. The purpose of this strategic division should always be based on the planning of effective and efficient actions to achieve the aims of the strategy.

5.4.6.2. Bifurcation of Strategies

Divisions are often created by a splitting or bifurcation process. That is as a function or activity becomes too complex to manage as a single strategic element, it is divided up. Alternatively a strategy maybe divided to provide a competitive force to motivate action²².

5.4.6.3. Dividing Responsibility

The key to all strategic division is the assignment of responsibility and authority. This is the critical element. Where responsibility is vague or over-lapping, conflict is likely and results can be in question. However, as noted above, this process maybe used to motivate competition.

5.4.7. Establishing the Organization

Inherent in formulating strategy is the establishment of organization or action teams. The process of sequencing and subordinating as well as structuring strategies lead to need for

²¹ Chiang Kai-shek never had full control over the Chinese forces fighting the Japanese due to his ongoing civil war with the communists under Mao Tse-Tung.

²² Stalin appears to have had done this later in the war between the two converging Soviet Army groups near Berlin in 1945, the Ukrainian front under Ivan Konev and the Belarus front under Georgy Zhukov. This approach is also practiced often in commerce with sales and marketing strategies.

corresponding organizational forms. Here we start with the principle of "form following function". That is that the organizational structure should follow the strategic structure. And that structure should be operational for the execution of the strategy. Unfortunately, this is usually not the case.

5.4.7.1. Operational and Task Oriented

Strategy by its nature focuses on actions and therefore effective implementing organization needs to be operational and task oriented. It is absolutely critical for success. The so-called "strategic or planning" organization can not execute anything. They focus on the process of putting the plan together but do not add to the implementation. While they maybe highly useful, their structure does not determine the success of the strategy only the effectiveness of its construction.

5.4.7.2. Effectiveness and Talent

Strategic organizations focus on effectiveness obtained by optimum utilization of talent²³. We use talent and skills where they are most appropriate. The organization needs to be designed to allow for this talent to be utilized. This often requires a multifunctional perspective as well as operational. That is, we need to apply the best skills, talents and assets to accomplish the sub-tasks required. This is sometimes counter to other organizational design forces.

5.4.7.3. Focus on Leadership

Leadership is the ability to get a group of individuals to work effectively together to achieve specified results. In this definition, we are focusing on results rather than the characteristics of leaders. It is not who the leaders are or the means used but the results that are obtained. This is not to say that these issues are not important, they are. Great leaders have gotten exceptional results with few assets. However, the means of being a leader varies greatly among individuals and organizations. The characteristics of successful leadership are part of the strategy itself and needs to be considered.

5.4.7.4. Education and Training

The success of all modern strategies has been based on the ability of organizations²⁴ and their members to learn from exercise and be effectively trained for action. This has been particularly important in military operations, where training both provides a strong multiplier effect and reduced casualties. However, this principle is true in all cases. Organizations that tend not to learn from its history and experience, tend to repeat errors.

²³ This is a fundamental organizational concept expounded by John Paul Jones in regards to the organization of the US Navy and by Peter F. Drucker in his consideration of contribution in his book *The Effective Executive*. Unfortunately it is rarely followed.

²⁴ The present business theme covering this concept is that of the "learning organization".

5.4.7.5. Tragedy of the "Matrix"

Organizations are usually formed prior to the development of strategy. As such attempts are then made to impose a useful form on to the existing organization. A classic example of this is the "Matrix" organizational form. That is the use of two virtual organizational structures, one functional and the other operational. Theoretically both structures operate together to allow for a concentration of experience and the proper exploitation of assets. Unfortunately, this tends not to be fully workable. One or the other of these structures tends to dominate. If it is functional, inefficiencies and conflicts are generated. Similarly, if the operational structure dominates, the functional entities become sources of duplication of management effort and as sources of conflict.²⁵

5.4.8. Integrating Strategies

Strategies are generally structured top-down. Goals are set from the overview, the grand strategy. However, plans are usually formulated from the bottom-up along with tactics. In order to provide an overall efficient strategy, these individual actions need to be integrated to assure that the overall goals and aims are achieved.

5.4.8.1. Seeking Synergy

Synergy is the effect of multiple forces acting together producing results in excess of what would have been otherwise expected. This can be thought of as a multiplier effect. That when the effective advantage of assets is greater than that which would be expected from the simple combination. There are two bases of synergy, one is in the nature of combined strengths; the other is through coordination of action.

5.4.8.1.1. Combining Strengths

The effectiveness of the application of resources depends on the "mix." What assets need to be used in combination? This can be referred to as "combined" operations in that it may involve different functions, organizations or "services"²⁶. In the case of marketing strategies, this is referred to as the "marketing mix" which combines, promotion, pricing, product design and distribution into a single combined action plan.

5.4.8.1.2. Combined Resources

Another source of synergy is the utilization of common resources and assets. This allows the assets to have multiple functions and provide multiple advantages. This is usually

²⁵ A similar problem arises with the service design of the military. This always breeds conflict and inefficiencies, some which have become tragic.

²⁶ The term "combined operations" appears to have been first applied during the Second World War by the British to the use of multiple services in single operations. We are using the term more generally to mean the combining of actions by diverse organizational elements that would normally have independent plans and take separate actions.

forced. That is, with common resources synergy of action is often required. However the effect of multiple applications of assets is almost obvious.

5.4.8.1.3. Common Objectives

We need to deal with common and linked objectives that produce synergy. Multiple routes to the common objectives are means of securing synergy if it is allowed to do so. Here we often get into the issue of competing objectives and goals. This is particularly the case when separate rewards are instituted.

5.4.8.1.4. Coordination

Coordination of action is a major multiplier effect of assets. For example, the difficulty of maintaining multiple war fronts for the Germans during the Second World War was made worse by the coordination of actions of the Anglo-American forces and that of the Soviets. The invasion of Sicily coincided with the Battle at Kursk. And the Battle for Normandy (Battle of Falaise) coincided with the Soviet offensive resulting in the collapse of the Germany Army Group Center in the East. Similar advantages are obtained in marketing strategies when advertising, promotion, salesforce and product logistic strategies are coordinated. Unfortunately, the reverse is also true. Without coordination strategies are often ineffective.

5.4.8.2. Within the Tactical Situation

The tactical situation itself forces integration. This is in the basic nature of operations. Both the needs to use the economy of force and to maximize advantage require that strategies become integrated. That is, when the need to take action arises, there is a competition for assets that requires coordination. Failure to recognize the need for integration generally leads to ineffective plans and tactical failure.

5.4.9. Controlling Resources and Assets

Strategy is the process of applying resources and assets to achieve goals. As such "care and feeding" of resources and assets must be a critical factor in all effective strategy. It is both the starting point and the ending point of strategy in that we start by understanding available resources and end with allocating their use.

5.4.9.1. Obtaining Assets

First the appropriate assets need to be obtained. This is not a given but a critical component of strategy. Often it is the obtaining of assets that are the most critical component of the action plan. Without assets a strategy is merely a set of wishful thinking.

5.4.9.1.1. Logistics

The assets must get to where they will be utilized. The adage attributed to Nathan Bedford Forrest during the American Civil War regarding which side would win a

particular battle, "The one that gets there the fastest with the mostest" is appropriate here. Having the assets and not getting them to the "battle" is equivalent to not having them at all. It is that critical.

5.4.9.1.2. Balancing Assets

However, assets by their nature are limited. They need to be balanced across the demands of strategy. The trick here is to provide adequate or usually greater than adequate assets in a timely fashion along the strategic time frame and across space.

5.4.9.2. Command and Control

The concept of "command and control" relates to the ability to direct assets and monitor their impact. While concept of command and control may appear to be an attribute of strategy that goes without saying, it is so important that it must be addressed. It is not that easy to establish and maintain. This is particularly true for control or monitoring. The ability to assess the impact of the application of assets is difficult to establish in all strategic arenas. This covers both the need to identify targets and to assess the action of assets.

5.4.9.2.1. The Central Role of Results

The major problem centers on the concept of results. Assets are applied to a target. In the military case, usually that is weapons and fire. In marketing it is usually advertising, promotion and the sales force. In all cases it is difficult to measure its impact, but critical for the effective execution of strategy.

5.4.10. Motivating Actions

Earlier the role of leadership was discussed as a critical element in the successful implementation of strategy. For effective implementation of strategy attention needs to be put on the way by which the organization is to be motivated. The key role of leadership is in motivating action. Since motivation is a subject unto itself²⁷ we will only here breeze through its key levers or tools. Motivation, ultimately, is a personal issue. One does not motivate in general but in specifics. One motivates individuals into action and through individuals, the organization.

5.4.10.1. On Greed, Avarice and Pleasure

Machiavelli²⁷ uses the term "love" to refer to the ability to bribe people for influence. That is you can rely on people's greed and avarice to endear them to the source of good things. In other words, you can buy loyalty and in some cases that is very effective. This is particularly the case when the achievement of objectives can be linked to rewards. Ancient and renaissance European armies and others appear to have been motivated more by loot than loyalty to causes. It should not be surprising that the behavior of corporate

²⁷ In this regard, let me refer to Machiavelli's "The Prince" as the classic text on political motivation.

executives tend to follow self-interest rather than the welfare of the stockholders. Motivation is a powerful thing when driven by greed.

5.4.10.2. On Fear

Machiavelli, however, notes that "love" and greed is an expensive and unreliable means to obtain goals and loyalty²⁸. Fear at least politically appears to be more efficient, if not more effective. While this holds some truth, particular during the ages of omnipotent monarchs, it has great limitations. With limited power, there are limits on the ability to incur fear²⁹, though it appears still to be a powerful tool.

5.4.10.3. On Pride and Patriotism

It is amazing what sacrifices will be endured for the sack the organization and "nation". While power of the *Espirt de Corps* can be overestimated, it can still be an extremely powerful force. However, it needs to be nurtured and reinforced. It should not be expected to exist independently of actions to promote it³⁰.

5.4.10.4. The Will

Belief in success itself provides motivation. "Nothing succeeds like success" may be a trite adage but it is a truism. Success tends to breed success at least in terms of motivation. The belief in achievement drives effort for that achievement.

5.5. Evaluating Strategies

What makes a good strategy? Simply a good strategy assures success under all condition with minimum exposure utilizing minimum resources. However, it is not quite that simple. In fact, the process of evaluating strategies should be viewed as integral to their development. As previously noted, strategy formulation should be a cyclic process. The evaluation process is part of that cycle. The evaluation here should be thought as a means to improve the strategy rather than to dismiss it.

The seven elements that are discussed below are not independent of each other; they strongly overlap. Typically the weakness in strategies will be seen in multiple perspectives. If a strategy is weak in one area in all likelihood it will be weak in several others. The order that elements are determined in any evaluation normally follows from the concerns of the leadership.

²⁸ Chapter 17, "The Prince".

²⁹ This has posed an interesting problem in basic military training, which had used fear as a key tool in behavior modification of recruits.

³⁰ A major purpose for annual business sales meetings is typically to foster the *Espirt de Corps* among the salesforce and the business members in general.

All of these elements rest on having sufficient information regarding both the situation and the potential resources and assets. As such "intelligence" in its various forms is critical to any evaluation. A key outcome of evaluating strategies is a quality assessment of the knowledge status of the organization. The first and last two questions that need to be asked in any strategic evaluation process are do we know enough about the situation and ourselves to undertake these activities? And how do we know?

5.5.1. Completeness and Integration

The strategy needs to be complete. That is that the plan of action needs to end with the accomplishment of the strategic aims. This sounds simple, but in practice it isn't. It is the difference between a vague description of intentions and a fully developed strategy. The strategy must include both ends of the process, how to enter the activities and the end strategy, of how to get out.

The strategy must be integrated including all elements for undertaking the task. Often strategies are complete in regards to certain elements but are kept vague in regards to others. This often is due to the lack of information or the need to obtain presently unavailable resources. However, such incompleteness results in an inherently incomplete description of the strategy. Once undertaken the oversights in the construction of the strategy often become endemic. They are lost until the lack of a preparation comes back to destroy all good intentions.

These two issues of completeness and integration require almost mechanical evaluation. They represent whether the strategy is ready for evaluation. They focus on the quality of the strategy but not actually on its value.

5.5.2. Feasible (Doable)

A strategy needs to be doable not only from a theoretical perspective, but also pragmatically. Here we separate out wishful thinking from doable plans. As previously noted it is critical that the strategic aims are feasible. If they are not, then any strategy to achieve those aims is again unrealistic and infeasible. However, the reverse is also true, without a feasible strategy any strategic aim is infeasible.

5.5.2.1. Visualizing the End

A feasible strategy is one that can be visualized as being successful. As previously noted, for this assessment we need to have sufficient knowledge of the situation to determine whether a strategy can succeed.

5.5.2.2. Clear Path Forward

A feasible strategy must be give a clear path or direction that would lead to the success. While that sounds simple, it really is not. In this regard a hypothetical description of out to proceed, is insufficient. To be feasible the strategy must show that it can be accomplished, requiring a clear picture of "how it will be done".

5.5.3. Efficiency

Strategies need to be efficient. That is the gain from the activity needs to be balanced by its costs. This is a focus on expenditures, losses and results. In some respects it is somewhat of an accounting view of strategy in that with all other things equal the "cheapest" approach is best. Unfortunately, it is not that simple. The value of assets is both in terms of resources but also in terms of alternative and subsequent actions. Losses at one point in a strategy may limit the ability to complete the strategy later. The concept of costs is, therefore, relative.

5.5.3.1. "Dear" Assets

Not all assets are viewed equally valuable. Because of need or unique or cultural reverence some assets are considered extremely important. It should be noted that this higher evaluation might be time dependent. At the on-set of the American entry into the Second World War in the Pacific the few aircraft carriers were viewed as critically valuable. While toward the end of the war each carrier was viewed as expendable. This reflected the sheer number of carriers at that point. At the beginning of the war the US Pacific fleet had as few as three functioning aircraft carriers. The loss of even one might have been catastrophic. By the end of the conflict this had grown to over 35 large and over 100 small carriers. At this point the loss of a few carriers would have little impact.

The organizational paradigm also plays a role here. The perceived loss due to casualties has varied widely depending on history and culture. During the Second World War the Russians and the Chinese appeared to have far less concern regarding casualties than the United States and Britain. This can be taken even further in the case of the Japanese who seemed not to compute casualties at all.

In large commercial organizations situations this differentiation of assets can be seen in the types of funds committed to programs. Existing funds in the form of the use of existing resources is usually expensed and not of great consideration while external or "out-of-pocket" funds are disproportionally valued.

5.5.3.2. Uncertain Costs

With all things regarding planning, results and costs are always uncertain. As such, the estimate of efficiency must focus not only on the "expected" or "typical" costs but the extremes. The key here is what is the potential and what are "unacceptable" losses. Think of this as an extension of the issue of effectiveness but focusing on lost resources rather than downside results.

5.5.4. Effectiveness

Feasibility does not infer that a strategy is effective. Only that it can produce the desired results. It may produce them and any number of other desirable and very undesirable consequences. The examination of the effectiveness focuses on the gain and loss side of the issue of risk. Here we examine the consequences of the implementation of the strategy.

A strategy follows a script of actions, each of which has consequences. Not all strategy will produce the same results even though they might achieve common aims. The side effects (or peripheral damage) can far exceed the costs and benefits, which were the original intent. Here we view these factors as the integral part of the strategy's effectiveness.

5.5.4.1. Upside Potential

Actions are undertaken to gain value in the form of its aims and goals and in terms of the intermediate objectives. We start by considering the actual potential gains. As previously mentioned the nature of the aims is modified in the formulation of strategy. Therefore, the potential gains from those aims will differ depending on the strategy envision to achieving them.

All strategies are linked together by its milestones or objectives. These are both tactical and strategic in nature. The success of the strategy proceeds by the achievement of these objectives. The achievement of each results in potential gains. It is the combination of these gains that indicate the overall upside potential for a strategy in addition to those associated with achieving the eventual aims.

5.5.4.2. Downside Exposure

What happens if we fail or at least do not meet the all the objectives? There include both the explicit costs of undertaken the activity but also more often more meaningfully the hidden costs.

5.5.4.2.1. Computed Costs of Assets

All activities expend assets and resources. Examining the efficiency of the strategy focuses on expected cost verses other approaches. However, we also need to examine the consequence of a bad or prolonged activity. These costs are inherent with undertaking the strategy. They hopefully would not be incurred with success. But we need to understand them and what they represent.

5.5.4.2.2. Opportunity Costs

Similarly, a strategy and activities undertaken also represent inherently alternatives that were not taken. These represent the opportunities that were lost. A simple military example is when a major campaign (or invasion) is undertaken, other potential actions are held back or not feasible. Resources and assets dedicated to one action eliminate their use elsewhere with significant potential consequences.³¹

³¹ In one interpretation of recent history is that the Reagan administration had forced the Soviet Union to overly extend in their investment military assets, resulting in undermining their economic base and finally collapsing the Soviet State.

5.5.4.2.3. Cleaning-Up the Results

Clean-up costs happen with both success and failure. This is the exposure produced by following a path. This is beyond the inherent costs of the execution of the strategy. A recent example of this would be the connection between the way the Second Iraqi war was undertaken and the resulting costs of trying to establish a stable liberal demographic republic. Here the path could and did greatly influence the eventual difficulty in achieving the strategic goals.

Notice that this type of exposure comes into play with success as well as failure. However, it is in failure that this exposure can become particularly odious. Here the very survival of the organization may be at stake³².

5.5.4.3. The Situational Change

There are potentially changes induced in the environment that are the result of actions. These are often viewed as collateral effects in that they do not read on either the gains or the direct exposure that could result from the strategy. They are real and can result in extremely large changes for the good or bad. A result of the Second World War and the subsequent Cold War was the decolonization of the third world. This was partially due to the strategies undertaken. Similarly, undertaken a "standards war" such as with Sony's Beta and JVC's VHS videotape systems during the 1970's³³ could result in structural changes in the market not foreseen by the participants.

5.5.5. The Likelihood of Success

Rarely would one expect a strategy to be initiated without an overwhelming belief in success. However, we use the concept of the "Likelihood of Success" to reflect the difficulty and advantages that the strategy possesses. Alternatively it is a measurement of the effort or resources that will be needed to accomplish the task. However, we have already covered the resource issues and focus here on the drivers of success. The drivers of success are discussed in more detail in a separate section on the Calculus of Victory. But here we need to at least outline the key issues of concern regarding the evaluation of strategy.

5.5.5.1. Difficulty

Not all strategies are equally difficult to execute. Some may be fairly simple but other can be extremely complex. Furthermore, there may be inherent barriers to success following a particular path or strategy.

³² It could be argued that the particular political and military policies of Germany during the early stages of the Second World War made the requirement by the Allies of unconditional surrender a necessary. In this view, the downside exposure to German was a result of the selected war strategy.

³³ It is interesting to note that a similar "standards war" was avoided for the DVD while one may not be brewing over the high definition DVD format

5.5.5.1.1. Complexity and Coordination

Complex strategies have been historically difficult to coordinate, control and execute. Today, with increase communications capabilities, there is a belief that even the most complex strategy can be handled. However, the more complex the strategy the more difficult that task is going to be and the more vulnerable the strategy is.

5.5.5.1.2. Experience

Experience makes strategies executable. The reverse is also true; the lack of experience can make even simple strategies difficult. This is an issue of fit between the organization and the strategy. For example, firms with long standing procedures for new product development and introduction finds such activities routine, while firms without that expertise tend to find them very difficult.

5.5.5.1.3. Natural Barriers

From a historical military perspective, natural and man-made barriers have been the traditional source of difficulty³⁴. From a commercial perspective, these barriers might include a lack of market access or competitive proprietary position (such as patents).

5.5.5.1.4. Reactions

Potential competitive reaction can represent an induced difficulty. Most strategies infer a particular set of competitive and situational changes. The potential for an adverse reaction represents a difficulty in the execution of the strategy.

5.5.5.2. Advantage

The difficulties are set against the potential advantages with undertaking the strategy. As previously noted a separate section has been devoted to the issues including competitive advantage. Here again we will only highlight the key elements. Advantage can be seen coming from three sources:

5.5.5.2.1. Assets and Resources

First and usually foremost are the assets and resources that can be dedicated to this strategy. This is, of course, comparative to the forces resisting the strategy. Note that not only do we need to consider the "competitive" opposing assets and resources but also those necessary to overcome any inherent inertia. In commercial strategies for example, competitive forces are less critical than the resources necessary to produce market changes.

³⁴ However, George S. Patton was reported to have observed that with current technology no barrier whether man-made or natural could block a modern army.

5.5.5.2.2. Fit

As a lack of fit produces difficult, proper or close fit produces advantages. This concept is often expressed in terms of "territory". This concept is strongly associated with both military and marketing strategies. Having protected region or sanctuary is always an advantage. Similarly having access to disputed territory is likewise an advantage.

5.5.5.2.3. People

Ultimately all strategies are executed by people. They can constitute the major source of advantage or disadvantage. People here include both their skills and their motivation.

5.5.6. Robustness

Strategies are rarely made fully insular from risks. However, strategies can be made to be robust in that they are in a position to take advantage of changing in the situation and that has avoided major risks. The key here is to understand the potential risk associated with the strategy. That is, what can happen to defeat the strategy? The more robust the strategy the less vulnerable it is to these factors.

However, there is also the problem of being "blind sided". Effective strategy formulation should highlight obvious associated risks. These are the design risks, those things that the strategy was specifically intended to minimize. But, what about the risks that were not designed into the strategy? These are often those not anticipated. A part of the assessment process is to explore those risk issues not covered.

5.5.7. Continuity of Action

Strategies should provide a continuous path forward toward achieving its goals and aims. By continuous, we refer to a series of actions that grows the assets and competitive advantage, moves toward success, and increases likelihood of achieving that success.

The alternative is strategies that are discontinuous, providing a "hockey stick" approach where over long periods of time little noticeable progress is made, but with the ultimate success obtained by major sporadic actions. Such strategies, often attractive, tend to ultimately be ineffective, inefficient, and highly unlikely to be successful. An alternative view of this concept is that strategies should be "disciplined" and "realistic". Successful results do not come from wishful thinking and sporadic actions. They come from the disciplined application of assets over time.

PART 2 DEFINING THE STRATEGIC PROBLEM

"Strategy", as we have been using the term, provides routes to solve problems. The focus is on the nature of the problem or more specifically the "situation". To this point we have been looking at the general concept of strategy. From this point on, however, we need to be more specific. We start by examining those underlying features of the strategic problem that define it. We will be looking at five groups of features: Strategic Territory and Criteria, Time and Dynamics, Resources and Power, Roles such as Adversaries and Allies, and finally Risk and Intelligence. How these are described for each problem defines the strategic perspective. Later we look into the influencers of strategy and will introduce the concepts of strategic frameworks. Frameworks are alternative ways of looking at specific classes of problem. Integral to these frameworks is specific groups of features.

6. Territory and Criteria

Strategic territory is the grid that defines the problem. This may be geographic territory, which is common in traditional military land warfare, or metaphorical territory such as with market segments. In each case, the territory defines position and movement.

Criteria are the measures of action, usually associated with ownership of territory. For example, the military uses terms such as securing territory or neutralizing forces within a territory. These are military criteria. In commerce, one uses measures of sales or share as criteria. We should notice that usually territory and criteria are used together. They indicate the state, condition and of an identified piece of territory.

6.1. Strategic and tactical Objectives

As previously noted, strategic aims, as opposed to objectives, can be defined in terms of a future state. Here aims are more abstract than objectives. Well-formed objectives, both strategic and tactical, are defined in terms of territory and criteria. They must be physical and "practical". The validity of the achievement of objectives should be indisputable in the terms of accepted definitions of territory and criteria. Typically, it is in the setting of objectives that the definition of strategic territory and criteria are set.

6.2. Properties of Territory

All strategic territories have specific universal properties, which defines their nature. By its nature we define the meaning of distance and volume.

6.2.1. Dimensionality

The dimensionality of territory captures what is meant by "volume" and distance. It covers both the number of **dimensions** and the characteristics of the space. Geographic territories are typically viewed as either in two or three dimensions and have a "vector" characteristic. That is we measure the distance between points by a type of "vector" addition³⁵. Note that global geographic territory definitions can get fairly complex since it takes on spherical geometric properties.

However, dimensionality of the strategic territory need not be "metric." It may be defined by the occupants. For example, market segments could be used to define the marketing territory without reference to geography. Here several characteristics can be used to define the segments but each dimension would be discrete.

³⁵ We could think of the general strategic geometric process as being a "tensor" transformation of one territorial structure into another. The definition of strategic territory in this line of thinking would be analogous to the "metric tensor" that defines space. However, this level of generalization is probably beyond functional use in this discussion.

6.2.2. Boundaries

Territories are defined by their boundaries. It is an inherent property of territory. Boundaries specify its location and scope or **area** or volume. They define the "coordinates" of the problem. There are two types of boundaries: invariant and perceptual.

6.2.2.1. Invariant Boundaries

Invariant boundaries are universally accepted and are independent of strategy. These are the normally accepted coordinate systems. For geographic territory, they can be reduced to standard coordinates. For metaphorical territory they represent invariant groups or conditions. Boundary invariance defines the mutually exclusive nature of these territories. Two participants can not control the same territory, defined by invariant boundaries.

6.2.2.2. Perceptual Boundaries

Perceptual boundaries are defined by the strategy. They may be relative to resources or set by conditions. As such, two or more competitors can view the territory from very different perspectives. They may accept conditions what might otherwise appear to be mutually exclusive regarding control. Because of the lack of clarity in objectives based on perceptual boundaries, they are usually not used. Well-formed objectives, therefore, almost always are based on invariant boundaries and territories.

6.2.2.3. Geometry

The boundaries form the geometry of the problem and the situation. How assets are distributed in the territory is dictated by the territory's geometry. Of course, this is far more important with inherent physical boundaries but also can be critical with the perceptual situations. Note that the geometry often dictates the range of feasible strategies.

6.2.3. Scale

Scale is simply size; how big the situation is. For land military operations this can run from an army squad covering a few yards of a front, to army groups covering hundreds of miles, or to whole theaters of operation covering thousands of miles. The problems may appear similar with similar geometries, but the scale produces vastly different situations.

Much of the strategic learnings have been embedded into a concept of scale indifference. That is that we can take examples of successful small scale operations and apply the learnings to large situations. While there is much that can be learned from smaller operations, the issue of scale should never be ignored.

6.2.3.1. Distance

Physical distance is defined by mathematicians as some metric between two points, such as a Euclidean measure. However, strategic distance is defined functionally in terms of difficulty in transversing, communicating or supporting assets across the territory. Two sets of points may be of equal physical distance but be vastly different in strategic distance. They may be severe physical barriers or political ones that makes crossing distances much more difficult.

6.2.3.2. Galilean Relativity

Scale is usually a multidimensional issue. As such, scale increases geometrically with the increase in a linear measure. This has a huge impact on the degree of difficulty. For example, in a flat battle field, a doubling of distance will require four times the territory that needs to be controlled. Problems that appear easy to solve in a small scale, can be huge at a larger scale. When coupled with asymmetric barriers, this type of “Galilean Relativity”³⁶ can pose enormous but unsuspected strategic difficulties.

6.2.3.3. Geometry Issues

The geometry of the territory has a great influence on strategy. However, scale interacts with geometry. The classic advantage of the double envelopment becomes mute if the trapping forces can not coordinate because of distances or if the trapped forces can react due to sufficient though tight space³⁷.

6.2.4. Control and Criteria

A characteristic of territory is its ability to be **controlled**. By its nature control is defined by conditions that we termed its "**criteria**". Both control and the criteria need to be defined collectively since their nature is interdependent. The assumptions regarding of the ability to control the territory are essential elements in the overall situation.

³⁶ Classically Galilean Relativity refers to the three dimensional problem where scale rises cubically on linear measures. This results in vastly different mechanics for small creatures such as insects versus large creatures such as humans and elephants. The mode of movement as well as all bodily functions changes with scale. Similarly, the dynamics of inanimate objects like ships change with scale.

³⁷ An interesting comparison is between the Battle of Krusk and later stages of the Battle of the Bulge. Both involved an attack into a salient position. In the case of the Battle of Krusk, the Germans attacked into an extremely large extended position of the Russians. In this case the Russian were fully prepared and due to the large territory involved could move forces within the salient. On the other hand the two main German forces were independent and unsuccessful. Also note that neither the Germans nor the Russian had true air superiority. The case of the counter attack in the Battle of the Bulge, distances were far shorter, it was a reduced scale. The allied forces could coordinate actions particular by air. The Germans in the bulge, on the other hand, had limited coordination due to Allied air dominance.

6.2.5. Access and Passages

Territory can be transversed; it can be passed through or around. As such, a key characteristic is **distance**. Once again for geographic territory, this usually agrees with our traditional definitions. However as we will see later with modern technology and considering more metaphorical forms of territory this distance may not be straightforward concept.

6.3. Abstracted Strategic Learnings

All well-formed strategic objectives are described by criteria operating within territorial boundaries. The selection of the strategic territory and the nature of the criteria that will measure success are critical to the process of formulating strategy. Perceptual criteria are intimately linked to strategy and thereby allow for "wishful" thinking. The more that territory boundaries and criteria are independent of the strategy (invariant) the more "well-formed" the objectives. Obtaining and utilizing fully secured territory (sanctuary) is critical to successful strategies.

6.4. Geographic Territory

The most traditional form of strategic territory is based on geography. It is the archetype concept of "territory". It forms the basis of most of the traditional land-war theory. Our traditional war based board games (Checkers, Chess, Backgammon³⁸ and Go) are all based on either a finite linear or flat geometric territorial space. It is our traditional way of viewing territory.

6.4.1. Dimensions and Geometry

Typical geographic territory is viewed as a flat two-dimensional space. Maneuvers are made within this limited space. It should be noted, however, terrestrial space is really on a sphere and we need to deal with the third dimension of height.

6.4.2. Controlling Territory

As previously noted, a key characteristic of territory is its ability to be controlled. However, that is not straightforward. It is useful to think of geographic territory as being of two types: Occupiable and Projected. Note that the decision of how to consider territory in this regard is a part of the strategy.

6.4.2.1. Occupiable Territory

Some geographic territory can be and usually is occupied. It is space that one can control by maintaining a force there, or gain support by force there.

³⁸ Note that Backgammon is unusual here in that it is really a one-dimensional game while the others are two-dimensional.

6.4.2.2. Projected Territory (The Sea and Desert)

Other territory can not be occupied but merely allows passage. Though this territory can be controlled or dominated, it is always contestable. This type of territory is where we get into the concept of "power projection". It is the need to extend control over territory that is neither strictly dominated nor for which there is any desire to dominate.

6.4.3. The Third Dimension

We have past over the concept of dealing with the strategic third dimension that is height and depth. However, in modern warfare it is a critical element. Modern war making theory deals with the concept of air-land battle where this third dimension is inherently integrated. The concept of air superiority has become a critical military concept. However, in this case, complete control is rarely possible particularly when this dimension is extended into orbital space. Artillery can always be used to transcend control. Unless there is a major change in policy satellites are all protected. This limits ultimate control. Similarly, control of the undersea is inherently limited.

6.4.4. Electro-magnetic Dimension

The electromagnetic spectrum, or forms of light, offers another type of territory. Though not truly a dimension in a classical sense, it represents a form of space that can be controlled. In some strategic arenas such as Marketing or Intelligence Gathering it constitutes the strategic territory.

6.5. Metaphorical Territory

So far we have mentioned only the traditional view of territory. However, strategic territory may exist beyond the geographic considerations. We refer to this as "Metaphorical Territory" since it contains all of the properties of the geographic other than physical dimensions. These are also territories of the mind in that while there may have physical elements, their boundaries are almost always identified psychological distinctions.

6.5.1. Market Segments

Market segments are groups of people (usually consumers or voters) or conditions that constitute a strategic territory. Within specified limits (criteria) behavior within these territories can be thought to be "owned" or "controlled". Boundaries can be identified and set.

6.5.2. Positions

While market segments have a physical elements in that they usually capture groups of people or industrial applications, positions are strictly territory of the mind. Political territory can be viewed as a series of concept positions, such as ethical or conservative. To occupy the "moral high ground" for example, is a political position. It has the same general properties of territory. Its boundaries are identified and it can be owned.

6.5.3. Operational Space

We can generalize these concepts to include all forms of operational spaces.. These include problems involving less specific problems such as the control of distribution channels and production. Here we deal with access and dominance as before. Example of this is the control of advertising and promotional channels. Another, less obvious example is the organization itself. Once again, these territorial boundaries can be identified and the territory can be owned or controlled.

6.6. Criteria and Objectives

As noted previously, the concept of territory is intimately connected with the concept of "ownership" and "control." The idea of control is defined by how it is measured. We have referred to these measures as criteria. All well-formed strategic objectives need to be defined in terms of territory and the successful establishment of the criteria.

Military criteria are fairly straight forward that is to secure or control a specified geographic territory or to destroy or neutralize a specific opposing force (operational space). Commercial objectives tend to focus on meeting financial return (operational earnings) for the organization, while marketing goals focus on meeting sales volumes or share values within segments. Similar to territorial boundaries, there are two types of criteria: (1) Invariant and (2) Perceptual or Relative.

Invariant criteria and measures are independent of the strategy or structure of the problem while perceptual criteria are intimately related to the strategy. Marketing criteria provides a good example. Sales volume is relatively invariant. It represents the sales obtained from a market segment over a period of time. Though in practice there is some imprecision in its measure, theoretically, it can be measured exactly. On the other hand, market share depends on the selection of the competition. That selection depends on the strategy and it is therefore a perceptual criteria.

Unlike territorial boundaries, most criteria are perceptual and therefore generally susceptible to potentially dangerous illusions. Since these criteria are integrated into the strategy, they tend to be adjustable and thereby allowing for wishful thinking.

6.7. Control and Ownership

A characteristic of territory is its ability to be controlled at least in some aspects as defined by the appropriate criteria. This characteristic is critical in the formulation of strategy, not only in respect to setting objectives but in terms of the means of achieving those goals. Control of territory implies the ability to use the territory without threat. Sun Tzu refers to this in terms of "vulnerability." Control provides some degree of invulnerability in respect to that territory.

6.7.1. Controlled Territory

Territory can be controlled but still not entirely safe and secured. This covers a broad range of control and vulnerability. Areas can be dominated and safe or under threat of

insurrection. This difference can be critical. For example, during the Vietnam War much effort was taken to secure territory that was otherwise already under control. This is a similar situation with the present (2005) Iraq occupation. On the other hand, territory can be virtually secure but still not invulnerable to attack.

6.7.1.1. Sanctuary

The strongest position is where the territory is not only controlled, but safe, secured, and for all practical purposes invulnerable. This territory provides sanctuary. An excellent example of this was the lack of sanctuary by Germany during the later stages of the Second World War compare to the allies. Both the United States and the Soviet Union's productive assets were located in safe territory invulnerable to meaningful attack. While almost all important production areas in Germany during that period were not.

Military sanctuary is of critical importance. A truism would be that an enemy with military sanctuary is extremely if not impossible to fully defeat. This can be shown from the American Revolution, the many invasions of Russia (including the Second World War), the Chinese Revolution, the various phases of the Vietnam (Japanese, French as well as the American exercises), and potentially now with the American occupation of Iraq. The establishment and extension of sanctuary should be a critical consideration in all strategies.

6.7.1.2. Secured Territory

Territory under control or virtual dominates is said to be secured even if it is under attack but not under immediate threat. An example would be Germany during the Second World War. While it was vulnerable to air attack, the Nazi government clearly had full control. Similarly markets may be under competitive pressure but still dominated by a single competitor.

6.7.1.3. Disputed Territory

Some territory is so unsafe as to be under dispute though normatively under some level of control. This has become more the normal situation in all conflicts. As technology³⁹ has expanded to allow forays into otherwise controlled regions, those areas become disputed. This has become particularly notable for marketing strategies where few regions can be considered secured let alone sanctuary.

6.7.2. No-man's Land

Territory can be in such a degree of dispute that it is no longer under any one's control. This is the traditional "no-man's land". This is territory where one or more competitors express the desire to control, yet no one has dominance. It is the traditional area of active "land-war." However, modern military and commercial competitive theory often makes

³⁹ This may become increasingly the military case with the introduction of robotic weapons and increased use of "Special Forces".

little distinction between disputed territory and no-man's land, though there are often differences on how strategy is carried out in each.

6.7.3. Open Territory

Finally, there is territory, which is not claimed. In fact, much of the remaining territory is often of little interest. Some territory can not be occupied and therefore, can not be effectively controlled.

6.8. Controlling and Expanding Territory

Key to the concept of strategic territory is the ability to **change** its control. That is, if territory can be controlled and as such that control can be changed. The concept of territorial control does not depend on the existence of a primary competitor. It only reflects the ability of the territory to be controlled. Strategies can be classified in their intent in regards to territorial control. This focuses on the two major types of objectives, that is to either maintain or defend territory or to gain it. Later we will discuss the implications of these classifications in regards to the requirement of resources and its impact on competitive advantage.

6.8.1. Defensive Strategies

From a military perspective the key characteristic of controlled territory is the willingness of the owner to defend it. The defense of territory costs resources. However, it is not an imperative to defend all territory. Nor, it is necessary to structure the problem so that the nature of the territory and its criteria is obvious. Marketers typically have the problem of either defending market share or price or earnings. Each of which may produce a vastly different strategy. However, all will be defensive in nature.

6.8.2. Aggressive and Offensive Strategies

The clear objectives of aggressive and offensive strategies are to gain control over territory. Here again, in the selection of the definition of territory and criteria we define the nature of the objectives and the routes to achieve them.

The traditional reverse (symmetric) side of the defensive strategy is often thought as the offensive. However, that is not necessarily the case. Defensive strategies may dominate on both sides either due to a non-dual competitive situation or where technology makes all participants act defensively. This was clearly the case during most of the First World War on the western front and during the later stages of the American Civil War around Fredrickburg and Richmond. The most classic example of this situation was Julius Caesar's campaign in Gaul regarding his siege of the stronghold of Aduatuci. In this campaign Caesar was forced to construct ramparts on both sides of the siege.

The flip side of the argument is that technology can also require paired sets of offensive strategies, though from a truly global perspective this is unusual. This can be seen from naval fleet tactics. A truly defensive stance is really not workable at sea. All combat ships are designed for the offensive and can not afford to sustain long term continuous

damage. As such, even what would appear to be defensive roles tend to be executed as offensive naval tactics.

6.8.3. Geometric Considerations

To some extent the territorial geometry indicate the favorability of various defensive or offensive options. As previously noted, the double envelopment is a classic strategic maneuver where the attacking army surrounds the defenders whether or not the defenders knew that they were in that situation⁴⁰. To a great extent the geometry of forces dictate the strategic situation.⁴¹

⁴⁰ The invention of the double envelopment maneuver has been attributed to Hannibal at the Battle of Cannae with a corresponding huge defeat of the Romans. However, similar maneuvers (usually on only one side) were conducted successfully by Alexander and his father Philip II of Macedon

⁴¹ This effect of geometry on strategy has also been attributed to Henry V's victory at Agincourt

7. Time, Dynamics and Equilibrium

Time is always critical to the formulation and execution of strategies. In this regard we consider three strategic concepts of time: (1) dynamics and equilibrium, (2) timing of action, and (3) decisions and characteristic time. Each of these concepts plays a pivotal role in strategic success. Our discussion however must start with the recognition that all real processes consist of irreversible events⁴². This concept is referred to as "time's arrow", indicating that time only goes in one direction. By its nature time is always lost.

7.1. Abstracted Strategic Learnings

Time in all of its manifestations is often the critical factor in strategy. Time characterizes all processes and is essential in understanding the situation. Its major strategic issue is the match between the time it takes for the organization to undertake and complete actions and the response of the environment and competition to those actions.

7.2. On Dynamics

Change is the normal state of being. All things change, but they do so in interesting ways. Being able to predict the direction and extent of change provides the opportunity to take advantage or to avoid disasters. In practice there are a number of dynamic conditions: (1) stable or predictable processes, (2) chaotic or random conditions and (3) unstable conditions. Each of these conditions has unique characteristics. Analytical and Reactive Strategic Frameworks, which are discussed in a later section, utilize the concepts of systems dynamics in order to seek out optimum actions.

7.2.1. Stable Dynamic Processes

From a planning perspective it is useful to think of the dynamic situation as being stable and smooth. With such a smooth gradually changing world one can identify trends and potential pitfalls, metaphorical "landmines". Furthermore we would like to drive the world in a smooth direction to our advantage. It should be noted that concept of smooth is relative. All real world dynamic situations can be expected to be noisy. There will always be some level of uncertainty. A smooth process is not devoid of noise only that the general dynamics is discernable.

7.2.1.1. Trends

As previously mentioned a key characteristic of stable processes is the ability to discern trends. Trends are indications of where things are going. They often reflect the best view of coming events. From a strategic analysis perspective, trends consist of measures of changes in the situation and in the relative competitive strengths.

⁴² This is said to follow from the "second law of thermodynamics" that all real processes are irreversible due to the need to accumulate disorder. We will discuss this later in the section on risk.

7.2.1.2. Known Dynamics

The measurement of trends is usually based on either a linear or exponential (percentage) changes in the world. Populations and demand are usually viewed as changing by some average percentage when considering commercial or marketing strategies. On the other hand weapons procurement is often viewed as a linear process. However, there are other trends and stable dynamic processes that are more complex. These have been extensively modeled and provide insights and forecasts of conditions.

There are many examples of these models; some of which are discussed in detail in the section on Technology and Strategy. Examples include:

- The growth of technology use can be described as a General Sales Growth Curve and provides a tool to forecast eventual sales volume.
- The costs of materials and products decline with volume. These reductions are referred to as economies of scales and are estimated using "learning curves".

7.2.1.3. Process Optimization

If a process is stable than it is feasible to seek out optimum conditions. Several of the Strategic Planning Frameworks rely on this property to seek "optimum" strategies. While this concept represents strictly analytical approaches it introduces the general concept of optimization in strategic planning. That is, that there is potentially an optimum approach, which will produce desired ends at minimum expenditures of assets.

7.2.1.4. Stable but Unknown Dynamics

While forecasting, analysis and optimization rely on some degree of stable known processes, some situations have processes that may be stable but are unknown. This is particularly the case when there may be some unknown limit or condition. One can therefore, predict a general trend but not be able to forecast timing or the eventual outcomes. This is an inherent danger to the over-reliance of analytical approaches.

7.2.2. Chaotic Conditions

Some dynamic processes are so noisy that they can not be even described. This is the concept of random processes. These situation may be orderly but still defies description. However, even if a process is orderly and describable, it may still not be predictable. This is the concept of chaotic processes. We have come to realize that much of the world is chaotic even when it appears orderly. Our strategies and plans, even if perfectly executed, still can produce uncertain results.

7.2.3. Unstable conditions

The third theoretical state consists of unstable conditions, where things go totally out of control. While this is a physical reality it is almost never seen in a strategic environment. Forces usually act in the real world to stabilize conditions. Several problems, however,

have tended to be interpreted as total instability. "Doomsday" events such as nuclear war have been viewed in this context. Lewis Fry Richardson associated war as unstable or catastrophic states. As with a number of scholars working just after the First World War, he seemed to believe that war itself was illogical and therefore could only be a result of instability⁴³.

7.2.4. Making an End

Real processes have a beginning and an end. While the beginning is a given, the end often is not. It is often necessary for successful strategies to define the "End". This is non-trivial if aims are ambiguous and vague. When does the program or war end?⁴⁴ Note here that where the end is not defined, success can not be determined.

7.3. On Equilibrium

While all processes are dynamic, it is often useful to think of the situation as static. That is, things are thought, at least, temporarily to remain constant. The metaphor comes from the study of thermodynamics where the nature of the materials and conditions are set when the forces of change are balanced and things are said to be "at equilibrium".

7.3.1. The Concept of Equilibrium and Invariance

The concept of equilibrium is heavily used in microeconomics as well as in strategic design. It relates to situations where conditions do not change drastically. The term "equilibrium" is somewhat of a misnomer in that technically the conditions are constrained⁴⁵. A better set of analogues is to an apparent steady state condition⁴⁶. In any case, the idea is that the operational conditions are time invariant. Many things appear to be static. As such, the strategic plan can proceed as if actions do not produce catastrophic changes.

The concept of equilibrium is usually not applied generally but in regards to specific features and issues. This type of limited or local equilibrium allows for invariant relationships to exist among factors influencing strategy.

⁴³ Richardson unsuccessfully sought the sources of that instability in his classic book *Statistics of Deadly Quarrels*, Boxwood Press (1960).

⁴⁴ This may be a present problem with the "War on Terror". When does it end? What does victory look like?

⁴⁵ The term equilibrium relates to a thermodynamic condition of an isolated and adiabatic states. These conditions are extreme and not readily met in the real world.

⁴⁶ A better analog might be the concept of microequilibrium; while values are maintained locally even though on a broader scale things may be changing dramatically. This concept is used both in engineering design and the study of irreversible processes.

7.3.2. Relationships

Relations can be assumed to exist among strategic factors. These represent rules that do not change irrespective of the dynamics of events. The "principles of war" are such a list of relationships. Market behavior can be also thought as invariant. Commodity price and volume tend to form such a relationship over a broad range of prices and volumes as discussed in the section on Technology and Strategy.

7.3.3. States of Being

In the section on Aims and Objectives we introduced the concept of "States of Being". If they are well defined they could be thought of as meta-stable equilibrium states. That is once established, they tend to be invariant to change. For these states only a major force would, therefore, produce a change in state⁴⁷.

This can be thought of in terms of a physical quantum mechanical metaphor⁴⁸. As with physical quantum mechanics, states are stable, finite, and well defined. This metaphor can be further extended by the contention that no two organizations or groups can fill the same state simultaneously. In the military arena, this would translate into once a large-scale conflict is initiated there should be only one winner⁴⁹.

An example from the commercial and marketing environment is that market shares tend to form stable distributions dependent only on the number of competitors. The "Broken Stick Rule" is a highly successful model for this effect.⁵⁰

7.4. Timing of Action

Timing of events can be critical. Actions can be too late to be advantageous or too soon before critical elements are in place. There is, of course, truth in the old adage of "striking when the iron is hot". However, it can also be too hot. Entry into technology driven markets can be too soon before the market has developed or too late when strong competitors have already entered.

⁴⁷ This can be thought of as quasi-static states in that they are static or stable over a broad range of conditions. This can also be viewed from a "catastrophe theory" perspective by describing the states in terms of stability requirements that result from extremely non-linearity dynamic processes.

⁴⁸ Physical Quantum Mechanics was developed during the early decades of the last century and is based on the finite energy states of subatomic particles, particularly electrons in atoms. We are taking a fairly liberal view of the theory and focusing on specific characteristics.

⁴⁹ This is not to say that there will be a "victor". Neither antagonist may meet its objectives or their strategic aims. And furthermore, both may be victors if their ultimate aims are compatible, but that is very unusual.

⁵⁰ The broken stick rule was developed by examining a limiting or ergodic distribution produced by splitting a linear rod randomly into pieces and rank ordering the results.

7.4.1. The Imperative of "Time"

Timing is everything! Picking the time to act is often as critical as the action itself. Timing allows for reduction of difficulty or in some cases, poor timing may result in formation of insurmountable obstacles. Attacking before an enemy can prepare will reduce the need or severity of a siege. Attacking too quickly will not allow for your own preparation or give time for intimidation to take effect.

7.4.2. Strategic Time

As previously discussed dynamics is the key to strategy. As such, we look at time as a strategic variable. It drives all processes.

7.4.2.1. Time as the Driver of Events

The strategy or plan needs to be put onto a "time-line" representing the criticality of timing of events.

7.4.2.2. Momentum and the Will

Time plays havoc with emotions. The ability to maintain support for a plan often rests on its speed of completion. Political difficulties are enviably linked to timing. Adversely the "will" to complete a plan dwindles over time. On the other hand, momentum increases the "will" and the likelihood of success.

7.5. Characteristic Time

Where the concept of timing refers to identifying the proper starting-points or triggers of action, characteristic times relate to the end-points. We associate dynamic rates with characteristic times. Faster processes have shorter characteristic times while slower processes are thought to have longer times. This is characterization of both external processes and those internal to organizations and people.

7.5.1. Timeframes and Horizons

Timeframes focus on the planning or decision horizons of the critical systems, functioning teams and the organization. They represent the general length of time that it takes to do key tasks. Time frames are general concepts rather than the idea of "Time Constants" which are analytical. We think of timeframes in terms of hours or days or weeks or months for completing tasks.

7.5.1.1. Decisional Timeframes

An alternative view is that timeframes establish the nature of completion time or deadlines within an organization. It sets the structure of how things are done. It should be noted that there is a broad implication as to relative expense. The adage of "time is money" takes on a key meaning here. Changes in the timeframe has strong economic

implications both for the costs of disrupting the organization and the potential gains from accelerated decisions

7.5.1.2. Critical Paths

The general concept of "critical paths" describes the process defining the timeframe. The critical path represents the shortest (time) route for an organization to complete a task. It represents the limiting condition. Reducing all extraneous paths will still leave this inherent process which then represents the minimum timeframe for the organization.

7.5.1.3. Duration

Implicit in the concept of critical path is the duration of the strategic action. Duration represents both the desired time horizon but also those factors imposed by the situation. Misreading the duration of strategic actions can be disastrous. Similarly a mismatch between available resources and assets and those that will be needed for the required duration generally leads to either failure or worse. The improper estimate of the expected lengths of both the American Civil War and the First World War generated costs far in excess of any computation at their onset.

7.5.2. The "Time Constants"

Characteristic times can be viewed as inherent to processes and groups. As such, they are referred to as "time constants". In the physical world these time or speed constants are well recognized. For example the speed of sound represents the fastest that momentum can be transferred in a material. Similarly, the speed of light is not only a fundamental value but universal.

We use these concepts as metaphor for strategic phenomena. There are speeds or times that characterize the action processes and responses. John Boyd observed the time it takes for fighter pilots to identify, locate and act against their enemy is a critical characteristic time for aerial combat. Similarly the time it takes for customers to identify a need and purchase products characterizes the buying process. Throughout all strategic situations there are these underlying dynamic processes with their characteristic time constants.

7.5.2.1. Physical Phenomena and Speed (Time) Ratios

When there is an imbalance between the speed of a process and the ability of the materials with that environment to respond one sees a radical change in the effects. We can expect a similar phenomenon in the strategic world. For example, in the physical world we define:

The Mach number is the ratio of the speed of an object to the speed of sound in the substance that it is traveling in. Below Mach 0.9, the fluid patterns are defined by incompressible mechanics. However above Mach 1 they are dominated by shock waves.

The Deborah number⁵¹ is less well known and relates to the viscous and elastic behavior of materials. At low Deborah numbers the mechanical process is operating slowly compared to the ability of the material to respond and the process looks like fluid flowing. At high values, the process is fast compared to the accommodating material and it acts like a solid. Under this condition it is rigid.

7.5.2.2. Operating within a Strategic Process

We use the Deborah number as a metaphor for describing the incompatibility between strategic situations, where there are potential inabilities of a group to respond to the process. For example, when a sales force can not respond quickly within a purchase process, their policies will appear rigid and inflexible and are more likely not be successful. Similarly organizations that can not respond to market needs quickly enough can not compete.

7.5.2.3. Distribution of "Time Constants"

The dynamics of real processes often cover a range of rates. This can be viewed as there being a distribution of time constants. However, not all time constants are seen. Usually we can focus on the controlling or as previously noted the "critical" path. This is usually associated with the "Longest Time Constant" of the process. This usually characterizes its dynamics. However, that still does not eliminate the problem associated with the distribution of effects. For example, in business development one can expect a range of dynamics between a product developer and the various potential customers.

7.5.3. The "Boyd Cycle"

Col. John R. Boyd has focused attention on the issue of the mismatch in the timing of decisions. He suggested a general decision process based on four steps, *OODA* (Observe, Orient, Decide and Action) cycle.⁵² He argued that these steps constitute the critical path for effective decisions. His initial interest was in modern air combat and as such the "guy" that finds his target and shoots first, wins.

7.5.3.1. Getting Inside the Antagonist's Cycle

Boyd generalizes the principle by observe the that this requires one to "get inside his antagonist's cycle." That is to have the advantage one needs to be able to adjust decisions faster than the opponent can respond. Or from a defensive position you don't want to let the enemy get within your decision process.

⁵¹ The Deborah Number was proposed by H. Bernstein to describe viscoelastic phenomena. The name "Deborah" was associated with the Biblical prophetess Deborah in that she recognized that the "mountains flowed to the sea in God's time", making her the first published rheologist.

⁵² See <http://www.mindsim.com/MindSim/Corporate/OODA.html> for more details on its use within decision analysis.

7.5.3.2. The Strategic "Boyd Cycle"

From an action plan there are two perspectives. First is involves actual actions. Here we must remember that "all actions are tactical". As such, the tactical conclusion of Boyd must always apply. The second issue takes a broader view. Here we need to build strategy such that the operational decision processes are faster than that of adversaries. This may be a issue of the nature of the organizational paradigm and how it fits the new situation.

7.5.3.3. Being in the Game

While the principles of the "Boyd Cycle" are built around military competitive processes, they apply generally. All real decisions have similar characteristics and therefore there is always an issue of time compatibility. In the commercial marketing strategies there is a timing balance between offering new products and the purchase process. This is particularly noted when there is a seasonality issue⁵³. "If you don't make the market timing, you can't play".

⁵³ This includes not only toys before Christmas, but also the fashion trade and the supplying of the agricultural industries. In fact, most supporting industries have seasonal shows or markets, which impose severe timing requirements.

8. Resources, Assets and Power

Strategies are inherently based on the need to control events. This control or "power" is extended through the use of resources and assets either materially or at least psychologically. This is a fundamental for all strategic thinking. Strategy is an assets generation and application process.

8.1. On Assets and Resources

Assets are distinguished from general resources by their ability to be applied strategically and tactically. This is the distinction of having the ability to raise an army and having an army. As we have mentioned earlier and will again later in this section, it is the function of global strategy to make the key assets available from resources.

8.1.1. Examples of Assets

Military assets are fairly well recognized and include not only the manpower and hardware (Army Divisions, Navy Battle Groups, and Air Force Wings), but the infrastructure of logistics, training and intelligence required to maintain and apply those assets effectively. Commercial assets include manufacturing resources, the salesforce, brands, intellectual property (patents, trademarks, copyrights, and trade secrets), R&D facilities, "know-how," funds and etc. Western political assets include those tools required to maintain influence and include access to the media and groups and image (political branding),

8.1.2. Resources

Resources are the exchangeable materials that generate and maintain assets. These, of course, include monetary funds but also the means of generating those funds. For the military its resources includes good relations with the government agencies that allocate funding. "Good-will" can be a critical resource. It also includes the basic manpower. The general characteristics of resources are their flexibility as the source of assets, their limitations, and that they are renewed. Their sources are relatively independent of their application. It should be noted that in the extreme, this is not necessarily true. The use of resources for one purpose may limit their use elsewhere as a means of producing future resources.

8.1.3. Ownership and Control

The distinction between ownership and control can be vague. In the strategic context the key issue is to have sufficient control to order to establish, maintain and utilize assets. Typically control of assets focus solely on the ability to call upon them, that is to be able to utilize them as one wishes. That freedom, however, is rarely given without some form or level of ownership. This will be discussed again in the section of allies.

8.1.4. The Cost of Maintaining Assets

Assets require resources just to exist, let alone to be used. The greater the assets the greater the demand for resources. A large corporate research and development facility will require a correspondingly large budget irrespective of what is being done there. Battle ready army divisions, air force wings, and naval battle groups all require support, irrespective of use.

The strategic implication is that the accumulation of assets reduces the flexibility in the procurement of future assets. Any acquired asset limits future actions. Here it is useful to introduce the concept of "life-time-costs". These are the accounting costs associated with acquiring, maintaining and disposing of assets. Typically, however, this does include the replacement and refurbishing of assets with use. These are the additional costs associated with implementation of strategy.

8.1.5. The Declining Value of Assets

Left to themselves, all assets decline in value. An example of this was the American navy capability deterioration between the end of the Civil War and 1880's. Over less than 15 years the US Navy fall from a leading position in the world to that of an obsolete force. This was due to neglect and to technical obsolesces. Significant resources are almost always needed to maintain the usefulness, and viability of (strategic) assets. On the other side is the B-52 bomber that has been an effective asset for over half a century, far beyond its original design or intent. However, that has come with continued upgrades and refinements.

8.1.6. Asset Mix

Strategy employs sets of assets. The value of assets only are derived from they joint effective employment as systems. It is the system or mix of assets that is critical for producing results⁵⁴.

8.1.7. Asset Location

As "all politics are local", all assets are applied locally both on tactical and on a strategic basis. That is all actions are local and therefore all assets are applied locally. This is universally true. However, the ability to maintain assets locally depends on the global availability. Therefore the ability to maintain a long-term strategy will usually depend on the availability of additional assets.

⁵⁴ This is a critical observation and one that has plagued business research. For example, for years, measures of the value of advertising and promotion have been sought through marketing research. And while some result have been claimed, all the measures are problematic since they are confounded by the other marketing and product factors influencing sales. Advertising and promotion only have value in combination with the quality of the product, its price and its location of sales. This is referred to as the "4 P's of marketing".

A historical military example was the aftermath of the *Battle of Bulge* during the Second World War. While both sides lost comparable assets from the battle, the ability of the allies to make good those losses rapidly was the leading factor in making it an allied victory.

8.1.7.1. Local Assets

For assets to be local, they must be available locally. In a world of rapid transport, this property reads on it effect as much as territory. With fast global transport assets may be applied locally while stored at distant points. However, not all assets can be transported. Local Access, knowledge, and permanent assets are usually not transportable. It is hard to transport a "Fortress".

It should be noted that larger local assets might not be an advantage. Assets require support and too large a concentration of assets will require a disproportional commitment of additional assets to support them. As example of this was the ancient invasion of Greece by Persia, when Xerxes attacked with a huge army that required support from the sea. The destruction of the Persian navy by Athens assured defeat for Persia in that it could no longer support its huge army in Greece.

8.1.7.2. Strategic Reserves

An extension to the concept of asset location is the concept of "strategic reserves". This concept is derived from traditional land warfare where it is desirable to have resources available to move into local conflicts. An historical example of this is the first Battle of Bull Run during the American Civil War where the confederates won by bring up reserves by railroad. However, a Wayne Hughes⁵⁵ noted regarding the application of strategic resources in naval fleet battles, that they are only useful if they can be applied, which is usually not the case in naval operations.

8.2. Abstracted Strategic Learnings

All strategies involve the deployment of assets to accomplish tasks. It is a fundamental principle of strategy. Assets are both physicals being derived from resources and implicit derived from obligations and threats. All assets are not, however, created equally. The choice of assets and the quantities that should be available are key tasks for grand strategy. Their application is the province of strategy and tactics. Assets are applied in the form of power that are exerted over specific territory at a specific time. The deployment of assets needs to be balance of economy of force to minimize costs and its effectiveness. It is ideally desirable to obtain victory without the dissipation of assets or the destruction of wealth. This can be accomplished through the use of implicit power to encourage other participants to act in a desirable way.

⁵⁵ Wayne P. Hughes, "Fleet Tactics, theory and practice", Naval Institute Press (1986)

8.3. Resources Produce Assets

Assets are generated from resources. However, usually it is the assets that can be used strategically. As we will discuss in a moment, resources provide the means of producing assets. Those application of resources is the key strategic issue of grand strategy.

8.3.1. *The Nature of Resources*

Typically in modern societies, resources are usually considered in terms of money. Money represents the ability to acquire things and services. However, this is too simplistic a view since other factors should also be considered as resources that are needed to produce assets. These must include management and innovation skills. This focuses on people. How we assign and use people can be as important or more so than the capital available.

8.3.2. *Factories, Guns, and Butter*

Resources by definition are limited. They can be used to maintain the economy, to expand capabilities or to produce strategic assets. Here we assume that the strategic assets are not themselves agents of production⁵⁶. This is always a balancing game of where to invest resources. During emergencies where assets are required the weight of the balance becomes clear. However, even here the need to develop the means of production may overwhelm the immediate needs⁵⁷.

8.3.3. *Dynamics of Resources*

Resources are a dynamic quantity. They are typically created by organizational assets over time. Within corporations resources are obtained from cash that is generated from the business⁵⁸. As previously noted, the selection of assets to a great extent determines the availability of future resources. For example, the choice of the Soviet Union during the later years of the Cold War to invest differentially into weapons at the expense of the economy appears to be a major factor in its final decline. Unfortunately, while the Reagan administration (1981 - 1989) had "won" the Cold War, it nearly bankrupted the United States in the process.

⁵⁶ In some situations this is not the case. For example, a production facility may serve both as a market development facility producing new products and for ongoing production of existing offerings. A more radical historical example is the Roman Legions, which not only fought Rome's wars but built its roads.

⁵⁷ The war production in the United States during early 1940's is an interesting example where the majority of resources appear to have been dedicated to weapons development and the construction of factories rather than of producing weapons themselves. It took almost two years to get the Ford's giant Willow Run facility to produce heavy bombers. But when it did, it produced them at an extremely fast rate, over one per hour.

⁵⁸ From an accounting perspective, "cash" includes earnings from operations, various charges such as depreciation, and other extra ordinary sources.

In regards to the dynamics of resources, it is useful to think in terms of current and potential resources. The current resources that are those available presently to convert into assets. Potential resources represent those, which would optimally be available in the future. Depending on the nature of resource they may be accumulated or they may not be.

8.3.4. Time and Resource Strategies

As we had previously noted, time is a critical component to strategy and the strategic process. As it is with operations, it is clearly critical with resource strategies. Here we once again return to the Second World War in Europe for an example, but this time as political as it is military. Germany was never prepared for a protracted war. The United States and the Soviet Union prepared for a long war that could last several years. This was mainly a resource and asset strategy to build disproportionally strong forces.

8.4. Strategic Assets

Not all assets are created equal. The value of an asset is based on how it will be utilized and its impact on the desired strategy. The impact on strategy is somewhat circular in that the choice of strategy determines the value of the assets however the existence of assets determines to a great extent the choice of strategy. It can be useful to think of assets as divided between operational and strategic. From a conceptual perspective operational assets are fluid and are obtained directly from resources while strategic assets on the other hand are viewed as investments. Simply the application of cash can buy operational assets. Strategic assets are far more difficult to obtain and can not be obtained immediately.

8.4.1. Strategic Characteristics

The acquisition and maintenance of strategic assets can be extremely expensive. As such, it is critical to effectively manage those assets. This requires to clearly distinguish which assets are truly strategic to the organization and its effective strategies from those that are no-longer effective and those that should be viewed as operational. Furthermore, with limited resources the choice of developing and maintaining strategic resources can be critical for the long-term success of the organization.

8.4.1.1. The Strategic Value

What clearly differentiates strategic from operational assets is their impact within strategy. The strategy, itself, is usually guided by these assets. These strategic assets provide a major source of competitive advantage. Competitive advantage will be discussed in much more detail in a later section. It should be noted however, that these same strategic assets become so integrated into the organization that their application becomes natural and the strategies implicit.

8.4.1.2. Uniqueness

Strategic resources tend to be effective because of their uniqueness. They provide a special competitive advantage because of that uniqueness. For example the Carrier Battle and Ready Groups of the United States Navy (and the Marine Corp) are unique in the world and provide unique capabilities unmatched by any other nation. To a great extent, these assets provide the United States the military status of the only "super-power." Note that this comes not merely by the effectiveness of these assets but from their uniqueness.

Historically, strong firms have had unique strategic assets as a basis of market and industry leadership. These were often in the form of research and development laboratories. Previously the old AT&T (Bell Laboratories), Dupont (Experimental Station) and Eastman Kodak (Research Laboratories) all utilized their research capabilities as competitive advantages. However, as technologies and opportunities change these unique assets declined in value though often not in cost.

8.4.1.3. Core Competencies

The concept of "core competencies" is derived from business strategic planning as identified skills that are critical to the organization strategic success. They are, based on our discussion, a set of strategic assets. They are by definition those things that provide unique competitive advantage and that the organization does, or should do, well.

As assets, however, they come at a cost both in their development and maintenance and in terms of lost opportunity costs. If some core competencies are supported, others are not. Not supporting those other potential skills represent a potential loss.

8.4.1.4. The Strategic Mix

As previously noted, the value of the assets is not inherent but is derived from the combination of assets and how they are used. However, the mixture usually focuses on the main strategic assets that tend to drive strategy. In this regard, strategic assets are those that are highly valuable (providing unique competitive advantage) and central to the generally agreed upon strategy.

8.4.1.5. Operational Aspects

All assets have general operational aspects. They require resources to be maintained and unless supported will decline in effectiveness over time as noted above. This is true for all assets but may be more so for some strategic assets that are vulnerable to obsolescence.

8.4.1.6. Strengthened by Use

Unlike most operational assets, strategic assets are strengthened by use. Resources are still required, however, to maintain the asset, but its effectiveness rises with use. Take for example the commercial asset of "market-access", which is the ability to introduce new products. The exercise of introducing new products will strengthen access while

neglecting to develop products will reduce expectations and future ability to influence those targeted markets. Military assets such as army divisions or naval battle groups that are not used, or do not practice, lose their edge. Similarly, new systems (either weapons or commercial) will improve with use or become obsolete without use. These are examples of strategic assets. The same can not always be said for purely operational assets.

8.4.1.7. Increasing Utility

The incremental value of a strategic asset should always be positive. That is, increasing the strategic asset should always produce increase competitive advantage. However the marginal utility may not be increasing. There is a tendency to over extend strategic assets. If a little is good; a lot is thought to be better. In general this is correct but often at a decreasing rate. Does the twelfth US nuclear aircraft carrier have the same value as the first or the eleventh? It has value, but at a decreasing rate. If five new product taskforces is good, what is the value of the sixth?

The practical difficulty in managing strategic assets is that they tend to be organized separately. Research is often funded separately from operations. Advertising and promotion is separated from other marketing functions. The US Navy's budget is viewed separately from that of the Air Force or from that of the Army. While each is merged into the overall budget, the planning process itself is only partially combined.

8.4.2. A Question of Outsourcing

To own or only to control assets has become a critical issue. US firms and the government including the Department of Defense are increasingly using outsourcing as a means to utilize outside assets. This is a critical distinction since control is always limited and therefore these assets are no longer fully at the discretion of the organization. Clearly it may be unwise to outsource strategic assets.

8.4.2.1. Outsourcing and Alliances

There are two positions to take regarding outsource suppliers. They can be viewed either as a simple vendor providing an undifferentiated set of services (commodities) or as an external paid ally. The issue is the nature of the services being outsourced. If they are strategic assets, critical for strategy then the vendor had better be considered a stakeholder in any activities. On the other hand, if the services are not critical or at best an operational asset then the idea of a undifferentiated product is reasonable. The problem is differentiating and finding appropriate means of working with an outsourcing service as an ally if necessary.

8.4.2.2. Economies of Scale and Savings

With the apparent "cost-reduction" mantra presently dominating much of corporate American thinking, it is natural to associate cost savings with outsourcing. And in some cases, such as over-seas outsourcing of call-centers for example, there can be some

significant cost reduction. However, in most cases, unless there is significant economies of scale⁵⁹ by the outsourcing firm, there are little actual savings.

8.4.2.3. Manageability

A key driver for outsourcing is to make the assets manageable. Many of the assets and functions out-sourced appear to operate as "*fault-reward*" facilities. These consist of functions whose support is based on failure. The greater the failure the greater the funding. Functions such as security, data processing and "*help-desk*" tend to have this characteristic. These are very difficult functions to plan for, let alone to manage. The alternative is the classic "*value-managed*" assets where funds flow to assets that provide incremental improved value. The greater the value the higher the funding. Outsourcing is often believed to allow for the movement of functions from "*fault-reward*" facilities to those that are "*value-managed*"

8.4.2.4. Investments, Expense, and Manpower Counts

There may be some value in transferring assets and responsibilities. These may be due to tax considerations or budgetary requirements. This can be particularly true with manpower counts. Organizations including the American armed forces are limited to the number of assignment people. Since outsourced personnel do not come under the "man count" they are excluded. This has allowed firms, for example, to undergo severe manpower reductions without changes in actual assets.

8.4.2.5. Strategic Implications

As we have indicated, there are both real and fictitious advantages for outsourcing. However, there are real strategic implications, both positive and negative. The positive implications could be improved effectiveness of those assets. While it is often assumed, particularly by internal viewers, that internal functions will be inherently better than those outsourced it is not always correct and in many cases, the outsourcing services represent a vast improvement. What is usually lost is the ability to fully utilize those assets in ways beyond the contract. That is we lose the expertise of the function for strategic applications.

8.5. On Power

Newtonian Mechanics defines power as the rate at which energy is expended. Alternatively, it can be thought of as the exercise of a force over distance and time. Typically such an application of force produces a change that is referred to as an "action" or change in momentum. These are physical concepts that we use as a metaphor in the strategic application of assets. There are two contexts for the definition of strategic

⁵⁹ The actual internal costs to outsourcing firms for providing services during the initial year or two of a contract is often greater than the fees. Earnings are often gained in later years of the contract. The exception is when the services being contracted allow economies of scale based on delivery of common activities or using common facilities.

power in terms of (1) the actual application of assets and (2) the results from the direct or implied application of assets.

8.5.1. Asset View of Power

Results are obtained by the application of assets locally over time. As we have previously noted it is the concentration of assets rather than total quantity that counts. Furthermore, it is the ability to apply those assets rapidly that produces actions.

8.5.1.1. The Power as an Asset Flux⁶⁰

Strategic power can be, therefore, considered as the dissipation of assets over time and within a specified region. It can be viewed as a loss of supporting resources over time. Therefore, the application of power is a loss or expense of assets that are applied to a task. Note here that power is being used only as it applies to assets. Later we will inverse the process and consider power as it produces results.

8.5.1.2. Coordination and Flexibility

To exert power the use of assets need to be coordinated and to some extent flexible. That is the assets need to be used in such a way as to produce specific targeted results. However, that also implies that those assets need to be sufficiently flexible to obtain the targeted results. The assets need to be directed toward specific aims to exert power. Inflexible assets do not allow for this level of targeting. As such, the flexibility of assets is a key factor in determining the ability to establish “strategic power”.

8.5.1.3. Concentration of Force

The concept of concentration of force is a territorial focus. Force is applied over a region. Note here that the concept of territory may not be geographic. It can apply to a limited zone or application. The effectiveness of the assets is then related to its concentration. For example, it is not the overall effectiveness of a salesforce that counts but its application in a particular market and situation that will produce results. From a military perspective it is the total ability to put assets directly against the enemy, which counts. It is not the total quantity of assets in the inventory.

8.5.1.4. Time, Movement and Momentum

Time is the critical component here. It is insufficient to have assets in place. They need to be utilized. That utilization implies a period of time. Here we begin to see the parallel to the physical concepts of power and of momentum. Momentum, in this context, is the continuous application of assets over time. Maintaining momentum then refers to the continued application of power through the use of assets.

⁶⁰ Here we differ from the physical metaphor. Physical power is a "state" variable for representing the rate of dissipation of energy. It neither has direction or a spatial consideration. These are two characteristics of a flux, which is the change of a property over an area and over time. However flawed the metaphor, it does provide a functional concept of the application of assets over time and in a specified region.

8.5.1.5. Economy of Force

The natural consequence of this view is the need to conserve those assets and resources. This is the concept of "economy of force" where the proper selection of assets to produce the necessary power is critical. Since the application of power represents a loss it is always desirable to utilize the least necessary.

It is often thought to be desirable to limit the quantity of assets applied to a strategy. This is based on the belief that the cost of assets applied is proportional to the quantity. This is an old military principle in that costs of a conflict is proportional to the force applied. So the trick is to identify the optimum size that is necessary. This is referred to as the principle of "Economy of Force" and is equally applicable to commercial, political and military arenas.

Often it has been found that a small, highly effective, force can produce results that larger forces would find difficult. Under these conditions, there appears to be a reverse relationship between quantity and quality. This leads to the concept of "lean" operations.

8.5.1.6. Maximum Force

However, there is a reverse problem in that minimum forces usually do not produce rapid and low cost results against large entrenched opponents. The very fact that a opposing force is small will reduce the inclination of the entrenched for to fight. Furthermore, there is a tendency that after an initial engagement of minimum forces there follows a continuous buildup during subsequent actions. This eventual leads to the use of some ultimate maximum force. Under these conditions, it is believe that a greater impact would have been had, if that maximum force were applied immediately⁶¹.

From another perspective, the threat of maximum force provides a highly intimidating situation, which could facilitate an alternative nonviolent solution. This is discussed in the next section. In any event the choice of force level is a complex balance for assuring of success and minimizing costs.

8.5.1.7. The "Mix" of Applied Assets

As previously noted, the effectiveness of assets is based on their mix in the specific application. No single asset is usually effective alone. In this regard, assets should be viewed in a systematic fashion. Assets operate within a system. With sales and promotion applications this is referred to as the "marketing mix" and reflects the effective interaction between various forms of promotion, sales aids, and the salesforce to generate revenue.

⁶¹ The modern military equivalent to this principle is the idea of "Shock and Awe". A now classic example of this was the Second World War's operation "Cobra" in which involved the Allied breakout by the Allied forces from the Normandy beach-head. Here a massive aerial attack (maximum force) was used to shock opposing German forces before the breakthrough.

8.5.2. The Implicit Power

The implicit use of power consists of the ability to get action without the dissipation of assets. We might wish to refer to this as power through intimation, but it is a far more complex phenomenon. Furthermore, it is the central concept for most effective competitive strategies. It focuses on making the group (including competitors) act in a way that is beneficial. This may be through true intimation or by convincing the group that the desired action is best through "enlighten self-interest".

8.5.2.1. Power is What Power Does

Here we view power in the form of what it can do rather than what it is. In the previous section power was viewed in terms of the ability to deploy assets. But that deployment could only be justified by the action that would result. Our metaphor might be the Newton's Second Law of Motion where the application of force results in acceleration or change. However, from a strategic perspective, it is often, and usually desirable, to get action even if assets are not applied. To some extent, this can be thought of as an application of "virtual assets".

8.5.2.2. Revisiting Momentum

Momentum takes on a similar property to that of implicit power in that momentum by itself tends to be sustained even without the deployment of additional assets. Once in motion, a strategy tends to remain in motion unless actively resisted. It becomes a self-fulfilling process. Here again, the potential value of maximum force can be seen. Maximum force generates an impulse, which generates the momentum that continues⁶².

8.5.2.3. Value Propositions

Results from the implicit application of power rests on a number of propositions that relate the to the desire of opponents to reduce stress and the likelihood of great loss. Consider the classical condition of a siege. It is the desire of the attacking force to get the stronghold to surrender. The trick then is to find the proposition that will convince the defenders to give up without a fight.

8.5.2.3.1. Threats and Intimidation

From a historical perspective the master of intimidation must be Genghis Khan. A sieged city has a simple decision of surrender and become a vassal state or be totally destroyed. Once the meaning of the situation became clear few cities resisted⁶³. While this is

⁶² I think here that we should be careful not to push the Newtonian Mechanical metaphor too far. While the concepts of physics relate to deterministic mechanical principles the metaphor relates to human phenomena which are far less predictable.

⁶³ 1222 Genghis Khan totally essentially destroyed the Khwarazmian Empire. His descendents did a similar action on Baghdad in 1258.

clearly an extreme case of "winning through intimidation", it is by no means the only use of the strategy. Much of internal corporate politics is done through this mechanism.

8.5.2.3.2. Maslow's "Hierarchy of Needs"

A more in-depth view of intimidation can be seen by examining the basic human needs. The now classic Maslow's "Hierarchy of Needs" places human needs and desires in an orderly structure with the most basic animal needs on the bottom for a pyramid and building to the top to self-actualization. The lower down on this pyramid, the greater the threat. Fortunately, in modern corporations there is usually a limit to what can be threatened. However, under lethal conditions, military, police and other extreme conditions, such is not the case.

8.5.2.3.3. "Love" or "Fear" (The Prince)

Machiavelli in his classic treatise, "The Prince" emphasizes the value of "fear" as the motivator of action or rather of inaction⁶⁴. Similarly SunTzu noted that what restrains competitors is the fear of harm. In both the political arena and the military "fear" is a powerful means of obtaining results.

The trick is to find the effective sources of fear. This may not be easy or ethical⁶⁵. But in some cases it offers a far more effective approach than the use of assets.

⁶⁴ This part of the treatise, chapter 17, deals with the issue of "love" and "fear" where love refers to buying loyalty and fear is the threat of punishment. Machiavelli asserts here that if you can not have both love and fear, choose "fear" since it is a more assured means of obtaining results.

⁶⁵ In the present issue of Islamic suicide bombers we have a fundamental dilemma since these individuals do not fear death we need to find some other means. Unfortunately, the other means would most likely violate western morality.

9. Allies, Participants, Non-combatants and Adversaries

Strategy focuses on the use of assets to accomplish tasks. Those assets are used against adversaries, in support of allies, and to influence participants. These are fundamental roles in strategy and define the players and ultimately the effectiveness of action. The fundamental then is to identify who is playing what role and to what extent.

Differentiating enemies from friends is always a key factor in strategy formulations. But, it is not often easy. Classical Military tactical and strategic Frameworks have tended to put a high contrast to this issue. In that case, players are either friends or foe. Those in between may become "collateral damage", but are not players in the strategy. In the commercial strategic frameworks the situation is far more complex where groups of so called non-combatants are referred to as the "market" and determine the outcome of the strategy. For simplicity we will divide players into three groups of roles: (1) Non-combatants including those that may be participating in the process, (2) adversaries including competitors and those that the military would associate as "the enemy" and (3) allies however we define them.

9.1. Abstracted Strategic Learnings

Identification of roles is critical in the proper formulation of strategy. To a great extent the nature of the roles is determined by strategy itself. There are four fundamental roles that need to be considered: (1) allies, (2) adversaries, (3) participants and (4) non-combatants. However, these roles may be vague, dynamic and in sometimes duplicitous. Allies include not only external resources but also the effort required to establish and maintain unit integrity.

9.2. The Roles and Influence

The definition of allies, adversaries and non-combatants are strategic concepts. They exist within the developed strategy and are defined by those strategies. This is not to say that these roles are independent of reality. They may be real or they may be induced by the strategy. An attack on a nation or the declaration of war may be an integral part of a military/geopolitical strategy. It by its nature creates adversaries. Similarly engaging in treaties and contracts creates forms of alliances. As such, we should think of these as strategic roles.

9.2.1. Fluidity of Roles

It is critical to understand that these roles are fluid. Today's allies may be tomorrow's adversaries. Neutrals can become either allies or adversaries. In many commercial cases, the same firms will be allies, adversaries and non-combatants in the form of customers at the same time but for different strategies and business units. These roles are both dynamic and situational.

9.2.2. The Vagueness of Roles

Not only are roles fluid, but their very definition can be vague. An ally in one instance may act more like a neutral or even an adversary on different circumstances. Who one defines as an ally may not view themselves or by others that way. Some of this may be by dubious motives or by misunderstanding. Whatever the cause, there is always some uncertainty as to the potential roles of participants in strategy and actions.

9.2.3. The Concept of Stakeholders

It is useful in some conditions to introduce a more general concept of participant as the "stakeholder". This covers the range of roles from the involved non-combatants through allies and even may include some adversaries. It represents all of those individuals involved in the process and whose wellbeing will be effected by the results of actions. At a minimum, considering commercial strategies these stakeholders would include the owners of the firm, their suppliers and their customers. However, the full range may be far larger.

9.3. Allies⁶⁶

Strategies are based on the application of the assets and personnel from those organizations and groups that are committed to it. If we looked for one fundamental role critical for strategies it must be the concept of alliances. All organizations are made up of alliances. They themselves can be considered alliances. The individuals that make up groups have their own agenda. Strategies can only be formulated when the individuals in the organizations are willing to suppress their own agenda for the demands of the group through the strategy.

We often view the concept of alliances from a military perspective of friends or foe. In this regard, allies are fully committed to the strategy and action. However, that is far too extreme to cover the range of relationships that comprise alliances. As we will see here, alliances take on a full range of commitment with corresponding limitations and dangers. Because of the wide range of definitions of alliances they carry a similarly range of assessments. Sun Tzu comes from a military perspective and gives a highly favorable view toward alliances. While Machiavelli takes a political view which is very negative⁶⁷. What differs here is as much about the definition of the alliance as it is dealing with outcomes.

9.3.1. Organizational Cohesion

We should start by considering the organization itself as an alliance of its constituencies. This consists both of individuals and some groups. The concept that the military uses to

⁶⁶ Francis A. Beer, *Alliances, Latent War Communities in the Contemporary World*, Holt, Rinehart and Winston (1970)

⁶⁷ *"The Prince"*, by Machiavelli, chapter 2.

define this basic level of solidarity is "unit cohesion". It is the measure by which the unit functions as a whole in the interest of the strategy.

This has been studied both within the military, commercial and general social environments. It is typically divided into "Social" and "Task" cohesion. Social cohesion focuses on relationships and is generally considered basic building blocks of social and familiar relationships. Task cohesion focuses on the issues that are considered with the execution of strategy. However, the two are not independent, particularly regarding military operations. Strong Social cohesion usually implies strong Task cohesion if the task is fully recognized as being in the organization's interest or function.

9.3.1.1. The Military Archetype⁶⁸

Weak cohesion here reflects both the needs for careful monitoring of the morale of the participants and uncertainty of completion. This is a non-trivial issue particularly when actions may be lethal as in the case of military operations. From a military perspective unit cohesion is paramount. The organization and units that compose the military are its major assets. The unit cohesion then represents the ability to call upon those assets. .

9.3.1.2. The Commercial Counter-point

Because the other arenas lack the lethality of the military, their concern on unit cohesion is usually far less. However, the concept is still valid. Without unit cohesion or "buy-in" any strategy can not be effectively implemented. It must be an essential component to any strategy.

9.3.2. The Structure of Alliances

The concept of alliances covers a broad range of agreements and levels of trust. It is here useful to use the commercial definitions in examining the nature of alliances in terms of its commitment. This follows from a legal or contract perspective where the allies are defined by what they have committed to it. We will start from the least committed condition to the most.

9.3.2.1. Mutually Beneficial Transactions

We view the lowest level of commitment to that associated with simple transactions. Two individuals or organizations are committed to exchange goods or services or funds. The exchange carries with it an implicit contract that the services and products are as they have been agreed to. This is determined by the business code that is customary within the social or legal region. The two participants are allies in that they work together to make the transaction happen. The contract is enforceable either legally or more typically by social and economic pressure.

⁶⁸ For details see <http://ist-socrates.berkeley.edu/~maccoun/GMILch10.pdf>

This can be referred to as an "arms distant" relationship where there are no other commitments or conditions other than those associated with the fulfillment of the implicit contract. While this might appear to be a weak relationship, it really may be quite strong where both the buyer and seller have very strong impetus to keep the transactional relationship active.

9.3.2.2. Working Relationships

It is fairly simple for a working relationship to evolve from transactions or even casual interactions. This happens when the interests of one or both parties become intertwined. Distribution channels of firms often form this type of working relationship. What is most interesting here is that these usually form without meaningful formal contractual arrangements⁶⁹. Typical non-formal working relationships exist where the expenditure of assets is small or where the common outcomes are well recognized to be mutually advantageous.

9.3.2.3. Contractual Agreements

Formal alliances are those where there is at least some type of contractual agreement or relationship. This usually evolves where the value outcomes are not naturally distributed among the participants. This would be analogous to nations signing formal treaties with specified obligations. It should be noted that no such treaty is necessary for nations or militaries to work together. Only if there are specific requirements does such a treaty become necessary.

9.3.2.4. "Joint Venture"

Formation of a new organization for the purposes of executing the strategy may be called a "Joint Venture". It can be viewed as an extreme example of a contractual agreement but goes much further. The resulting organization is intended to operate as a single integrated whole. However, this "Joint Venture" does not contain all of the assets and resources of either partner. The formation of the Anglo-American alliance in Europe during the Second World War can be thought of in that context. Notice, however, that the Soviet Union was not brought into that venture. The alliance with the Soviet Union could be considered to be more of contractual agreement rather than a true "Joint Venture".

9.3.2.5. Integrated Organization

The end-point in this series is the integration of the parties into a single integrated organization. This is the concept of the merger or acquisition. Here the value of the outcomes is associated with the new organization rather than the components. It should be pointed out, of course, that this is really a hypothetical situation. In reality the integration of organizations is never complete.

⁶⁹ In this case we exclude confidentiality agreements or other tools to protect proprietary information.

It is interesting, in this regard, to note that the various branches of the military, irrespective of all platitudes of integration, still act as independent entities. This has induced inter-service rivalries with some dire consequences.

9.3.3. Asymmetric Alliances

All strategic alliances are to some extent asymmetric in that the outcomes of any action will not have the same benefits or impact on the members of the alliance. Because the expected gains or potential losses from the strategy are different, one should expect a rational difference in the commitment to that strategy. With the danger of repeating oneself, this is the normal not the exception. Rarely are alliances not asymmetric regarding the consequences.

9.3.3.1. Separate Aims

While allies typically will have common principle strategic aims for the targeted actions, they may and generally due have different secondary aims. For example with new product introduction manufacturers (OEM's) and their sale channel (resellers) tend to form alliances. While their primary aims are the successful launch of the product, their secondary objectives may be very different. The Second World War again offers a good example. There was a general agreement among the Allies on the principal war aim of unconditional surrender of the Axis powers. However, secondary aims clearly varied widely.

9.3.3.2. Separate Loyalties

Alliances are often formed based on previous relationships. Some of these can be quite distant. The ancient adage that "the enemy of my enemy is my friend" speaks to this concept. While this is the basis of local alliances, particular during insurgencies and guerrilla type warfare, these alliances are generally asymmetric and limited. Another example is the impact of a "disliked vendor". The market will tend to form alliances with alternatives.

9.3.3.3. Disproportionate Returns and Costs

The costs and returns from the successful execution of a strategy usually vary widely among allies. This is due to both the circumstances and to the commitment. This produces great disparity among allies both real and perceived. In this regard, that perceived disparity is probably more critical. It represents the likelihood of resentment and potential long-term resistance to continuing the alliance. A simple example is again the alliance between a manufacturer and the resellers regarding the launch of a new product. Rarely are the returns (earnings) from these transactions perceived to be "fairly" distributed.

9.3.3.4. Strategic Reciprocity

The remedy to these problems is the concept of strategic reciprocity. That is the willingness or promise to rebalance the disparity by future actions. This is based on the

awareness that there is a value to the alliance exists that supercedes any local differences in the relative shared positive outcomes and costs from the most recent actions among the allies.

9.3.4. Limited Allies

Because of the lethality of military operations, military alliances tend to be thought of as unlimited. However, in reality all alliances have limits. It is unreasonable to consider that allies will sacrifice everything for the good of the alliance under less strenuous conditions. As previously noted, most political and commercial alliances must be thought of as being limited. The strongest of the commercial alliances are delimited by contracts.

9.3.4.1. Timing is Everything

Since one can expect all alliances to be stressed, timing becomes critical. Though allies tend not to expect to "bail-out" of agreements⁷⁰, their commitment tends to decrease with time and costs. As such, it is important that alliances not be overly pressured. And allied strategies should be executed as swiftly as feasible. Time is an enemy of alliances.

9.3.4.2. Multiple Truths and Realities

Information and intelligence tends to be critical problems within alliances. Information is always filtered through the organization's paradigm. With multi-organizations (for that matter people) there tends to be a bifurcation of meaning and importance of specific intelligence. There are, in fact, multiple truths and realities seen through the differences in the organization's separate world-views. It must be noted, that this is usually not a deception but rather a difference in perception. The wider the difference in the organizational paradigms the greater is disparity in these views and in the interpretation of information.

9.3.4.3. Limited Trust

As noted earlier, there may be differences in the commitment of allies as well as differences in their world-view. This results in differences in the expectation of actions. Because of these differences, there needs to be the consideration of a limitation in trust. In general, the extent of trust is a function of the experience of the allies working together. The longer that alliance the deeper the trust can be developed. However, the reverse may also be the case. In either event, it is important to recognize the scope of the trust that can be relied on. That is, it is critically important to understand the limits of the alliances.

⁷⁰ While this is the usual assumption, it is not always correct. Deception and "pragmatic" ethics exists and therefore it may be unwise to assume complete commitment to agreements.

9.4. Non-combatants & Neutrals

Allies and Adversary's have assets, territory and interests that allow them to contribute to the strategy. Non-combatants on the other hand do not have the capability of participation. Potential allies and adversaries who choose or are chosen not to participate are referred to as neutrals. However it must be noted that the classification of these non-combatants and neutrals as well as allies and adversaries are fundamental to strategy. Only with the structure of the strategy defined can distinction between these groups be made. As we will see this is particularly true of participants, non-combatants and neutrals.

Based on a host of international treaties, the military has focused on a division of the world between combatants, those engaged in war, and non-combatants. Non-combatants are basically defined by exclusion. From this military perspective there are three groups of people and organizations involved in strategy: (1) us and our allies, (2) our adversaries, and (3) everybody else. . This has clearly turned out to be a highly problematic definition. Modern war, for example, has clearly made civilians into combatants at least from a strategic perspective. In other strategic situations some of the "non-combatants" are highly involved and may be the determining influence of success or failure of the actions. It is useful to separate these "non-combatants" into two groups based on how involved they are in the process. Furthermore, there is a third group of "neutrals" that can become either allies or adversaries, which needs to be separated out.

It should be noted here that the nature of strategy often hinges on the clarification and the policy toward non-combatants. As we will see they and their participation often determine the success or failure of the actions. It is therefore critical in the formulation of strategy to make clear the roles, expectations and classification of these "non-combatants".

9.4.1. The Concept of "Neutrality"

The most difficult and technical of the non-combatants is defining the "Neutrals". These are potential participants that are chosen to stay out of the strategy. We use the term "chosen" here in the passive tense rather than a more active tense since it is imposed on them.

9.4.1.1. Political Neutrality

It has been a particularly complex and "politically" sensitive situation in regards to defining the "neutrality" of nations during widespread military conflicts. For example Switzerland and Spain⁷¹ were considered neutrals though they participated in the Second

⁷¹ Switzerland's assistance to Nazi Germany included the supply of war materials, financial support as well as permission to transport goods and people across its territory (this included the deportation of Jews from Italy). Spain had contributed troops to Germany forces during the eastern offensive. They along with Hungary and Romania provided forces during the siege of Stalingrad. However, in all cases the Allies decided to consider them neutrals.

World War on the side of the Axis powers; likewise, the Soviet Union was considered neutral during the Korean War⁷². The United States has historically considered "neutrality" a key element in its foreign policy ever since its formation. This extended from that during the Adams and Jefferson's administrations during the Neapolianic wars to the "neutrality" of the Roosevelt administration during the early stages of the Second World War (prior to the Japanese attack on Pearl Harbor).

9.4.1.2. Strategic Value of Neutrality

Neutrality is "granted" because it provides advantage to all participants against the alternative of officially creating an additional adversary. To some extent it is a definition of "convenience". It allows normal conduct between entities that are for other purposes are in conflict. Furthermore neutrals can service as useful intermediates and may be a central part of overall strategy. For example, the Japanese appears to regard the Soviet Union as a potential intermediate for a negotiated peace with the United States⁷³. This was particularly interesting in that Nazi Germany had tried to get Japan to declare war on the Soviet Union by itself declaring war on the United States, which Japan refused to do.

Neutrality needs to be useful for all parties since it is often easily destroyed. It is a concept that constrains actions of the participants, only as long as the participants recognize neutrality exists. As such, it must provide value to functional participants.

9.4.1.3. The Legal Consequence of Neutrality

Based on classic international agreements there are rules of conduct of Neutral nations in regards to military conflict. However, this has been so broadly interpreted and historically disregarded that it is more of a formalism that is followed when the consequences would not be "convenient". For example, a major and often cited reason for the entry of the United States into war in 1812 with England was it disregard for the neutrality of the United States.

9.4.1.4. Commercial and Political Neutrals

The concept of neutrality is, of course, well documented in the political/military arena. However, the concept is useful in both political and commercial strategy. Commercial strategy in particular usually focuses on a specific set of potential competitors. Other competitors and usually major portions of the various distribution channels are considered neutral. They are neither allies nor adversaries at least for the development of the strategy. Similarly, in political strategy major potential allies at least initially are

⁷² Though the Soviet Union was and still is a member of the United Nations that authorized the expulsion of the North Korean forces from South Korea, it provided to both the North Korean forces and later the Chinese war materials and pilots for their MIG 15 interceptors.

⁷³ This was believed to be a parallel role to that the United States played under Theodore Roosevelt for ending the Russo-Japanese war (1905).

considered neutral and are therefore excluded from consideration in the strategy formulation.

9.4.2. Participants, Involved Non-Combatants

As previously noted true non-combatants can not participate in the strategic activity. This is a "can not" rather than a "wish not" to. They do not have assets, the territory and usually not the interest in such an active participation. However, some these "non-combatants" are deeply involved in the process and must be considered to be participants. They are often critical to the outcome of the strategy and the focus of activities... These participants play a pivotal role in strategy. As such they are not neutral in the process.

9.4.2.1. The Critical Participants

Critical participants are the essential focus of the activity. They actually determine the success or failure of the strategy. In fact, they constitute the territory that the strategy is designed to control.

9.4.2.2. On Customers and Markets

In the commercial environment customers make up the territory defined as markets. The objective of strategy is to convince these individuals and organizations to purchase the desired products and services. The manipulation of their behavior represents the ultimate objectives of the activities. As such, their role is central to all strategic thinking. However, it should be noted that not all customers are equally as important. Early adopters, large purchasers, and influencers all can play differentially more important roles.

9.4.2.3. On the Electorate

The electorate plays a similar role in political strategy. It is ultimately the beginning and the end of the action. The territory is defined exclusively in terms of these individuals. Similarly to that for customers, these participants are not equal in their importance to accomplishing the goals of strategy.

9.4.2.4. The Supporting Participants

While some participants are critical, others are supportive and therefore can influence the outcome of actions. The civilian population during war conditions can greatly effect the ease of victory. The end of the First World War saw an uprising in Germany leading to the 1918 armistice in the west. The popular support of the Russian Revolution had a similar effect the previous year on the eastern but this time in support of Germany.

9.4.2.4.1. On Guerrilla War

There is a whole collection of "unconventional war" situations where the belligerents can not be readily identified from the "non-combatants". This is the structure of the

"Guerrilla" war. It should be noted that this is not new. It has been a major form of revolt at since the Macabre Revolt in the second century BCE to the recent times.

The role of the "non-combatant" here is critical as commented by both Mao Tse-tung⁷⁴ and Ho Chi Minh. All successful guerrilla operations rely on the support of the population.

Combating guerrilla war has always been difficult and nasty. It focuses on both the combat against actual identified belligerents and their supporters who are at best poorly recognizable. This is an action of "Winning the Hearts and Minds". This is always difficult⁷⁵.

9.4.2.4.2. On "Strategic" War

The key problem in dealing with this group is the uncertainty as to its influence on achieving the strategic goals. The concept of "strategic" war is the belief that pressuring the population would provide a sufficient influence to obtain victory. The traditional "rules of war" are intended to limit conflicts⁷⁶. "Strategic" war, however, is intended to reduce the enemy by considering all inhabitants to be the participants. "Strategic" war is built on two critical assumptions: (1) that reducing the means of production and the ability to support the civilian population can be achieved, and (2) that those actions could achieve victory. Neither assumption is always correct. Unfortunately the idea of "Strategic" War has come into western thought with the statement of "take no prisoners". However, the concept is far from that simple statement for it implies the exclusion of traditional, customary, and "honorable" principles of behavior.

9.4.2.4.2.1. The Practice of Strategic War

The idea of "total" or "strategic" war is that war is being fought against all inhabitants. It is basically an effort to ignore the practice of identifying noncombatants. It is actually a more ancient concept of war where the outcome is the destruction of the enemy. Though at no time, as far as I know, had it been practiced with the viciousness of the Nazi Germany. The value of captured territory had almost always been viewed to include its indigenous population. Note that "strategic" war has been to some extent a presence in modern military at least since Sherman's March to the Sea during the American Civil War. From a strategic war perspective there are three types of "targets".

⁷⁴ Several comments on the issue are covered by the now famous Quotations from Chairman Mao (the Little Red Book).

⁷⁵ It should be noted that United States took over three years (February 1899 to July 1903) to quell Philippine Insurrection with overwhelming force and a great deal of brutality on both sides.

⁷⁶ As I understand the "rules of war" they were for the most part a means by which the Europeans could engage in conflict without devastating the social structures. This was a result of the experience of 15th and 16th century land warfare.

9.4.2.4.2.2. The Center of Gravity

The most justified targets for “strategic” war are the idea of “Centers of Gravity”. These are the “strategic” targets include: centers of command and control, logistic and transportation hubs, centers of government, as well as a host of traditional military targets. However, this is a “slippery slope” in that if a center of importance exists within a city, does that justify the destruction of the total city. From a “strategic” perspective the answer depends on the scope of attack more than the issue of justification.

9.4.2.4.2.3. The Means of Production

Modern war or for that matter all competitive activities rest on the production of assets. For military operations this is the production of both military assets (usually weapons) and support materials (including food and fuel). In commercial strategy, these would include the means by which an adversary obtains its funds and capital. Attacking the means of production may be considered justified.

9.4.2.4.2.4. The Civilians as the Enemy

Once again, we need to emphasize that “strategic” war treats all inhabitants being the enemy. No distinction between combatants and non-combatants are made⁷⁷. This is the ultimate position, that of destroying the enemy population or at least the residence and means of support for the population. The belief is that the ultimate responsibility of a nation and its military is to defend its population and to assure its future. By attacking its population, the strategy reduces the adversary’s reason to persist in the pursuit the war since by doing so; it assures that loss of the very thing that it is trying to protect.

9.4.2.4.2.5. The Failure of "Strategic Bombing"

The use of area bombing as a means of delivering “strategic” war has been practiced widely since the availability of effective air weapons. It has really only become effective since the 1930's and its use during the Spanish Civil War. Its ultimate form, of course, is the potential delivery of thermonuclear weapons. It was used widely (though not always effectively) during the Second World War both in Europe and in Asia by both sets of adversaries⁷⁸.

The effectiveness of “strategic” bombing has never been fully established. The key study of strategic bombing in Europe⁷⁹ had concluded that it was ineffective as a means of

⁷⁷ This became a moral issue during the early stages of American participation in the aerial bombing campaigns of the Second World War in Europe. It is interesting that there was less concern when it came to similar actions against Japan, though that was due to the later occurrence of United States strategic bombing of Japan in the war.

⁷⁸ It might be noted, that while the Japanese did not use effective traditional strategic bombing in China due to the lack of heavy bombers, they did use chemical and biological weapons as well as used more personal methods of mass pillage and murder.

⁷⁹ United States Strategic Bombing Survey Summary Report 30 September 1945

convincing the population or its leadership to capitulate. It should be noted that the issue in Europe was effected by the limited capabilities during the earlier stages of the bombardment. The conclusion regarding the bombing of Japan was even more iffy⁸⁰.

On the positive side, however, it was effective to bring the North Vietnamese to negotiation. Though, even here it might be debated. The bottom line here is that bombing can be effective tactically to destroy specific targets but its strategic effects are still in doubt.

9.4.3. Noninvolved Non-Combatants

There are always people and organizations that should not be involved. These are the "true" non-combatants. However, they often still play a critical role if only in terms of the costs of operations.

9.4.3.1. The Presumption of "Innocence"

A key concept in defining the "true" non-combatant is that they are "innocent" of participation. Since they can not take part in the process they can not do damage. In some respect, this concept is "legal" in that we assume that those not designated as participants are by their nature "innocent". This is more of a convenient justification of providing protection of non-combatants, as it is a measure of reality.

9.4.3.2. Collateral Damage and Advantage

Destruction of the life and property of noninvolved non-combatants is now referred to somewhat nonchalantly as "collateral damage". This refers to things done beyond the scope of the intention. Such results, and they are really to be viewed as results from actions, may carry with them both liabilities and advantages. On the cost side at a minimum, of course, is waste. The expending of assets that do not produce useful results is waste. As such, it is never in the interest of combatants or participants to waste resources. However, there are additional costs and potential benefits from so called collateral actions.

9.4.3.2.1. Deterrence

The threat of widespread destruction provides deterrence and therefore can be effective in restraining unfavorable actions or promoting favorable ones. This is really a focus on promoting fear as an asset to action. This will be discussed in detail in another section in these notes.

⁸⁰ In the case of Japan, the effective blockade seemed to be more effective in restricting Japanese production, as did bombing. Furthermore the role of the atomic bombing was confounded by the entry of the Soviets into the Asian war. It was unclear how these events independently effected the decision by the Japanese government to end the war.

9.4.3.2.2. Developing Hatred

A major downer to collateral damage is the generation of hatred. Machiavelli noted that while fear may be a useful tool for political control and for securing desired actions, it is never useful for that fear to extend to hatred. Hatred leads to "irrational" behavior, which can be extremely dangerous and unpredictable.

9.4.3.2.3. The Aftermath

Finally and to no little concern is the cleanup from the aftermath of the action. As previously noted the objective of action is the control of territory. Collateral damage usually results in the partial destruction and damage to that territory. As such, there is often a major cost left by the action. Cleanup and exit strategies can be extremely expensive. Often that expense exceeds the cost of the actual operation. Sun Tzu notes that it is always preferable to avoid conflict in the pursuit of gain for this reason.⁸¹

9.5. Adversaries

Much strategic thinking has been linked to competitive actions. This is an inherent part of the Tactical Military Strategic Framework. It has become so common in strategic thought that the nature of the adversary is usually not considered. However, that nature is extremely important in effective formulation of strategy.

9.5.1. *Classical Adversaries*

First and foremost in our idea of adversaries is the classic competitor or enemy. This competitor arises from a "zero sum" game in which there is a single winner or loser. This is a military model where the enemy wishes to destroy his adversaries.

In most cases this may be too extreme a concept. For the commercial arena, competitors aim at obtaining a desirable market share. This does not imply the destruction of the competitor either as an aim or as an objective, only domination of the territory. But the concept is still valid as the description of the classic competitive structure.

9.5.2. *"Non-Competitive" Adversaries*

In the commercial environment we often think of competitors as those whose products fill in a range from those that are in direct replacement (in-kind) all the way to those that may replace the function. Those that are in direction competition may be considered classical adversaries, but those further away from direct competitors are not.

Furthermore, even "direct competitors" may have characteristics that make them very different in nature. In-house production of products, where customers produce their own input products, are often are competitors to outside suppliers. However, they do not behave as classic competitors.

⁸¹ Recent military history in Iraq has only confirmed this observation.

9.5.3. Adversaries of Convenience

It may be somewhat strange to acknowledge that the existence of adversaries facilitates strategic thinking. However, many of the strategic frameworks rely on the existence of identified competitors. Even in cases where such competitors are not necessary, such as with marketing strategies, they are a planning convenience.

Key to this convenience is the idea of the "rational" competitor. This implies that whatever the nature of our competitor, he will behave in a rational fashion. This is a non-trivial assumption but often basic for planning purposes.

9.5.4. Subordinated Adversaries

Not all adversaries are created equal. Some are usually considered minor and in fact viewed as "Neutrals" since they do not meaningful effect strategy. Again during the Second World War, several nations in Europe were officially allied with Germany including supplying of troops. However, both for convenience and for strategic planning purposes they were considered effectively "Neutrals". Commercially, this concept is even more important since there are often a broad range of potential competitors. Only those viewed, as strategically critical or as major threats are considered viable as competitors.

9.5.5. Multiple Roles

It is critical to understand that adversaries' roles can be highly dynamic. Furthermore they may have multiple roles acting under different circumstances as allies or participants. Firms, for example, can simultaneously act as competitors, suppliers, customers, and allies for different market segments within the same business or across businesses. We would like to introduce for this purpose the concept of "Transcendent" adversaries, as competitors who act in multiple roles, including those that have in-house captive production capacity as well as those who have multiple other functions.

10. Actions and Motivations

Human behavior and the means to modify it, is always a central part of strategy. In many if not most cases, it is the essence of strategy. Even when the goals are material, the ability to obtain the support and the unit cohesion is always critical to accomplish the tasks. Actions to a great extent consist of motivating people to do what is desired. For that reason we merge the issues of actions and motivations for in most cases they can not be separated.

10.1. Actions

In our discussion of the strategic frameworks, two types of actions were introduced, those that must be taken in some form, and those that are optional or strategic. These are, however, not independent. Most required actions consist of categories of possible directions. The choice of the directions and the specific actions make up most of the strategy.

10.1.1. Required Actions

The required actions are more a part of the definition of the strategic frame than of the options. They represent the nature of the strategic situation. For example in the marketing strategic framework, the “4 P’s” (Product, Price, Promotion, and Place) define the required actions. These should be considered arenas of action which must be considered. They are not themselves particular actions but only the issues under consideration. However, they do represent the types of actions that must be undertaken in some manner. They set the structure to the strategy.

10.1.2. Strategic and Tactical Actions

Typically the strategic aspect of an action usually focuses on the desired outcomes rather than the means of getting their. The means and therefore the asset requirements are usually held as tactical or operational issues. However, this distinction is usually academic in that the means and the costs of undertaking actions are as critical to the final results as the desired outcomes. As such, it is usually desirable from a planning perspective to think of these together, though from pragmatic and organizational perspective, they typically are separated.

10.2. On Motivation

Motivations are what they do! The result of actions must be change and when that change involves human behavior the actions must focus on motivations. This behavior may be a cessation of resistance to a military force or the purchasing of desired products. Both are the outcome of some strategy. The actions are the means to produce the outcome. But the outcome is a function of the mental state of the participants. It is his motivations that are the issue not some theoretical or normative concept. This is a fundamental problem in strategic planning in that it requires the strategic framework to

focus on the behavior of participants whose responses may be far different than that of the planners or their agents.

From a strategic framework perspective, motivations or the principles based on them, dictate the actions that will be effective. As we will discuss in the next sections, the selection of actions are designed to drive the strategic process. There are three key motivational problems: (1) how to get the organizations to implement the strategy, (2) how to take action, and (3) how to prevent an adversary to take action that is detrimental to the strategy.

10.3. On Implementation

Even the best strategy poorly executed will fail while even mediocre strategy well executed may succeed. This is true for all strategy irrespective of the problem. Strategic success is so interwoven with implementation that it is really impossible to disconnect them. In military frameworks, particularly with naval strategies, the line between strategy and tactics becomes blurred⁸². The means of implementation often need to be integrated into the strategy. In this section we will only focus on those key issues that fosters implementation. The various strategic frameworks, that we will discuss later, take on this integration in different ways. Some, like the military and process frameworks, are fully dedicated to implementation, while others like the portfolio framework assumes a means of implements exists. However, in all cases implementation is always the key to success of strategy.

1.1.1. Failure to Implement

Poor execution is one thing, but failure to implement at all is the extreme. During the 1970's there was a great promotion of business "strategic planning." The effort became an expensive "theme of the month". Unfortunately few of these plans were ever effectively implemented. There is any number of reasons why strategies are implemented however these reasons tend to fall into four categories.

10.3.1.1. Infeasible Strategies

Strategies that are blatantly infeasible should not be implemented and most organizations are wise enough to see the situation and find ways to kill them. Similarly, strategies that lack operational elements or are therefore totally ethereal can not be implemented. In one form or other all strategies that are implementable and also "pragmatic." They need to be formulated for action.

10.3.1.2. "Culture Eats Strategy for Lunch"

When there is a disconnection between the strategy and the organizational culture or paradigm the strategy inevitably will fail. It just can't win. We will discuss the issues around organizational paradigms later. But at this point, it is critical to understand that

⁸² Wayne P. Hughes titled his text on naval fleet strategy "*Fleet Tactics*".

implementing a radically new strategy usually involves changing the organizational culture, which is not a small task.

10.3.1.3. The Inability to Act

Organizations may not have the ability to act. This is usually linked to a perceived lack of resources. Or at least, it will be explained in that format. Often, however, it is due to a dislocation between the organizational structure and the needs for the strategy. For example, if a marketing strategy calls for a reassignment of the sales force, someone needs to have the authority to implement that change. That is often not feasible. Budgets may be set based on an allocation formula and not open for the changes demanded by the new strategy.

10.3.1.4. Need to Motivate and to Empower

Finally, the organization needs to be motivated and empowered to execute the strategy. Organization may have the ability to act, but does not have the motivation to. This is a particular problem when a different organization, or level than those that are charged with its implementation, formulates the strategy. This lack of consensus generated the "NIH" syndrome (Not Invented Here). This situation is only made worse when the implementers do not see personal or even organizational gain for this strategy. They have not bought into its goals and objectives.

10.3.2. Abstracted Strategic Learnings

Without effective execution no strategy can succeed. Strategies are implemented only when they are perceived feasible and are compatible with the existing paradigms. Strategies are effectively implemented only with adequate command and control and are facilitated by effective doctrines and a focus on training and learning.

1.1.2. The Need for Command and Control

No implementation can be effective without the direction of resources and the sensing of their action. This is the military concept of command and control⁸³. Command is the ability to direct resources to be implemented and control is the ability to measure what is done. It is an essential element for all effective action.

10.3.2.1. Semantics and Words

The terms command and control have different inferences in this context than they are often used, at least, in the commercial environment. Command and control here does not imply total directed control or micro-management of resources, only that resources are

⁸³ In this regard the US military (DOD) has gone a little astray by extending the concept of command and control to include any number of additional factors such as computers, communications and intelligence plus others as C⁴I +. While these additional concepts have value, in this context they tend to dilute the fundamental value of C² (Command and Control).

directed and their results are monitored. This is similar to the action processes described by Total Quality Management⁸⁴ and Six Sigma⁸⁵ protocols.

10.3.2.2. Freedom of Action or Not

The freedom of action given to the implementers of a strategy may differ widely. Even in modern land-warfare local commanders can be given vastly different degrees of freedom⁸⁶. The German philosophy of combat during World War II, for example, emphasized giving local field commanders objectives and allowed them to determine the tactics. On the other hand focused Soviet doctrine provided little or no leeway. For the Soviets of World War II, battles were fully planned out and local commanders implemented them irrespective of costs. Implementing marketing strategies find similar problems where the salesforce may be given various degrees of freedom in setting prices.

10.3.2.3. Nature of Command

Command specifies the direction of the flow of resources. For strategy to be implemented, command needs to be functional. This usually requires a effectiveness without ambiguity. The military theorists describe this condition as requiring "*Unity of Command*" and "*Clear Lines of Command*."

The term *Unity of Command* implies an image of a single commander directing all elements of a plan. In reality, however, it describes a structure by which resources are coherently directed. *Unity* here requires a system or organizational structure, which provides unambiguous coherence to the execution of the strategy. Even in the military where *Unity of Command* is provided by formal assignment of position, it is actually carried out by the organization.

The need of *Clear Lines of Command* has a similar objective. In commercial organizations, for example, overall *Unity of Command* is at least normatively established. On the other hand, through the use of matrix organizations, *Lines of Command* may become diffuse. Specific authority of action, which is implied by *Lines of Command*, may exist in multiple places.

⁸⁴ The key TQM Improvement process, PDCA (Plan, Do, Check, Act) is cyclic, where the end of the process feeds back to its beginning. However for our purposes, the focus is on the Do and Check stages which corresponds to Command and Control. Total Quality Management processes are covered in more detail in the section on Process Frameworks.

⁸⁵ There are two Six Sigma sub-processes, consisting of a number of steps tracing out resource command and control: *DMAIC* (Define, Measure, Analyze, Improve, and Control) and *DMADV* (Define, Measure, Analyze, Design, and Verify). Six Sigma is discussed in more detail in the section on Process Frameworks.

⁸⁶ Robert Leonhard, "*The Art of Maneuver: Maneuver Warfare Theory and Airland Battle*", Ballantine Publishing (1991)

1.1.3. Establishing Action

The "Way"⁸⁷ to implement is through extending command. That is, we facilitate implementation of a strategy by assuring effective dynamic command of resources that are needed.

10.3.2.4. Focusing on Action

First and foremost strategy must be aimed at achieving success. Sun Tsu put it bluntly as "The objective is victory ..." That is, the focus of the strategy is on success and how to achieve it. This makes the effective strategy focused on action or operations. That is the strategy must be reduced to actionable elements for which responsibility must be assigned. Only with assignment of responsibility can you get command.

10.3.2.5. Leadership

Command is maintained through leadership. The need for leadership has been clearly understood in the military and in the political sphere. However, it tends to be less established within the commercial community⁸⁸. While the concept of leadership has taken on a range of characteristics and research here is still active. There are at least four characteristics of leadership that greatly influences the ability to implement any strategy. These are based the precondition of upper level sponsorship for any strategy that has a chance of being implemented⁸⁹.

10.3.2.5.1. Decisiveness

Leadership requires decisiveness. This is a key characteristic, which makes leadership a requirement for any effective implementation. This implies consistency of purpose and decisions. Note that to be decisive, decisions need to be made carefully but not delayed.

10.3.2.5.2. Consensus Building

Leadership builds consensus. This is not to imply that leadership is democratic. In many ways it is often the antithesis of democratic processes. However, to be effective the end result must be a consensus of the organization to act. It is the development of the unity of the organization, which is essential to action.

⁸⁷ We are using the Taoist term "The Way" (as described by Sun Tzu) a little differently. Here we focus exclusively on the ability of the strategy to be implemented. This is a sub-set of the more general concept.

⁸⁸ Only recently has programs to develop Leadership been undertaken by the university business schools.

⁸⁹ The recognition of the need for sponsorship was noted by Machiavelli (The Prince, chapter 6) in his discussion of innovators. *Only those with power (or sponsorship) succeed.*

10.3.2.5.3. Delegation and Motivation

Ultimately all strategy is implemented through the organization. As such, for effective implementation authority to execute elements of strategy must be delegated to the organization. The function of leadership is to facilitate this delegation along with the need to motivate the personnel to follow through. Without effective delegation with motivation strategy is rarely effectively implemented.

10.3.2.5.4. Sources of Influence and "Power"

While the terms influence and "power" are interchangeably referred to the ability to "make things happen", they do carry different implications. In the context of implementing a strategy, however, they have a very similar effect. The underlying principle is that leadership drives action. But to be effective organizations must allow for the formation of action oriented leadership. The structure that allows for action can be either through the formal organization or by informal structure or usually both.

10.3.2.5.4.1. Formal Position

Formal position is the traditional basis of leadership. This requires careful and/or natural selection. People who are selected for position for management need to demonstrate the skills to motivate action. Unfortunately, poor selection into formal positions of authority can be devastating to the implementation of strategy.

10.3.2.5.4.2. Informal Position

However, in most organizations there exists an informal set of "leaders" who often far beyond their position influences and undertakes action. Successful organizations not only allow these informal structures but also encourage them as long as it is functional for the overall strategy. In these cases informal leadership may be well recognized and accepted.

10.3.2.5.4.3. Expertise

A key source of informal position is through expertise. Imputed knowledge has an influence of its own. Those who are recognized with knowledge not only can command attention, but are usually sought out for guidance. Those so recognized become the bellwethers for the acceptance of change and action⁹⁰.

10.3.2.5.4.4. Charisma

Charisma in this context is a tough thing to describe. Charismatic leaders have not always been "good actors." But each has conveyed a determination and a strong

⁹⁰ These make up your senior non-commissioned officers in the military and the senior researchers and staff in corporations. They are the "old men" of the organization.

personality that inspires confidence. It is really the confidence in the leader, which enables implementation.

10.3.2.5.4.5. Being There⁹¹ - (willingness to work)

Probably the least appreciated but often the most powerful source of influence is the person willing to do the work. That is, just being there and willing to do something produces influence. However, the attitude of "doing something" is not widespread. Many organizations have fostered just the opposite in which "just letting other people take the risk" is a safer personal strategy but one that does not lead to successful strategic implementation.

10.3.2.5.4.6. The Threat of the Bomb⁹²

Finally we need to recognize the desire for people for action even when it is against the formal direction. This tends to take the form of threats. While in the context of strategy implementation, this may appear dysfunctional, it may not be. Often in resistant organizations, such threats are the only way to break through roadblocks to otherwise effective strategies.

10.3.2.6. Command at a Distance

The process of providing coherent command beyond direct control becomes increasingly complex as distances from strategic command increases and communications become blurred by the "fog of war." For a strategy to succeed, however, command and control need to be extended to the points of action. Naval powers have historically had this problem in spades. In years past, ships at sea had little communications with central authority, yet were responsible for the execution of war strategy. But this problem extends to all types of strategy where action is separated from central control. The salesforce of a firm may have little day to day contact let alone oversight by business management, for example.

10.3.2.6.1. Objectives and Orders

To command the use of resources at a distance, at a minimum, objectives and authority need to be specified. Unless the actions that are desired can be communicated to organizations, there is no way that things can happen. While this sounds obvious, it is often a critically missed element in the strategic plan. Without the communications of objectives, actions and specific assignments, the strategy is merely a statement of wishes.

⁹¹ The maxim of "*80% of Winning is Showing Up*" is attributed to Woody Allen

⁹² The observation of "*A grenade with its pin pulled, is not your friend*" was indicated by Vice Admiral Kevin Green during his retirement presentation.

10.3.2.6.2. Policies (Orders)

The purpose of policies is to allow for desired actions to take place without detailed prior knowledge of conditions. Policies specify intended actions given well-defined conditions. An example of policies is the military concept of "Rules of Engagement." They specify when a military unit is required to engage in the use of deadly force. The concept should not be viewed as an option to use force, but really it specifies when force should be used. Another example would be pricing policies given to the salesforce. This specifies under what conditions discounts or pricing programs may be applied.

10.3.2.6.2.1. Discipline

Discipline from a strategic perspective, reflects the ability of the active members of the organization, and the organization as a whole, to adhere to policies. This may seem simplistic, but one must understand that the term "policy" is general. It covers both the program or project policies as well as the more fundamental organizational values.

A key problem in the implementation of marketing and sales strategy is salesforce discipline. The effectiveness of a marketing and pricing strategy depends on the ability to impose the pricing policies. If the salesforce does not adhere to those policies, the program has not been implemented.

10.3.2.6.2.2. Over Defined

A major problem with policies is over definition. It is possible to have so many conflicting policies that the strategy becomes infeasible. As we will discuss later, for example, if the time required to act on a rule of engagement exceeds the action, the rule becomes a route to disaster. It is simply not operable. This is particularly a problem in organizations that try to "micro-manage" the process.

10.3.2.6.3. Doctrines

Actions that are likely to be needed in the real world are often too complex to be handled in detail by strict adherence to policies. As we previously noted, for successful execution of strategy, the action takers, the local commanders, often need to make the critical decisions. *Strategic doctrine* is intended to provide a coherent view of what is intended to happen and thereby provides guidance to the local decision makers.

The US military uses this term, *strategic doctrine*, to refer to the underlying assumptions and directions behind the present strategic policies. It represents the "world view" and the proposed general approach, which is intended to be followed. The world's navies derived this concept during the past several centuries to provide a means for ships and fleet commanders to make independent strategic decisions without contact with more senior authority.

This concept is not the same as policy. It does not read on the specific actions that need to be taken on a predetermined set of conditions. They are intended to provide guidance

when specific policies are inappropriate. To a certain extent they reflect the "education" of the dispersed leadership.

10.3.2.6.4. Communications⁹³

Communications is the key factor in organizing for distant action. Until recently, all telecommunications were limited. As previously noted, policies and doctrines have to overcome the lack of communications to provide meaningful long distant action. However, technical developments during the past century have made communications common. And within the last decade connectivity has become ubiquitous. The issue today is the extent to which central control will dominate all actions. It is not obvious that more centralized control is better⁹⁴. Communications, however, does provide a means of dispersing responsibility and may thereby allow for faster, more effective and creative actions. This has become particularly critical in the military arena but will be important to success in all arenas.

10.3.2.6.4.1. Telecommunication Topology

To understand how modern communications effects the implementation of strategy it is necessary to describe its general structure, or what is its topology. All communications can be thought of in general as a network. This consists of a series of points connected together. The communications is the lines of connection.

Peer to Peer

The simplest and the most basic are communications between two points. This is referred to as peer-to-peer, even though the actual structure may include any level within the organization. This includes exclusive communications between a person and his direct supervision. A sales manager's communications with his sales staff would be included here. It is very limited and direct but represents the dominant form of communications. Its advantage comes mainly from security; it is the most secured form.

Broadcasting

When there is communications from one to many, it is referred to as broadcasting. However, the term is usually limited to the cases where control of the identity of the receivers is limited. But in general, it is the case where the number and identity of the receivers may be considered unknown. This does not imply, however, that it is without security. Actually broadcasting can be highly secured.

⁹³ The importance of communications in modern military thinking has acted to merge them and computer technology with command and control into a single group referred to as C⁴. However, this is probably an over simplification and ill advised

⁹⁴ Traditionally the Soviet mode of military operations is with tight and complete centralized control. The Soviet forces during the Second World War and beyond have practiced this approach. During that same war the Germany army, on the other hand, practiced a more flexible scheme of relying on the field units to act somewhat independently to achieve agreed upon objectives.

Nodes

Between these two extremes exists the general network structure of a series of nodes through which communication is vectored. The nodes act as portals, directing where the communications go to. It is the development of the nodes and the networks that provide the range of security and integrity that is required in the connected communications environment. It should be noted that there are no limitations on the number of nodes that an individual would operate through.

Integrity and Security

The key to modern communications is the need to assure integrity of the network and its security. In the case of node structured networks the ability to utilize multiple nodes partially protects the totality of the network⁹⁵ and provides it with a great degree of secured integrity.

Vulnerability

However, increased complexity always increases the potential vulnerability of the system. The more nodes, the more layers, the more "fire walls", the more users, generates increases in the opportunities for attack. Note that attack here is not necessarily from external sources, it maybe just plain bad luck. Things go wrong with increased complexity.

Network Centric

The US military has incorporated into its doctrine the concept of the "network centric" organization. That is that communications becomes the key function of the organization and its operations. It is therefore, the key component in establishing advantage in the battlefield.

10.3.2.6.4.2. Delegation with Communications

Communications fosters monitoring or control of actions. However, it may also allow for command at a distance. That is, it allows for the exercise of decision-making away from the point of action.

Long Range Command

When actions have a large and irreversible consequence it is often desirable if not necessary to raise the level of command to a policy making level. A dangerous situation may arise where this is not feasible. For example, during the 1982 Cuban Missile Crisis, Soviet officers stationed in Cuba and at sea, in submarines, had the authority without central communications to launch nuclear weapons. The consequence of this, at that time, was likely a major retaliatory strike against the Soviet Union with the destruction of

⁹⁵ This was the original intent in the design of the Internet, or as it was originally designated ARPANET, as a highly redundant network.

tens of millions of people. This situation is particularly intriguing in that traditional Soviet doctrine requires tight centralized control. One can only surmise that the lack of communications systems did not allow at that time.

Local Command

Tight central control may not allow for the required flexibility of operations and often may result in inappropriate and dangerous time delays. Local command with long range monitoring could be implemented where only the impending action is reported. The US military has referred to this as a "Post and Act" doctrine⁹⁶ where it is the responsibility of the local and field commanders to post commands and then act on them. This provides warning of actions, a current functional picture and potentially a reliable history of events. What it doesn't assure is coordination of actions. Coordination requires further feed-back along the communications channel.

10.3.2.6.4.3. The Question of Monitoring

There is an inherent question regarding the desirability to "know". While theoretically the more that is known the better. However, that is not always necessarily the case. Both legal and political consideration may make "reasonable deniability" an advantage. Furthermore, monitoring will change and delay action. A decision-maker can be expected to act differently if he is being monitored. One would expect him to be more conventional and avoid even necessary risk than otherwise. Furthermore, the increase in visibility will tend to delay the action as the decision-maker may wish to spread-out responsibility. These delays may have a very detrimental impact on the effectiveness of strategy and may impede implementation.

10.3.2.6.4.4. Automation

The ultimate manifestation of communications and command at a distance is through robotics and automation. This allows for the command to be taken away from the point of action entirely. Here all human intervention is handled remotely, if any is needed. In fact, no intervention might be needed in that the distant action is handled through some automated heuristic process.

It should be noted, of course, that while these technologies sound appealing, they are full of dangers for the implementation of the strategy. Automated tools generally contain vulnerabilities in miss-actions and limitations. As such, they are probably best implemented in conjunction with other assets⁹⁷.

⁹⁶ "Post and Act" is a relatively new concept for the military and we will have to see what it develops into as it is used within the context of a "network centric" organization.

⁹⁷ For example, it is now recognized that Internet Marketing, which is an automated process, is best undertaken in conjunction with other marketing and sales activities.

1.1.4. Building in Implementation

Much of the characteristics that enable or restrict the implementation of strategies are held within the organizational culture, that we term the *Paradigm*. While this is a fairly broad list of these characteristics, at least four appear to be fundamental in promoting implementation of all strategies.

10.3.2.7. Simplicity of Goals and Design

Complex strategies with poorly structured goals are difficult to execute. The simpler the structure and the more direct and more understandable the goals the easier the strategy will be to execute. As Edwards Demmings⁹⁸ first principle for establishing Quality stresses the need for a "Constancy of Purpose". This is equivalent to maintaining understandable goals.

10.3.2.8. Effective Communications

Communications is a double-edged characteristic. Too much information drives confusion and practices of micro-management. On the other hand, too little, prevents coordination and once again permeates confusion and misunderstanding. The trick is to have just enough. Effective communications is a balance of quantity and quality of information. Strategies are effectively implemented what the organization knows what to do, yet is not overwhelmed with unnecessary information.

10.3.2.9. Continuous Learning

Training and practice has always been the trademark of military organizations in their ability to effectively carry out strategy. Unfortunately, this has not been a characteristic of most commercial organizations and is often the reason for their inability to execute new strategic directions.

10.3.2.10. Rewards

While leadership alone may motivate action over a limited time, strategies tend to need more structured forms of rewards to maintain support. Strategies that are viewed as not serving the interests of those charged with its execution are likely to fail.

10.4. On Taking Action

To this point we have dealt with general principles which for the most part transcend the nature of the problem. In this section however, we will deal with some principles that have been proposed as military strategic maxims that while relevant to wider applications require further specifications. These principles are intended to reduce risk and losses and to assure success but within a specific context. These center on the concepts of offensive and defensive actions and the desire to always "Attack into Weakness". In this section

⁹⁸ Edwards Demmings was the guiding guru of Total Quality Management.

we will only cover the general ideas. More detailed issues are specific to the Military Tactical Framework.

10.4.1. The Need for an Adversary

Having adversaries greatly simplifies strategic design. With an adversary it is easier to identify advantage since they provide comparisons. As we have previously mentioned the traditional military frameworks are based on the existence and identification of a "clear and present" enemy. Once the enemy is identified the issue is simply how to "defeat" him or how to defend against him. All the classic military strategic literature of Sun Tzu, Clausewitz, Caesar, as well as Machiavelli starts with the same recognition of the existence of an enemy. While the existence of an enemy may not be critical to all situations, it is always a useful concept.

10.4.1.1. The Offense and the Defense

Once we have identified an enemy the issue of response almost straightforward. We either attack or defend. It is an inherent concept that has been incorporated into almost all classic board games.

It is interesting to note that in structured traditional tribal warfare this concept is really missing. Here conflict is highly structured and the two opposing armies or navies simply come into aligned range and fight, the concept of offense and defense is immaterial. Such activities usually are designed to minimize damage. Unfortunately, such "civilized" behavior has rarely extended to modern times.

The fundamental principle is to attack and defend from strength. That is, you defend when your forces greatly outnumbered or outweigh the defenders. And you defend when your means to resist the attack provides a likely source of success. What happens if you do not have the strength to attack, you shouldn't! What happens if you can not withstand an attack, you retreat! The classic military teachers are fairly straightforward on this. As all ROTC students learn the two part concept. In part 1 we learned when studying the offensive that "Any objective can be taken". In part 2 we learned a minor modification of that concept, when studying the defense that "Any objective can be taken, if you are willing to pay the price." Here the goal of the defense is to make the price so high that one would prefer not to the try.

10.4.1.2. Understanding Strength

As we have previously noted in the section on the calculus of victory, there is a concept of strength or advantage. Here we see the concept applied tactically. Strength here is the ability to either overcome the enemy or to resist him. It is the effectiveness of the forces in the specific operations. This is a much more narrow view of strength in that it does not allow for mistakes. Strength not available tactically is a weakness. Strength for whatever reason is not utilized is a weakness. Not only does it not offer advantage, it lack of use becomes a disadvantage.

10.4.1.3. On Competitive Weakness

All forces tend to see their strengths but rarely fully appreciate their weakness. Note here that weakness is only seen as viewed from the perspective of an adversary. Without an adversary weakness is rarely apparent. As Sun Tsu noted, you can not be strong everywhere. For every strength, there is somewhere a weakness. The concept of "attacking into weakness," that we are discussing in this section, focuses on competitive weakness. It always exists somewhere, at least, in a relative degree.

10.4.1.4. Opposing Advantage

It is not the ultimate balance between strength and weakness that concerns us here. It is in the specific action. That is, functional strengths and weaknesses show up only under action. The relative technology of the offensive and the defensive provides a means of establishing dominance. As some points in time the offensive has the advantage. Under these conditions the strength of the attacker is enforced by technology. At other times, the defense is easier.

10.4.2. Abstracted Strategic Learnings

Attacking into weakness is the best means of assuring success with reduced likelihood of unacceptable costs. However, a far better means is to neutralize the opponents whereby victory is obtained without the need for confrontation. Finally, deception and the use of misinformation can be both a powerful weapon but unfortunately comes with potentially devastating costs. It should only be used carefully.

10.4.3. Attacking Into Weakness

The concept of "attacking into weakness" was summarized by Douglas McArthur in his adage "Hit them where they ain't". This concept states that you should not wish to attack into an enemy's strength but into his weakness, where he is least prepared to resist. It is a simple concept, but with both broad implications and opportunities. We will view the concept in its four modes: (1) choosing the battle, (2) designing the battle, (3) neutralizing the enemy, and (4) employing deception. While all the concepts are well established within the tactical military framework, they are powerful metaphors for general strategic thinking.

10.4.3.1. Choosing the Battle

Not all battles are worth fighting. "Choose your battles carefully" is a classic adage and if feasible always a good advice. The underlying assumption is that battles can be chosen. While it may not appear to be a radical thought, it really is. Strategy starts with the recognition of emerging opportunities or threats. There is an apparent need for action. The issue that "opportunities may be forsaken" and "threats may be ignored" is often not considered. Organizations are established prior to the events for action. It is often in their nature to engage.

10.4.3.2. Designing the Battle

While choosing which battle to fight is important, but it is at least as important to design those battles that are to be fought. Victory is obtained by applying assets smartly.

10.4.3.2.1. Choosing and Creating the Territory

Sun Tzu and others have indicated when it is desirable to attack an enemy, to defend against the enemy, or just to run. These are based on relative advantages. Sun Tzu being very conservative suggests that an inordinate amount of advantage is needed for a successful attack. Note however, that that superiority is local not global. It is in the selection of “territory” that enables one to assure local superiority. Choosing the “ground” and the conditions for success is critical.

10.4.3.2.1.1. Good Ground

Previously we have discussed the concept of territory, timing and advantage. Clearly, the more advantage the better off a participant is. However, the previous focus had been on the conditions as given. Here we focus on choice of those conditions and actions. “Good Ground” is defined by each participant. What is good to one may or may not be viewed as good to others. In fact, one would expect that Good Ground or “Best” ground should be preferential to only one of the participants. However, history has indicated, determining who has the advantage is usually fogged by events and self delusion.

From a military perspective, Good Ground relates to territorial position. The classic advantage of the high ground in land war, or for attacking from out of the sun in air combat is well known. But the concept is metaphorical. In the new business arena, Good Ground relates to the fit between the new opportunities and the existing businesses. In the informational arenas such as marketing and political campaigning it relates to access to the media and the other communications channels.

10.4.3.2.1.2. Producing Good Ground

Good Ground does not just exist; it usually needs to be produced. It doesn’t just happen. Good Ground needs to be taken. You just aren’t given the high ground or somehow find yourself attacking out of the sun. It needs to be produced; it needs to be made to happen. The forces need to take the high ground. The market access needs to be developed, all prior to their application.

Positioning

The term “positioning” is used to capture the concept of generating “Good Ground” in marketing by controlling the image of the product in minds of the targeted customers. In general, it is a concept of rearranging the field of combat for your advantage. It is analogous to the marshalling forces for military action. An example of positioning is the action of surrounding an enemy. This provides an advantage of limiting the opponent’s access to assets and providing a multiplicity of avenues of attack.

Using Technology

Technology as discussed in a separate section can produce advantage by itself. However, it also effects the definition of “Good Ground”. For example, the differential availability of night vision systems to the American land forces during both Iraqi wars gave them a distinct advantage in night and desert operations. This converted otherwise poor ground into favorable conditions. Similarly the differential availability of air transport greatly changed the nature of “Good Ground” in modern war.

Niche Marketing

Selecting or creating targeted markets is a classic method of producing “Good Ground” in commerce. This is sometimes referred to as “segmentation” in an active sense. It is the creation of new groupings of customers or market segments that are particularly suited for the product or services being offered.

10.4.3.2.2. On Indirection

While the general concept of attacking indirectly has been around since ancient times, it became a major theme after the experience of the First World War on the western front. Liddell Hart⁹⁹ particularly focused on the importance of attacking indirectly. By this, he argues that all military success has come when actions that were taken not in the expected or prepared direction. The enormous losses on the Western Front due to frontal attacks with modern weapons provided an experience that few observers would ever forget¹⁰⁰. Clearly, if one values human life, there should be an alternative approach. However, the principle extends beyond the simply avoidance of losses.

All classic battlefield strategies rely on attacking from advantage usually meaning in a direction not expected or from a direction that gives extra-ordinary value. Here we have the classic “double envelopment” used by Hannibal at Cannae where Hannibal surrounded a larger Roman force and prevailed.

10.4.3.2.2.1. On Maneuvering

The classic method to avoid opposing forces is to move or maneuver around them to attack into a weaker position. It is movement or what Sun Tzu refers to as fluidity. It is the ability to strike from any position. From a broader and more abstract sense the idea of maneuver and movement should be extended to thought processes as well. Rigidity of thought, limits action. The trick is to be able to move assets, even intangibles as thought, into new positions that provide advantage against the opposition.

⁹⁹ B. H. Liddell Hart, "*Strategy*", Meridian Books (1967)

¹⁰⁰ I find it difficult to understand how European generals could have not known what the consequences would be of such actions. It was fifty years since the world was shown the effect of using 18th century frontal attack theory with modern weapons during the American Civil War. The further industrialization of war could have only made that situation worse as it did. Yet both the Allies and Central Powers insisted on using arcane tactics against massed long range artillery and machine guns.

Notice here, that large size forces and assets may be a great disadvantage if they retard the ability to be redeployed. Smallness or rather “lightness” has great value both in combat and in the marketplace. Flexible production and marketing has a great advantage against large entrenched competitors.

As previously mentioned surrounding an enemy produces an advantage. Conceptually at the onset, it is an advantage due to the maneuver¹⁰¹. But, it also limits future capabilities to maneuver and therefore can become a disadvantage. As we will see in the next section, “not cutting off” an enemy’s retreat may also provide weakness. It can create “good ground” at present, but may also result in a high cost later.

10.4.3.2.2. Guerrilla Warfare (Marketing)

The ultimate manifestation of maneuver is in guerrilla war or the commercial equivalent of guerrilla marketing. Here advantage is almost totally focused on the concept of fluidity. That is the inability to capture and confront the guerrilla forces. They attack from “nowhere” and they escape to “nowhere”. They select the attack point, their “Good Ground” and then dematerialize back into nowhere. Similarly, in guerrilla marketing, the attack on the major competitor is sporadic, focused and often marginal. The objective of guerrilla warfare must be survival until a truly favorable conditions arise that allow for conversion to a conventional strategy.

Guerrilla warfare is inherent a strategy of weakness. It favors the weak only in regards that it postpones disaster. Its value is in that postponement. While it probably fails most often, the successes are memorable. The American Revolution as well as the Vietnam struggle were both successful guerrilla wars and both relied on the unwillingness of the standing opponent to sustain the conflicts.

10.4.4. Neutralizing the Opponents

The classic role of the army is to “close-in and destroy the enemy”. Not only does that sound provocative with a high dose of testosterone, it is also very ineffective and may be “dumb.” It might also be illegal, at least from a commercial perspective; the “FTC will not allow”. But why destroy the enemy when it is easier and far less expensive to just neutralize him? This is a consequence of the concept of attacking into weakness. It is the avoidance conflict by reducing the effectiveness of the enemy.

10.4.4.1. Providing a Means of Retreat

The classic approach is to find an alternative to a final showdown, in other words allow the adversary a means to retreat. This is a general concept, both literal in the military sense and political in the need to avoid a confrontation.

¹⁰¹ The obvious advantage to surrounding an opponent is the basis of the oriental game of “Go”. Here the objective is to surround the opponent. Attack is not even allowed.

10.4.4.2. Marginalizing

Marginalization is the process of making an action of an adversary or the adversary himself to have little impact on the overall results of an undertaking. In the military arena it focuses on restricting the ability of the adversary to secure or exploit any victory in an area. From a political perspective it focuses on making an adversaries action pointless by restricting its impact. The commercial applications tend to focus on preventing competitors from using a market success to expand into other important areas¹⁰².

10.4.4.2.1. Asymmetry

Marginalization is fundamentally asymmetric in that the process of limiting the effect of an action must be viewed differently from the perspectives of the participants. To the marginalizing participant, it must be made to have little impact on the overall conflict or activity. However, to the participant being marginalized, the action must appear to be important and have overall strategic significance at least under his strategy. Otherwise, if all participants feel that it is not worthwhile, all will withdraw (or retreat) from the action. A process can only be marginalized if at least one of the participants feels that it is worthwhile.

10.4.4.2.2. Blocking

Forces or assets become ineffective if they can't get anywhere, they are immobilized. The German northern army in the east was surrounded by the Red Army in 1945. The Red Army did not need to, nor did they; reduce the German force, since the Germans had nowhere to go. Similarly, Douglas MacArthur used a structured strategy of isolating major Japanese forces, such as at Truk, during the Second World War. This concept can be extended to include both political and marketing actions if a sufficient means of blocking is feasible.

10.4.4.2.3. Isolating

Isolating is a more general form of blocking. If the action or for that matter the adversary can be put into a position where his action can not effect the overall strategy, it is isolated. Clearly blocking is a way of isolating the action, but not the only way. Some situations are inherently isolated. Some markets for example do not interact with others and therefore success or failure to dominate them will have little effect on others presumably more important and larger. Political isolation is often desirable when the opponent has particular strength within a group of the electorate. If that group can be isolated, it may be neutralized and have little effect on the overall campaign.

¹⁰² This can be a critical approach to handling new market entries. Often, particularly for industrial products, a new entry represents new expanded manufacturing capacity. With such capacity available, it is unlikely that the competitor will just go away. The issue becomes what markets might be surrendered to the new entry that will not effect the overall business of the existing major participants. Typically, "marginal" niche markets can be surrendered without much harm. This is a marginalization strategy.

10.4.4.2.4. The Flip Side

The negative side of marginalization is that it is always uncertain and always absorbs assets. Even though the actions and adversaries are viewed as marginal, the engagement can be expensive. It ties down the adversary but at a cost¹⁰³. These costs can exhaust all parties with little strategic gain. It is the basis of a truly Punic Victory.

10.4.4.3. Cooping the Enemy

An interesting idea is to convert the enemy to an ally. This not only reduces the enemy's assets but increases your own. In a way, it is "hiring him" or at least finding a means of developing a mutually advantageous approach. As with all alliances, the trust still may be limited, but it reduces the hostilities and the expense of facing an additional enemy. The trick is to make common interest. Note that this may not be an easy process. It is the "Art of the Deal".

10.4.4.3.1. "Paying Him Off"

"Cooping" the enemy is significantly different than trying to "pay him off". The strategy of paying off an enemy is notoriously poor. It does not convert the enemy to an ally in that he still remains the adversary but encourages future detrimental actions. It rewards fault and therefore can only lend to future problems.¹⁰⁴ The only advantage may be in postponing a conflict. It is "buying time" but does not solve the problem or eliminate the adversary.

10.4.4.3.2. "Hiring Him"

The trick in hiring the enemy is, once again, forming a common interest. That is achieving your aims and objectives produces reward for the former enemy. It is in his own self interest to support your strategy. Your failure then becomes his. ONLY when common interest is established is the process of "Cooping the Enemy" can be achieved.

10.4.5. On Deception

"The truth is so valuable that it must be protected by a barrier of lies". Deception and lies are major theme of Sun Tzu's approach to strategy. It is part and parcel of his concept of maintaining fluidity and being diffuse. The less an enemy can predict your behavior the more invulnerable you may become.

¹⁰³ The siege of Leningrad in the overall Soviet strategy of the Second World War can be thought of as a marginalized battle. It succeeded in tying up a vast German army for almost 900 days but at a huge cost of over a million Russian lives (civilian and military).

¹⁰⁴ The Romans in the fifth century tried to buy-off the Huns, but only encouraged further raids. Similarly, the Franks tried to buy-off the Vikings with a similar effect. This is very different from either the formation of alliances as the Romans had done with the Goths or the hiring of German barbarians into the Roman army. Both of these are forms of "Cooping the Enemy".

10.4.5.1. On Misinformation

The flip-side of the concept of having a “Dominate Battlefield Awareness” is the need to convey mis-information to the opponent or at least blind him to the reality of the situation. The use of miss-information is only intended to get the desirable action. If true information would do as well, it is probably a more reliable vehicle. Truth is often useful. However, it is interesting to note that it is often harder to get an opponent to believe the truth than a fiction. Truth is not necessarily more believable.

10.4.5.2. Inducing Favorable Action

Note here that the objective is to allow for “favorable” action. It is the behavior that is desired, not necessarily the belief in the mis-information. It is adequate to get the enemy to believe in the “probability” of a “truth” to induce the favorable action. For example, Hitler did not have to fully believe that a second invasion of Europe was imminent at Pas de Calais in order to hold back reinforcements going to Normandy. He only had to feel sufficient concern.

10.4.5.3. The Tactical verses Strategic Situation

All actions ultimately are tactical in nature but mis-information tends to be strategic, having a broad range. This is both a problem and an opportunity. The value of mis-information is generally viewed in the narrow scope of tactical action. We wish the enemy to take some action which we induce by giving appropriate information. However, that information also leads to other actions. It is both the potential positive value of that action that gives further value to the misinformation. But unfortunately, there can also be unintended consequences.

10.4.5.4. The Cost of Mi-Information

Misinformation has both advantages and disadvantages. When applied appropriately, it can produce great tactical advantages. Unfortunately, when applied too often or poorly, it can back-fire, producing unexpected dire consequences.

10.4.5.4.1. On Losing Trust

A key problem of being caught in a lie is that you lose whatever creditability you once possessed. This is a fundamental problem in maintaining a lie and more so in conveying the truth in the future. This is an ancient issue as Aristotle noted “Liars when they speak the truth are not believed.” In an environment of lies and truths it is often impossible to tell the difference as Churchill had observed. “There are a terrible lot of lies going around the world, and the worst of it is half of them are true.”

10.4.5.4.2. Believing the Lie

A huge potential cost of creating mis-information is believing it yourself or having an interested third party believe it. Information has a habit of being believed irrespective of what else is known. Lies prevails and big lies even longer. Armies have used fear as a

powerful tool to demoralize the enemy and to panic non-combatants. For example, during the Second World War the Soviet were able to block German military movement by “encouraging” German civilians to move west blocking the transportation routes. The panic was based on the alleged approved treatment of German civilians by the Red Army. It was useful for the Soviet. However, the downside was that soldiers and officers of the Red Army believed that approval of truly despicable conduct and acted as such.

10.4.5.4.3. Inappropriate Competitive Action

The value and potential a huge cost of mis-information is in its effect on the behavior of competitors. Where the misinformation leads to competitive action that favors the strategy, it is of value. However, that is not necessarily the case. Mis-information may readily lead to disastrous actions. For example, commercially, the lack of information or mis-information can lead to industrial over-capacity where each competitor did not know the expansion plans of its rivals resulting in over building of plants. This in-turn often leads to severe price competition resulting in poor profitability for all competitors. The idle threat of action can lead to real undesirable counter action.

The power of commercial information is such that some types of information have been made illegal to communicate. Price intentions are referred to as “signaling”, and are illegal in the United States, though not everywhere. Here true information is blocked, for it would give an advantage to all competitors at the potential disadvantage of the market¹⁰⁵. Given that the truthful information is of universal value, giving mis-information of the same form would be a disadvantage.

10.5. Constraining Actions

The goal of strategy is ultimately to control the behavior of people. For this reason, as previously discussed, psychology always plays a critical role in all strategies. But one area is of particular, note that is the effort to limit the behavior and actions of groups of participants usually potential and real competitors or “enemies.” These are not people who will readily agree to constrain behavior just to please their competitor. They need to be persuaded.

These situations cover a broad range situations from deterring general (nuclear) war with the former Soviet Union and China during the Cold War, or limiting the actions of Islamic terrorists or limiting the penetration of commercial competitors in the marketplace. While the situations and options differ widely, the characteristics are similar.

Let us start this investigation by paraphrasing my favorite expert on war, Sun Tzu “What restrains competitors is harm,(and) what motivates competitors is profit.” By this Sun Tzu focuses not only the actual harm but the fear of it. There appears to be at least

¹⁰⁵ Trade associations and syndicated studies are used to by-pass some of these problems using a third party to avoid direct transmission of information. Though these alternative information sources are usually legal, care needs to be taken to assure that anti-trust provisions are not violated.

four modes of provide that “fear of harm”: (1) Expected consequence, (2) Legal or regulatory restraints, (3) Internal constraints and (4) Deterrence.

10.5.1. Abstracted Strategic Learnings

Constraints should be viewed from a pragmatic perspective. One's own actions as well as one's adversaries should be constrained by the consequence of those actions. While morality may initially constrain actions the pragmatic effects far and away dominate the eventual situation. Furthermore, the effectiveness of threats to constrain adversarial action depends on the communications of those threats and their creditability for being carried out.

10.5.2. Expected Consequence

Expected consequence or strategic “self-interest” reflects the reasonable expectations that might lead from an action. These are not necessarily threats or thought out designed deterrent actions, that will be discussed shortly, but the simple results from actions. That is, for every stimulus one should expect some set of responses. For example, if a combatant is known to kill or harm prisoners of war, it can be anticipated that opposing soldiers will be reluctant to surrender. This is beyond the control of policy, it is the simple consequence of the action.

10.5.2.1. Reward

As Sun Tzu noted profit motivates competitors. With the “carrot” people can be enticed¹⁰⁶. However, this approach has not been historically always successful. French tried to buy off the Vikings and the Romans the Huns with equally poor results. In both cases, it appears that the payments only encouraged further attacks. Machiavelli, clearly, noted that it is usually far better to rely on fear than to rely on “love.” In this case Machiavelli associates “love” with rewards¹⁰⁷.

10.5.2.2. Inherent Undesired Consequences

Known undesirable consequences act to restrain action. Some consequences directly lead from the action. For example, if property is destroyed, it is destroyed can not be easily recovered. As Sun Tzu notes, if a city is destroyed it is of no value to the victor. What we destroy we may have to rebuild. If resources are expected, they are lost and can not be used of other purposes. Sun Tzu clear describes any destruction as undesirable. For Sun Tzu the goal of conflict is victory and the victory that provides the greatest gain is the best.

¹⁰⁶ I sometimes feel that it would have been far cheaper to have bought-off the North Vietnamese than to have fought that war.

¹⁰⁷ Chapter 17 in “The Prince.”

This maxim holds for commercial struggles as it does in military affairs. A marketing action that results in the commoditization or price depression of products is of little value to any competitor, winner or loser.

10.5.2.3. Focusing on the Aims

Actions that deflect from the pursuit of Aims through the targeted strategy reduce the likelihood of success. The loss of focus and the dissipation of resources and assets are the key issues here. Any activities which do not lead to “victory” are therefore wastes. Therefore, actions that are not in strategy only serves little purposes, they waste resources and efforts.

10.5.2.4. Unknown Consequences

Beyond those consequences that can be anticipated are those that can not be. Here we have the whole range of problems whose consequences can not be fully understood. The destruction of a “holy site” may lead to any range of future difficulties. The displacement of a population can likewise lead to future disasters. For example, the replacement of a regime, such as American involvement in the restoration of the Shah in Iran in 1952 had unforeseen consequences in 1978. The fear of these types of uncertainty provides a “rational” basis of conservative restraint.

10.5.2.5. Disregarding the Consequences

Disregarding the expected consequences can be foolhardy. The use of the V-weapons (V1 and V2) on London in 1944 did not provide Germany with any significant strategic or tactical value. The weapons were too short ranged to destroy critical facilities in England and too inaccurate for operational use against troops. However, their use must have contributed to the decision of the American air forces adopt area bombing and probably contributed to the justification of the destruction in Dresden in 1945. While this may be a severe example. Other examples, of induced unwelcomed policies are easily identified. Arms races, which are discussed later, provide a host of examples.

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10.5.3. Legal Frameworks and Constraints

Legal constraints are derived from external regulation and the ability of government in whatever form to impose order on chaos. Government here refers to any of the institutions that focus on conflicts, economic policy or regulation whether within national or regional borders or internationally. These constraints are, of course, far more effective with commercial situations and transactions than with political or military affairs.

10.5.3.1. "Legal" Consequences

Criminal and tort law constrains actions. While illicit drug trafficking is highly profitable it is also highly illegal and carries heavy legal consequences. As such, it is limited. Similarly, antitrust laws are imposed to restrict unlimited monopolistic commercial behavior. It is, for example, illegal to attempt to fix prices or allocate sales territories among competitors in the United States.

It must be immediately apparent, that these legal structures tend to be limited geographically and limited by organization. Governments are immune to these restrictions as we can tell from the existence of OPEC. But the principles both in theory and in practice are functional.

10.5.3.2. Government Policies and Regulations

Legal is what government wants it to be. Governments impose regulations and policies to govern commerce and the "affairs of man." While these may or may not work through the judicial system of nations, they are imposed by government bureaucracies who have the power to disturb commercial activity.

The power of the governmental action is of course limited by its willingness to act. While it is often viewed as discretionary, consistency of policy is often critical to its continuity.

10.5.3.3. "International Law"

While formal "International Law" is highly limited, it has been applied effectively where sufficient "enlightened self-interest" is recognized. International agreements on illicit drug trafficking, for example, have been partially enforceable. Others, such as in the treatment of "Prisoners of War" have, at least, been recognized if not followed.

10.5.3.4. On the "Rules of War"

At this point it is useful to comment on the idea of the "Rules of War." While there is some international agreement regarding the conduct of war such as the *Geneva Conventions*. It would be, of course, very callous to delegate them to nineteenth and early twentieth century idealism. Much of these treaties ignore the realities of modern war involving the inability to distinguish between combatants and civilians. Though, past history has shown little strict regard to those principles, there is sufficient value to maintain them, at least, with a superficial recognition of the treaties. It should be further noted, however, in "asymmetric" conflicts such as with insurrection and guerrilla warfare, little recognition has historically been given to those principles.

10.5.3.5. Destruction of Order

The major driving force for legal constraints to strategic behavior is through the general fear of the destruction of general order. Without order all processes and agreements are no longer feasible. Legal consequences enable the enforcement of agreements. In the case of transactions and commerce, those agreements are in the form of contracts.

However, the concept extends into politics and military affairs in that unless agreements are adherent to, they become meaningless and can not longer be relied on to end conflicts.

In this context, the joint declaration by Franklin Roosevelt and Winston Churchill early in the Second World War calling for the ultimate unconditional surrender by Nazi Germany was a statement of fact. This was due to the fact that that government had not adhered to its previous agreements making further agreements useless.

10.5.4. Internal Constraints

Beyond legal constraints are those that are derived from internal values and culture. This constitutes the “moral” fabric of nations, organizations and individuals involved. Note, however, that this is unique to the culture and is transitory.

10.5.4.1. The “Moral High-Ground”

Companies, nations, and organization view themselves as ethical and moral entities. Few organizations wish view themselves as evil. The others may be evil, but we are always “good.” A corporation may come from a ‘Quaker Tradition.’ A nation is a good religious country, whatever the religion may be. Such organizations do not do bad things. While these may appear to be naïve statements, they carry with them significant weight. One does not wish to carry the guilt of bad actions.

10.5.4.2. Enlightened Self Interest

We should also consider that good behavior is “its own reward.” This really a case of enlightened self-interest. “Doing bad, can only lead to others doing bad to us.” This is natural, often wishful, belief that our good behavior will be rewarded probably by reciprocation.

10.5.4.3. Internal Consequences

Finally, there may be internal consequences for an organization acting “badly.” While uprising and revolts are unlikely in commercial organizations, military or government, there may be resistance to actions. Actions may be not be carried out, the legality of orders questioned and politicians removed from office. None of these are desirable events and could be costly to the pursuit of the overall aims.

10.5.4.4. Them and Us

The basis of imposing internal constraints is the association of other people with “us.” This is the classic us/them dichotomy. This is particularly noticeable in military affairs. The more that the “enemy” can be alienated from us, the more that the rules of good conduct will not apply to them. The demonization of the opponent is often necessary in military situations to allow for the types of actions required by even traditional wartime conditions.

This distinction is; of course, more difficult to establish or maintain in commerce particularly with large firms where the same firms may be competitors, customers and suppliers simultaneously. But even here, the rhetoric can be inflammatory particularly regarding international trade.

The effectiveness of the internal constraints will, therefore, depend on the view of the opposition. It is, therefore, in the interest of the opposition not to allow their image to falter based on their behavior. In this regard, internal constraints is a two edged blade, in that it restrains the actions of all sides.

10.5.5. Principles of Deterrence

From our vantage point in history, probably the best-known mechanism to restrain an opponent action is through deterrence. The acronym, MAD for Mutually Assured Destruction is well earned. The concept is that if we threaten action that is severe enough, the opponent will be restrained. It is a simple concept but with severe implications. And while it did do its job over the Cold War where neither opponent was really interested in dealing with the consequences, it is not entirely certain that it always will.

It should be noted that deterrence is practiced not only on the military stage but also in politics, in commerce and probably with many interpersonal situations.

10.5.5.1. Principle of Consequences

While we have discussed consequences before, in those cases the direct-line between actions and consequences was not as clearly delineated. The nature of consequences and their impact must be clearly understood as well as their direct connection with precipitating actions. “If you do any of these things, I will do” To be effective, those things that I threaten to do must be so potentially painful that no gain from the initial action would overcome the loss.

It should be noted, that the importance of the potential losses from these consequences must be recognized by the opponents situational Paradigm. That is they must be understood in the context of the opponents value system. In the case of nuclear devastation, that doesn’t seem to be a problem. Both the materialistic American capitalists and the materialistic Soviet communists clearly understood the consequences. However, that may not be the cases in other areas and with other peoples whose Paradigms are vastly different.

10.5.5.2. The Threat of Revenge

The actions do not have to be “rational” and the probably should not be “measured.” The purpose of deterrence is to provide a sufficient threat that stimulating action never comes. The concept of “rational” reaction takes the form of revenge. That is if you do to us we will be sufficiently angry that we will do the irrational. What is peculiar about deterrence, is that it is structured in the most “rational” and formal structure and yet relies on the threat of irrational revenge.

10.5.5.3. Creditability

For deterrence to work, it must be credible. That is, the threat has to be feasible and the will to execute has to be believable. It should be noted that the threat need not be repeatable. It is enough to be able to destroy the world once. Twice is unnecessary in this case. However, the ability to do it multiple times, increases its feasibility.

10.5.5.3.1. Policies

The purpose of incorporating of deterrence into policy is belief that by doing so the deterrent will be viewed as automatic. The more that the deterrence is mechanistic without intervention, the more it will be viewed as creditable. That is, if the fear of further consequences from the retaliation is removed from decision, the more the decision is believable.

10.5.5.3.2. Value of Believability

Deterrence is built on believability. If the threat is not believable it will have no effect. It is central to the whole concept of deterrence. Deterrence is based on the belief that it will be unnecessary. However, that means, if challenged, the retaliation must be carried out.

10.5.5.3.2.1. Doomsday Strategies and other Insanity

A major problem with MAD, Mutual Assured Destruction, is that it would be unfortunate to have to demonstrate one's willingness to carry it out. What half of the world do we wish to destroy to establish one's willingness to do it? While this appears to be extreme, similar personal and commercial strategies have similar, though with much smaller consequences. The classic example, is the personal threat to quit a job or to cease supplying a customer. Both of these have dire consequences, though not catastrophic.

10.5.5.3.2.2. Counter-Force and Tit-for-Tat

An alternative is to develop deterrent strategies that are more believable though potentially no less destructive. The classic example is "counter-force" which is a "measured" retaliatory response. Simply, if you attack us with a nuclear weapon, we will blow up two of your cities. If you do more we will respond accordingly. Unfortunately, such a policy would more likely than not lead to the same outcome.

10.5.5.3.3. Execution

Maintaining the believability is not an easy process. It should be noted, that misreading the situation, or worse, misunderstanding the intent can be catastrophic.

10.5.5.3.3.1. Personality

For a deterrent strategy to be effective, the leaders of the threatening organization must be believable. In the case of nuclear retaliation it takes quite an individual to be a

believable threat. Few have filled the bill like Curtis Lemay. Fortunately, most deterrence are not based on the willingness to destroy the world.

However, it seems to be always believable that an opponent leader is “Crazy” and therefore, capability of almost anything. Unfortunately, history is loaded with real crazy leaders, which supports that position. The “Crazy-man” strategy is to build on this belief that whether or not a threat may be self-destructive, the leader is crazy enough to do it. The Chinese during the 1950’s through the most 1970’s projected such an image and served it well.

10.5.5.3.3.2. Maintaining the Deterrent

There is a recent example of the problem of maintaining the deterrent. Colin Powell had indicated after the first Gulf War (1991) that his threat to use nuclear weapon in response to any Iraq used weapons of mass destruction, was only a bluff. I believe that that was an unfortunate statement. First, whether or not General Powell intended to respond to an Iraq action was not relevant, it would have been out of his hands. Secondly, and most disturbing is that the statement reduces the believability of future use of deterrence where the threat would be very real and immediate. Deterrence must be maintained.

10.5.5.4. Fear Revisited

The basis of deterrence is fear. This is a basic fundamental. By using deterrence, one becomes not a “nice guy.” The very nature of deterrence is to establish a state of fear in the mind the opponent. It must be realized that that state of fear is itself a danger. Fear leads to actions to reduce that fear. That leads to actions and other consequences. Fear on a national level has historically lead to arms races, which occasionally has lead to war.

10.5.5.4.1. A Hierarchy of Fears

Be that as it may, the choice of which fear to use is not straightforward. Fears are not all equal. The culture or Situation Paradigm incorporates the hierarchy of fear. As such, it is critical in “designing” deterrence to understand the fears and more basically the “Primal” fears of the opponent. It is from the opponent’s perspective that determines effective deterrence.

In the west, which includes both the United States and the former Soviet Union, the hierarchy often starts with individual human life. However, that may not be case elsewhere. In the Middle East, the individual may be subordinated to his family, religion, and group.

10.5.5.4.2. Iconoclasts

An alternative view is to look at fear as the protection of icons of the society. The threat is to destroy them. Deterrence, therefore, is an iconoclast process, of destroying the elements or social pillars that support they opponent’s society. This is an interesting, in that the threat need not be catastrophic to life or property to provide sufficient impetus to prevent undesired actions.

10.5.6. Playing the Game

In order to constrain other participants' behavior, the process of restraint has to be executed well. That is not as simple as it might appear. Two key issues dominate the process: (1) communicating, (2) recognition of behavior and (3) providing a second chance

10.5.6.1. Making it Happen

Assured communications is critical for influencing the behavior of others. Unless the participants know of your intent, it will have no influence. It is critical to specify the undesirable behavior by the potential consequences.

10.5.6.1.1. The Intent

Assuring communications of intent is often not easy. For example, deterrence is based on threatening "bad" actions. Such actions may be under internal constraints, and therefore it may be difficult to publicly announce the threats. Yet it is critical that those threats are made.

In the commercial arena the situation may be more complex in that communications including signaling of intended counter actions may be illegal. One can not tell the competition that you are prepared for a price war. The FTC will not allow.

10.5.6.1.2. Credibility

Not only is it important to communicate the potential consequences but the intent to follow through. This is a question of credibility. As noted in the section on deterrence, the nature of the response and the ability to carry it out is critical for establishing credibility. However, it is also an issue of personality and believability. This is likewise an issue of communications.

10.5.6.2. Recognition of Behavior

There are behaviors that we wish to restrain. We may have signaled legal consequences, we have popularized internal resistance, or threaten retaliation for such behavior or actions. The first issue, however, is to recognize when or if such actions have taken place. This is may be technically difficult or politically unwise. For example, the Germans and the Japanese used poison gas during the Second World War. And the Japanese had used biological warfare broadly against the Chinese. The allies appear to have decided to ignored those actions as "isolated" rather than retaliating in kind¹⁰⁸.

¹⁰⁸ I have always find it peculiar that in decisions of the morality of dropping the Atomic bombs on Japan, rarely is Japanese use of biological warfare on the Chinese mentioned.

10.5.6.3. The Second Shoe

Rarely are we interesting in only limiting a single action. Typically, there is a whole set of potential hierarchy of actions that we wish to restrain. As such, the responses to those actions need to be graduated. If the US destroys all of Russian if it attaches a single US ship for example, it is then encourage to make it all out attack. Not a good idea! The response needs to allow for graduation. If Saddam Hussein had used poison gas on US troops during the first Gulf War, what should have been the response? On the other hand, should there have been alternative response, had poison gas been used against civilians?

10.5.6.4. Being “Trapped”

A major difficulty in restraining the behavior of participants is that it naturally restrains all participants. The very fact that a deterrence, for example, is being used, restricts the use of the threatening actions. For example, we can not threaten to retaliate with poison gas, and then use it in a first strike mode. The very use of a threat limits its activity. Restraint is itself double edged. While it limits opponent's behavior, it also limits all participants.

However, a worse trapped takes place if the opponent “mistakenly” acts inappropriately. Should the full force of revenge or retaliation be unleashed? Can we allow our strategy to be then a hostage of the opponent's actions, mistakenly or not? Can our strategy be then manipulated, not for our benefit, but possibly for some third party?

11. Risk, Uncertainty and Intelligence

The results of all real processes and actions are uncertain. In the military arena this is referred to as the "fog of war". Physicists refer to the "second law of thermodynamics" the principle that all systems tend toward chaos. It is the principle that all processes are irreversible and that time moves in one direction. These are natural processes. From a strategic perspective, since all processes are uncertain, that uncertainty needs to be incorporated into all plans of action. The trick, of course, is to understand the uncertainty and where possible to develop procedures to reduce risk where risk would be detrimental.

Because of irreversibility and time's "arrow", neither events nor processes nor situation truly ever reproduce themselves. Events and situations are unique in time. As such, though strategies and situations may resemble those in the past, they carry significant differences. These differences are the basis of "predictive" uncertainty and "risk". The term "risk", however, carries two separate connotations. Risk reflects uncertainty and the impact of that uncertainty. In this section we are mainly concerned with the uncertainty though one should never ignore its impact of uncertain events on the results of strategy.

The nature of risk and the need for information is usually specified by the strategic framework and to a less extent the organizational paradigm. One of the key problems here is that since the strategic framework defines what constitutes important risk, it is easy to become "blind-sided".

11.1. On Failure

A way to capture the concept of uncertainty is to focus on the nature of failure in actions and plans. We can view uncertainty as driving failure. In this respect building against uncertainty in a strategy or plan assures against failure. There are several different modes of failure. However they are not distinguishable in terms of the final result. Failure is failure, whether they are caused by the "fates" or by poor design. However, it is useful to think of failure as coming from the tactical execution of the plan or its strategic design.

11.1.1. The Nature of Strategic Failure

Strategic failure is, in general, the inability to meet aims. Here we need to differentiate between not meeting aims and not meeting objectives. Objectives are within the strategy. A strategy may be so constructed, as being robust, where failure to meet objectives is not catastrophic. In many cases, success on objectives is only expected occasionally¹⁰⁹. As previously discussed, however, aims are not created equal. Nor do they all read on positive results. Some aims reflect a need to prevent catastrophic outcomes. In general, a key aim for most strategies is to assure the survival of the organization. Strategic failure comes, therefore, in various forms. They go from those that are minor which indicates

¹⁰⁹ New product introductions are examples. While firms do not expect to fail all the time, they should neither expect always to be winners.

only limited success to those that result in the destruction of the organization. It is important to understand the difference. Almost all strategies do not meet all of the aims. However, we usually refer to those as failures when the results are catastrophic.

11.1.2. Tactical Failure

Tactical failure is the inability to achieve results even though the plan or strategy was appropriate. That is, there can be bad outcomes of even a good plan. The nature of the failure provides a means of correction. There are two sources of tactical failure, those associated with (1) the inability to accomplish the tasks and (2) the uncertainty of events.

11.1.2.1. Systematic Failures

Tactical failures may be systematic, that is they may be due to the inability of assets or the application of the assets to produce results. This could be due to inappropriate or less than expected effectiveness of assets, or a lack of skill in their use¹¹⁰.

11.1.2.2. Stochastic Outcomes

On the other hand, failure may be due to "bad luck". All strategies have some uncertainty in them. Some plans rely on uncanny luck. That is things must take place on time and as forecasted for obtain success. These are unlikely to be successful. Some strategies are designed to reduce the uncertainty to a minimum. However, even here there will be irreducible or inherent uncertainty and risk.

11.1.3. Strategic Failure

On the other hand, the strategy could be just plain "bad". Some activities are destined to fail. However, the issue here is more the identification of a poor strategy as that which should have identified early. That is, strategy whose faulty assumptions could have been improved with appropriate information or those that were basically misguided. For example, the late attack of Germany against the Soviet in 1941 was terribly misguided and very unlikely to succeed to the required level of removing the Soviets from the War¹¹¹.

¹¹⁰ In the new product development commercial arena, this is often referred to as technological and marketing failures. Within the Research and Development community is often useful to try to separate these two sources of failure. The technological failure can be associated with the choice of assets, while marketing is viewed as the commercial reduction to practice, or business execution.

¹¹¹ It should be noted that the Germans clearly had great success during the operation; however, it was unlikely that the success would be sufficient to knock the Soviets out of the war particularly when the invasion had started in the end of June leaving surprising little time for completion. This seems to have been the same mistake that Napoleon had made in 1812.

11.1.4. The Degree of Difficulty

Not all strategies are equally difficult. Some are inherently difficult to execute and even more difficult to get the desired results. Because of the range of difficulty, it is not surprising that failure is always a potential result. In stochastic or portfolio strategies success should be viewed on a chance basis. The goal is a balance of risk and reward. Some projects will fail, but the losses should be less than the gains from those strategies that succeed.

11.1.5. On Strategic Robustness

We have previously noted that some strategies are design to overcome local difficulties. We build these plans to be insular from the "fates". Failure to meet some objectives in these robust strategies is not allowed to lead automatically to strategic failure. We will discuss this in more detail in a separate section.

11.2. Exposure and Potential

When we deal with risk, we need to also deal with its potential impact. Risk includes both the uncertainties of events and the potential losses and gains. Typically we refer to potential losses as the exposure and the gains as potential. Exposure is a cost that is accrued by the failure of the strategy. Since there are any number of ways that a strategy may fail, there are any number of sources and levels of exposure. Similarly, potential comes in various forms and levels.

Not all types and levels of exposure and potential should be considered equal or proportional. Here we need to introduce the idea of non-linear losses and gains. That is, the importance of levels of exposure and potential are not continuous. If exposure endangers the firm or in some cases becomes very embarrassing, it becomes critical. The very survival of the organization and its leadership could be at stake. Similarly, small gains may be of little importance while great gains may also be critical.

11.3. Abstracted Strategic Learnings

Risk and uncertainty are inherent. There is no way to totally eliminate risk. However, the worst consequences of risk can be minimized or in some cases avoided. Risk focuses on the possible expectation of loss. As such it consists of both the uncertainty of events and their consequence. Furthermore impact of risk is based on the importance of the consequences.

11.4. The Nature of Risk

Risk has always been difficult to get a handle on. As we had discussed strategic risk refers to the uncertain outcomes of strategy. The goal of strategic intelligence is to help quantify the nature of the risks associated with the strategy. This means focusing on the nature of the uncertainty associated with the exposure and potential.

11.4.1. Scenarios and Events

The concept of "states of risk" or scenarios is highly useful to provide order when dealing with a multitude of uncertainties. In this perspective we view risk in terms of its potential consequences, rectifying actions and remedies. The idea is to split the causes of conditions from the conditions themselves. As an example, we can consider the personal scenario of the onset of a major medical condition requiring hospitalization. This is a situation that could arise from any number of conditions and events. But the results of all similar situations are basically the same, in that the risk reduction remedy would be medical insurance. Estimating the likelihood of such an event is fairly complicated but doable. Here we have separated the two components of exposure and the likelihood of it happening.

11.4.1.1. Scenario Exposure

Scenarios are built around the exposure, which represents the impact of events. For example, in most commercial strategies that is almost always some concern of insolvency or bankruptcy. This is a fundamental event.

11.4.1.2. On Imperatives

Note that most important scenarios are built around some key imperatives. Survival is usually one of the most important. But generally there is a hierarchy of organizational imperatives that can be used to guide the formulation of the scenarios.

11.4.1.3. Collective Likelihood

From an analytical perspective, a measurement of likelihood is then associated with each scenario. Note that this is a collective probability representing all of the potential routes to that scenario. Furthermore, since all possible routes are not usually known, some type of "subjective" estimate is used.

11.4.2. Characteristics of Uncertainty and Risk

In general, the problem of risk centers on the understanding of possible sources of failure in the strategy and the likelihood of unfortunate events taking place. It is in the understanding of the likelihood of events, which directs the planning process. Here we will explore the fundamental nature of uncertainty. This will focus on three characteristics: identification, prediction and reduction.

11.4.2.1. Identifiable Risk

Not all possible events are known and can be identified. This makes all strategy susceptible to being "blind-sided". Some identifiable and unknown events may be rare. A comet may hit the earth and destroy the "best laid plans ...". However, many more are just the unknowns. For example, new technology may arise that makes a strategy obsolete. A new unknown competitor may enter the scene totally changing the competitive environment.

Here we must separate out those events that can not be identified from those that have not been. This is a difference the effectiveness of competitive and environmental intelligence. To some extent, being blind-sided is inevitable. However, that does not provide the excuse to operate in the dark. The vast majority of events are knowable through research.

11.4.2.2. Predictable Risk

Some sources of risk are describable and the associated uncertainty predictable. These are typically things that we have seen before and we know can and will happen again. We typically divide these into two classes: those that we have sufficient past experience to provide an analytical estimate of occurrence and those that we do not and must rely on personal "feelings" of the likelihood.

11.4.2.2.1. Countable Events

Previous experience and history often provides insight into the likelihood of future events. For example, extensive financial history provides some statistical data on the variation of stock prices. While weather forecasting is an imprecise science, it does provide a statistical estimate of the likelihood of appropriate events. Extractive industries have extensive geological databases for estimate the likelihood of the availability of resources. To be effective, the history must be sufficiently consistent and robust to allow for statistical modeling.

11.4.2.2.2. Subjective Probability

While we often hope that there will be sufficient data for analytical analysis of risk, typically there are uncertainties for which the experience is either insufficient or not consistent enough for objective evaluation. Here we must rely on personal or subjective estimates of the likelihood of events happening.

Events such as the possible action of adversaries are the result of a multitude of known and unknown factors. If the adversaries are well-known then experienced strategists often are able to give a "guesstimate" as to their likely actions. This is the basis of subjective probability. Note, however, it is usually a measure of confidence of action rather a measure of likelihood or occurrence¹¹².

11.4.2.3. Non-Predictable Risk

Some risks though identifiable are not predictable. Some of this non-predictability is due to the noise of activities. As previously mentioned, the military refers to this as the "Fog of Battle". The very activity makes knowledge and predicting outcomes often infeasible.

¹¹² This difference can lead to a systematic error in estimating likelihood. Confidence estimates usually over-state the occurrences of rare or near rare events and understate those of highly likely events. It is the rare-event problems that can be most dangerous to strategic planning in that subjective probability consistently over estimates the likelihood of these events.

However, a more fundamental cause of non-predictability can be the basic nature of events.

11.4.2.3.1. Chaotic Events

The non-linearity of responses to actions can lead to conditions that are describable but not predictable. This is the basis of "chaotic" processes. These fully describable, even as mathematical relationships but are so sensitive to earlier conditions to make predictions impossible¹¹³. For example, stock prices in financial markets tend to form chaotic series where small changes may lead to non-predictable price changes.

11.4.2.3.2. Catastrophic Events

Processes and conditions can be very complex and discontinuous so that entirely new states can emerge for which past experience provides little assistance in forecasting outcomes. These have been referred to as catastrophic events or effects. These are particularly evident when there are cascades of events, which rush toward very different end-points than would have been expected. For example, the political end of wars in modern times has usually been associated with the collapse of governments and societies. The rapidity of those collapses is generally not predictable.

11.4.2.4. Reducible Risk

Some risks are adjustable. Actions and activities can be taken that will either reduce the likelihood of adverse events or the impact of them if they take place. Insurance can be obtained (at a cost) to reduce the impact. And programs can be taken such as parallel development, which reduces the likelihood of failure. As we will see in the next section portfolios of correlated events (such as stock prices) can be used to reduce the overall risk associated with those activities.

This concept of reducible or controllable risk is the basis of much of strategic planning. If strategic planning is intended to assure success, then the reduction of risk is its key factor. However, reduction of risk evidentially costs and that is the key balance in strategic design.

11.4.2.5. Inherent Risk

However, not all predictable risk is reducible. And furthermore as we had noted, not all risks are either identifiable or predictable. There is always inherent risk, which must be dealt with. This is a critical consideration. This is a fundamental issue! Even to do nothing carries inherent risk. No matter how much insurance one obtains, there is always something that is not covered.

¹¹³ The mathematics that gives rise to chaotic conditions can be relatively simple as an over-reaction to a stimulus. Simple quadratic finite difference relationships can easily give rise to this situation.

11.4.3. Analytical Uncertainty

It is useful at this point to look deeper at risk from a quantified statistical perspective. As previously discussed, only some events are considered to be predictable and analytical. We need to consider these here, since analytical risk is the idealized model for all strategic risk analysis. The basis for analytical risk is the existence of a large database of similar events. For the life-insurance industry this includes the census ("death tables") and for the investment markets it is the financial databases. There are two key concepts that need to be understood in terms of this analytical metaphor of risk and uncertainty.

11.4.3.1. Risk as Variation from Expectation

Risk can be viewed as variation from expectation. Our plans provide an expectation of results. Events that cause the deviation from those expectations are the sources of risk and the size and frequency of those deviations is the measure of analytical risk. .

11.4.3.2. Reducing "Standard" Risk

A simple way to reduce the risk is to undertake a number of options whose risk is negatively correlated. That is if one event happens negatively, there is a high likelihood that others will counter-balance it. This is a well establish principle for financial markets. It is also the basis of parallel development where multiple risky routes to a common and needed end are undertaken. If these routes are independent, than the likelihood of at least one being successful is much higher than only one alone.

11.5. Dealing with the Unpredictable

As previously noted there are many cases where events can be identified but their associated uncertainty is unpredictable. This is referred to as incalculable risk. It is derived from the limits of subjective probability. When events have never taken place before, there is no basis for estimating the probability of them occurring. For example, in spite of popular assertions, there is no way to estimate the likelihood of an all-out nuclear war, of a major asteroid colliding with the earth or the eruption of a super volcano. No of these have taken place within human history and they happen so irregularly that estimates of occurrence are unreliable. However, we don't have to go to such extremes to contemplate events that can be a major disruption but for which there is little historical data. A major stock market crash in the order of 1929 has happened before, but the prediction of the likelihood of when it will recur is highly speculative.

Because of the potential severity of the consequences of these incalculable risks, they need to be considered within strategies. The issue is how to do this. Game Theory has at least provided a basis by reexamining the aims and objectives.

11.5.1. Min-Max Loss

The "Min-Max" approach is to select aims that will minimize the maximum loss¹¹⁴. That is, since survival is usually a basic and fundamental aim, we select the goals that will assure it. Notice here however, that by pursuing this aim, we do not exclude the other aims, but only placing it as a higher priority.

An example of this process is commercial new product strategies where an effort is made to eliminate in-house manufacturing to reduce the exposure if the project fails. In these cases, the likelihood of failure is often considered unpredictable. These schemes tend to be aimed at minimizing the maximum exposure.

11.5.2. The Concept of Minimum Regret

The "Minimum Regret" approach is similar in that it focuses on reducing the consequence of adverse unpredictable events. But here we apply the concept of aims as visions of future states. Here the aims are design to reduce the impact of bad things happening.

Notice that in both cases, we need not consider the likelihood of the events, only that the strategy through the selection of aims is prepared to handle it. The negative side, of course, is that such strategies are inevitably less efficient than those more directed at achieving ideal "victory".

11.6. On Intelligence and Research

To this point we have discussed the issues surrounding the nature of risk. In a later section we will discuss the means of providing robust strategies, which addresses the sources of risk. However, the identification of risk and of opportunity rests on obtaining insightful intelligence. Here we will only cover the overview of what is involved in intelligence.

11.6.1. The Role of the Intelligence

We are continuing to use the term strategy here as the means of formulating action plans. Intelligence holds two principle functions in the formulation of strategy. First, it defines the situation and provides the range of options that can be followed. And second it provides the clarification and the means to evaluate strategy. Both of these functions are intended to reduce uncertainty. Since uncertainty always exists, there is no limit to how much intelligence gathering is desired. A question, however, also always exists is what is the balance or trade-off in the expenditure of resources and the value of the resulting intelligence. There is usually some decreasing marginal utility of information.

¹¹⁴ Mathematical Game Theory has established that under a broad set of conditions, by pursuing the aim of minimizing the maximum loss it is equivalent to maximizing the minimum gain. However, this is basically an academic issue since it rarely reflects the real strategic situation.

11.6.1.1. Information and Analysis

From a strategic and knowledge management perspective information is the result of organizing data. That is raw intelligence input needs to be compiled and transformed to provide it with structure.

11.6.1.2. Knowledge and analysis

Beyond providing structure, information needs to be understood, it must have strategic context. This requires the integration of not only the particular pieces of information but that which is derived from understanding of the situation and other sources of "knowledge". This is not a simple matter. The process of analysis is always fraught with bias and complications. Knowledge of this type is a stochastic quantity, it reads on the probability of it being correct and that its implications are being properly interpreted.

11.6.1.3. Frameworks and Bias

Paradigms and frameworks define the nature of the strategic problem and those issues that need to be researched. This is a very fundamental concept that the strategic framework defines the scope of the situation and thereby limits the worldview. Information not conceived within that scope is difficult to penetrate into the strategic awareness. This is the basic cause of being "blind-sided" but having the intelligence plainly visible.

11.6.1.4. Communications

Information is power, but only if it is used. This is always a problem with strategic intelligence. The functions that generate and analyze intelligence are often separated from those that need the information. Communications of intelligence and its interpretation is critical for it to have the impact on strategic formation that it calls for.

11.6.2. Tactical Intelligence

Tactics are the pragmatic side of strategy. Here we focus on planning and the execution of specific actions. Tactics is the specific application of assets to achieve specific objectives. As such, intelligence takes on an even more urgent role. The modern military concept is the idea of providing a "Dominant Battlefield Awareness". This means both providing a full operational picture of the battlefield while blinding the enemy from similar capability.¹¹⁵

¹¹⁵ A similar concept of the Pervasive Marketplace Awareness can be developed in the commercial arena except that it is usually not feasible to blind the competition.

11.6.2.1. Situational Awareness

The function of situational awareness is to identify the conditions of operations, threats faced and opportunities for action. Situational awareness is the basis of all rational tactical operations.

11.6.2.1.1. Operational Conditions

Sun Tzu and other military observers have all commented on the importance of understanding the territory. This is both from a strategic and tactical perspective. As we had previously discuss this idea of territory is more general than just geography. It represents the ability to move and get results. For example, in the commercial arena this would focus on understanding the customer and the market.

11.6.2.1.2. Competitive Capability

The concept of threats is characterized by the competitive capability to do harm. It represents the vulnerability to attack. The situational awareness not only focuses on disposition of the opposing forces but their ability to act.

11.6.2.1.3. Distribution of Assets

Sun Tzu notes that "You can not be strong everywhere". If you try to be strong everywhere you will only make yourself weak everywhere!" It is in the distribution of resources and assets that is critical. The knowledge of competitors' allocation of assets and their concentration of effort is critical for determining actions.

11.6.2.2. Identifying Targets (Command)

While for strategic purposes the concept of targets can be general, for tactical purposes, they need to be specific. Here targets refer to both territorial conditions and people. In regards to people we need to know how to influence them. From a military perspective, this is simple to know the disposition of the "enemy". However, from a marketing or business perspective targets usually not only include the competition but the other participants.

11.6.2.3. Applying Assets (Control)

In an earlier section we had introduced the concepts of command and control. Command is the targeting of assets. Control is the monitoring of the effect of their use. Both are critical intelligence issues. But understanding the impact of assets is often the more elusive. This is as true in commerce as it is in military and political arenas. Knowing what you have done becomes the guide to what can be done next.

11.6.3. Strategic Use of Intelligence

So far we have discussed the idea of risk and the need for intelligence in general. The gathering of both strategic and tactical intelligence appears to be inherent in the strategic

planning process. However, what is the strategic use of intelligence? Here we will only focus on four key points:

11.6.3.1. Describing the Situation

Strategy must be based on the situation. This is the context and the description of the problem. Intelligence provides the strategic picture of the present situation. It provides insight into the constraints and the potential goals.

11.6.3.2. Creating Options

The building of effective strategy must be based on the identification and description of options. This is a creative process but based on information. It is not merely wishful thinking. The more intelligence and information that is available the better the options and their evaluation.

11.6.3.3. Planning Actions

Planning effective actions must be based on reality and therefore surrounded by information and intelligence. Intelligence is part and partial of the planning process.

11.6.3.4. Building Consensus

Finally, and not at all least, is the need to build consensus. This is often a political risk reduction process. Information here is power, in that it allows for consensus building. It overpowers opposition and builds support.

11.7. The Value of Knowledge

Decisions can be and often are made without information or knowledge. However, the Analytical Strategic Approaches are based on the concept that knowledge provides a means to make better decisions. There is often a multitude of information. Information overload is a reality. However, all knowledge does not have equal value. Some types of knowledge are directly applicable to problems while others have little effect. The trick is to differentiate information. Unfortunately, that is only easy long after events.

11.7.1. The “Triage” of Knowledge

It is useful to think of a “triage” of knowledge and information. Information is then split into three piles. (1) Some knowledge has major potential impact on the decisions that are being made. The focus is on real problems and actions not on what could be done. Important information influences decisions on the deployment of resources. This is the bottom-line on the value of knowledge. Knowledge that effects change has high value. (2) Knowledge that describes the context of important information has value to a lesser extent. These include measures of uncertainty and insight in to the key processes. And to some extent, this also includes the sources of key knowledge since that effects its believability and impact on decisions. (3) Information that is “nice to know.” Often operational information is gathered on issues that are not used for any specific decision.

For example, market segmentation schemes are often derived from attitude data that is irrelevant to key decisions but does provide some human face on the market. This information is not totally useless but has, at best, marginal value.

11.7.2. Timing

As previously discussed “timing is everything.” The decision making process usually starts with some event or piece of information that demands attention. This is highly important and valuable information. Current information, knowledge and “wisdom” are typically then applied to provide one or more likely actions. Often at this point, information and knowledge is sought to clarify the issues, reinforce or refute the tentative decisions, and to define the specific actions needed to be taken. If that information is made available prior to the decisions, it is very useful and therefore, valuable. However, if it comes too late, it serves little purpose for these decisions. Once again, “Timing is everything”.

11.7.3. The Presentation of Knowledge

How information and knowledge is presented to its users and by whom greatly effects its value. There are two issues: (1) the transfer of knowledge and (2) its credibility. Knowledge is not readily transferred. People learn in different preferred modes. New learnings need to be “piggy-backed” on previous knowledge. Consistent language and images need to be used for ideas to be easily be incorporated into existing mental concepts. This is not an easy task and usually requires understanding of “where the users are coming from”.

11.8. The Limits of Knowledge and “Rationality”¹¹⁶

Rationality is used almost interchangeably with measurement and the compilation of knowledge. According to many, *if you can't measure it, it isn't important*. This is the basis of the “scientific method” and of “rational decision making”. It has become the basis of the idealized modern methods of management and planning. Following the Strategic Analytical Approach, we measure everything, we model everything, and then we can forecast everything, and eliminate risk. Unfortunately, it is not true. Risk still remains. Real decisions inevitably require the assumption of risk.

11.8.1. Inherent Risk and Uncertainty Decisions¹¹⁷

All real decisions are uncertain. The future can not really be predicted. Those who pursue analytical predictions use the term “forecast” as a means to attempt to escape the uncertainty of any view of the future. But the fact still remains that we never have

¹¹⁶ This section was abstracted from an extensive set of notes on methods of marketing and business research. <http://www.lieb.com/Documents>

¹¹⁷ Peter L Bernstein, “*Against the Gods, The Remarkable Story of Risk*”, Wiley, New York, (1996)

sufficient information to predict the future. This world is always too complex to allow a risk-free forecast. Our models are always incomplete, leading to additional uncertainty.

Even if we had perfect models to make such forecasts, they would be incomplete since the purpose of the forecast is to effect change. The very process of changing things makes the forecasts and models inaccurate¹¹⁸.

11.8.2. The Veil of Rationality

Several years ago I had insightful experience with my stepdaughter. Having done something that she knew her parents would consider irrational, she stated simply that “*Rationality is Over-Rated.*” After recovering from my jaw bouncing off the floor and my head hitting the ceiling, and after telling her mother that she is just “young and going through a phase,” I began to realize that there is truth here. Analytical rationality may get in the way of both seeing opportunities and allowing us to pursue that which is difficult. It is far too easy to rationalize against any action or to see the world in a limited fashion.

11.8.2.1. Limits of What Can be Measured¹¹⁹

Analysis starts with measurement. Here we are using a very general concept of measurement. It is not necessary to quantify in order to measure. It is only necessary to observe and classify a concept or a thing. Without this “data” it is not feasible to model or to analyze. However, not everything can be measured. We have never had an adequate measure of such basic concepts as customer loyalty, satisfaction, or value. These concepts are generally derived, but not measured. They may not be measurable.

11.8.2.2. Limits of Measuring

Measurement is always uncertain. All data is uncertain irrespective of how well defined the subject or the effort undertaken to make the measurement. The very process of measurement influences that which is being measured.

11.8.2.3. Externalities

Even if we can make a measurement, and that that measurement is fairly accurate, there are other factors not controlled, which generate further uncertainties. Market change, preference change and the economy change makes measurement uncertain.

¹¹⁸ This concept is similar to the ideas of “Chaotic” processes which while being deterministic, can not be forecasted.

¹¹⁹ David Boyle, “*The Sum of Our Discontent, Why Numbers Make Us Irrational*”, Texere Press, New York (2001)

11.8.2.4. Distortions in our Views

Our worldview is never clear. It is always distorted. Even as far back as the early seventeenth century, Francis Bacon¹²⁰, an early philosopher of science, recognized that our worldview is distorted by our own “idols” and divided the sources into four types:

- “Idols of the Tribe” are those distortions common to all people. It is the propensity of people to force order on the universe, even when order does not exist.
- “Idols of the Cave” refer to those distortions that apply to certain groups of people such as strategic planners rather than to other groups.
- “Idols of the Marketplace” are distortions derived from the limitation of words and language to convey concepts.
- “Idols of the Theater” are distortions propagated by the various philosophies, theologies and worldviews that people believe.

11.8.3. The Historical and Rational Imperative

With all these problems, why do we rely on the Analytical Approaches? Because they may be the best methods available to reduce risk and provide order. Historically, the development of rational methods coincided with the development of modern business practices. And this was no accident. While the methods are inaccurate and should never be considered all-powerful, they do provide insight.

The management culture has been built on “rational” scientific management. It is of more important today to communicate a reasonable argument for decisions as it is to make good decisions. A major role of analytics is to provide the logical basis to support decisions. Alternatively, analytics are also used to challenge decisions. It has become the language of management.

¹²⁰ A short discussion of these issues can be found at <http://waysofknowing.info/lecsite/baconlec.html>. The original publication by Francis Bacon was *Novum Organum* (1620). The interested reader is referred to “Francis Bacon: The Major Works”, Francis Bacon, Brian Victor, Oxford Press (2002)

PART 3 INFLUENCES OF STRATEGIES

At this point we have examined the process of formulating strategy and the elements that need to be defined within it. However strategy is not structured in isolation. These are principles that influence strategy under all circumstances. As we will see later these influencers and conditions are incorporated into the strategic frameworks that guide and simplify the process.

Here we will be dealing with five fundamental sets of influencers: (1) Paradigms, (2) Technology, (3) Advantages and Vulnerability, and (4) Robustness. These are not the only factors influencing strategy but they are generally almost universal in their effect.

12. On Paradigms

The term "paradigm," as we are using it here, was coined by Thomas Kuhn in his classic monograph on the "*Structure of Scientific Revolutions*".¹²¹ It refers to the fundamental "model" that is used to define the world among its adherents. However, paradigms are generally not universal in that they are not intended to be applied to all problems, but only to those defined by the paradigm. Unfortunately, or fortunately, paradigms usually extend far beyond the range that they are intended. Most people who have either worked for or belonged to an organization find themselves "bring home" a specific orientation and learnings from that organization.

12.1. Abstracted Strategic Learnings

The way strategies are formulated and implemented is dictated by the organizational paradigms. That is by its culture. The organizational paradigms are, therefore, fundamental. They are strongly defended within organizations and are therefore, difficult to modify let alone change. The scope of possible strategies is constrained by these paradigms. Changing strategic direction, therefore, implies changes in the paradigms.

12.2. Defining the Paradigm

We really don't have an option as to whether to have paradigms or not. Paradigms always exist. They emerge from a natural process of the organization of information and knowledge within societies. Our choice is how to deal with them and use them in the strategic processes.

12.2.1. The Functions of Social Paradigms

Paradigms exist because they provide value to society. They add to the effectiveness and most importantly to the efficiency by which an organization or society operates. The emergence of paradigms probably coincided with the formation of the earliest human societies. They are in real part the definition of the society, and of what differentiates groups of people.

12.2.1.1. Order in Chaos

The primary mission of paradigms is to provide order in the chaos of actions, thoughts and operations. Here we sacrifice diversity of opinion and alternative directions for the cohesion of common approaches and beliefs.

¹²¹ Thomas S. Kuhn, "*The Structure of Scientific Revolutions*", Second Edition, The University of Chicago Press (1970)

12.2.1.2. Providing an Identity

The paradigm provides the unique identity of the group. It is part and parcel of the group's "culture." It contains its "secret knowledge," and its heritage. To discard the paradigm is to discard the group's history and association. For example, when commercial firms merge, there is often a battle for the dominance of the old firms' identities. This is a battle between paradigms. The one that wins survives. The one that does not is erased over time.

12.2.1.3. Providing a Common Language

It is the intention of the social paradigm to permit the organization and society to function with a unity of discussion. The very language and metaphors are conveyed through the social paradigm.

12.2.1.4. Facilitating Action

The paradigm provides standards and doctrines, which allows for "independent" actions. With commonly understood principles and mores, the individual members of the society act for the whole. It allows for "action at a distance" from the direct control of the organization.

12.2.2. The Components of Paradigms

It is useful to subdivide paradigms based on what they do. Some of the components relate directly to strategic problem solving, while other relates to how the organization functions. As we look at strategic problem solving it is useful to differentiate these components of the paradigm.

12.2.2.1. Cultural Norms and Mores

To a great extent the culture of an organization can be associated with its underlying paradigms. The culture contains mores, or rules of conduct, that dictate how members should behave. These include moral precepts as well as ethical guidelines. For example, most firms allow certain latitude in assigning business expenses. However, where that latitude becomes dishonesty is dictated not only by the formal rules, but also by the mores of the firm.

It is sometimes useful to separate the strategic paradigm from the cultural rules of conduct. However, the way adherents interact is so integrated into their strategic thinking that such a separation may be superficial. For example, an organization that differentiates gender in its mores will likely consider gender in its strategic thought. Paradigms and culture are, in this context, integrated.

12.2.2.2. Situational Point of View (World View)

Situations are rarely what they appear. But the appearance is influenced by the paradigm. It is a filter that the world is seen through. A combat situation will be viewed as a

competitive structure (friends and foes) within a military paradigm. This may be very different when viewed from a diplomatic perspective. Competitive commercial situations are also viewed from the perspective of the firm's self image. This is incorporated into the paradigm and culture.

12.2.2.3. Strategic Approaches

The image of the world to some extent predisposes organizations to acceptable approaches. These are usually the well-honed paths of the organizational history. These may be the default approach and are often canonized into specific procedures and rules even down to accounting items. Consumer product organizations typically approach marketing problems and opportunities with communications programs. These become standard approaches with documented procedures. It is difficult for such a firm to look toward other approaches. Similarly military paradigms usually dictate action or the threat of action upon provocation. In this regard, organizations tend to be strategic monotones only able to initially think in a particular line of approach.

12.2.2.4. Operational Rules and Doctrines

The value of paradigms is probably best seen in the operational arena. Paradigms, through doctrine and mores, provide guidance for the members to engage in actions. Often the actions, such as sales or combat are undertaken away from direct high level supervisions as previously discussed. In order to conduct such operations, the "rules of engagement" must be understood. While all situations are different in some ways, there is sufficient commonality to allow the formulation of general rules, which are incorporated into the paradigms and doctrines of the organization.

12.2.3. The Diversity of Strategic Paradigms

It may be useful here, to look at specific types of strategic paradigms to capture the scope of what we are dealing with. Once again we have to note that the strategic paradigms, that is the default rules that we following in formulating action plans, are only a part of the overall set of paradigms within a organization. It should also be noted that paradigms generally are made up of multiple levels and bases. Many of these paradigms coincide with the frameworks that we discuss later in more detail. Here we are only illustrating the scope of typical strategic paradigms.

12.2.3.1. The Military Paradigms

Military paradigms are among the best documented, as strategic doctrines. As such, it is feasible to tract the changing doctrines over time¹²².

¹²² Wayne P. Hughes, "*Fleet Tactics, Theory and Practice*," Naval Institute Press (1986)

12.2.3.1.1. The Tradition of the Army

The U.S. Army single doctrine of purpose is to "close in and destroy the enemy." While this appears to be a simple doctrine it dictates a whole series of approaches and deemphasizes others. This paradigm places the occupation of territory as a subordinate goal to that of the destruction of the enemy force. The doctrine implies the need to maintain a strong position in land war. And as such the traditional U.S. Army doctrine requires a focus on establishing a strong "strategic reserve."

12.2.3.1.2. Naval Tradition

The U.S. Naval doctrine is somewhat more flexible in that it consists of a number of separate forces with widely differing capabilities. However, the overall doctrine is summarized as "Forward Projection." This involves basically putting in forces where they are needed. Here, strategic resources are viewed as useless unless they can be immediately engaged. The present doctrine of the amphibious, Marine, force focuses on invasion (presently of minimally defended territory) thereby providing "Forward Projection" of force on land. As we can see this is somewhat different from the Army's doctrine.

12.2.3.1.3. "Strategic War"

It is useful to also look the traditional "Strategic War" paradigm. While this is often thought as a political doctrine, it really is strictly military. Since strategic defense is thought as a triad of land-based (strategic and tactical) missiles, bombers and sea launched missiles it has become a doctrine of all three branches of the U.S. Military. However, in reality it has become a separate paradigm. And though it is often thought as being obsolete, it is still a major factor in U.S. military thinking.

The strategic paradigm rests deterrence through assured destruction of any enemy that would "foolishly" attack the U.S. or its allies. This doctrine implies a whole bunch of assumptions regarding the knowledge of the potential adversaries, the communications of intent, strong control system in-place.

12.2.3.1.4. On Special Operations

Special operations take on very different characteristics and therefore have very different strategic paradigms. These operations may act under traditional Army and Naval doctrine or as under political rules. These political rules may allow for such things, as assassinations and information gathering in forms that are generally not included in traditional military doctrine.

12.2.3.2. The Business Paradigms

Business paradigms are usually dictated as much from the functions within the organization as from the organization itself. How problems are defined and how that are approach depends on the orientation of the group. Typically differences in paradigms within the organization lead to political dispute and sometimes intrigue.

12.2.3.2.1. Operational and Sales Paradigms

The operational sales culture focuses on actions. In the case of the sales culture it is on the specific "deal". This is a pragmatic approach. In those paradigms can be considered strictly pragmatic, little time is put onto the development of process with full attention to the specific issues at hand. These paradigms are often incorporated into the overall corporate culture that dictates management approaches. This is particularly seen in the case of merges and acquisitions. How these are done often reflects the strategic orientation of the firm. Firms whose strategic doctrine is based on "making the deal" will approach this process differently than those focusing on fundamentals and relationships.

12.2.3.2.2. Process and Analytical Paradigms

Engineering, financial and production orientations tend to lead to focuses on data, processes and planning. Here strategy focuses on the development of the process and the availability of data. The danger here is, of course, paralysis by analysis. A great deal of effort is expended on the development and maintenance of processes. Action is delayed until sufficient information is available and as the established process unfolds. It is a structure focused problem-solving environment.

12.2.3.3. Political Doctrine

As previously noted political doctrine is likely to be different from those of the military. But it is also likely to differ markedly from those of business. In recent public video¹²³ on marketing research, distinction was made between commercial advertising and political, it that commercial advertising had to be based on some level of "truth." While this is a terrible condemnation of political practices it is probably close to reality.

Political doctrine is similar to business paradigms in that it does not, at least in the United States at this time, allows for the total destruction of adversaries¹²⁴. Furthermore, allies and enemy change continuously and may be, at least in the case of legislative processes, operating simultaneously. However in other way it appears to follow mainly a competitive framework.

12.3. "Culture Eats Strategy for Lunch"

There can be a wide gap between the formulation of strategy and its effective implementation. Strategies operate through organizations and in the context of the paradigms that exist within them. Successful implementation rest on consistency between the paradigms as understood by the "soldiers" and the requirements of the strategy. Where there is a wide gap, strategy is unlikely to be successfully implemented.

¹²³ Rachel Dretzin *"The Persuaders"*, Frontline, PBS (2004)

¹²⁴ The classic reference for political doctrine is, of course, *"The Prince"*, by Machiavelli. Though written during the Italian renaissance (mid fifteenth century) its observations and conclusions have been the basis of political throughout the past centuries.

Gap between strategy and implementation appeared to be a corporate pandemic in the 1960 and 70's where ambitious strategies met with disappointing performance at best, or non-existent execution at worst.

12.4. Paradigms Define Strategy

Successful executed strategies inevitably rests on their consistency with the underlying paradigm or alternatively a shift in the paradigm to accommodate the new strategy. To understand this it is useful to look at the relevant components of the strategic paradigm, the elements of the organizational paradigm that influences the selection of strategy.

12.4.1. Frameworks

As we have previously noted, strategy formulations typically are developed within specific frameworks. The preferred and often only acceptable framework for a problem is usually dictated by the paradigm. It is how the problem is generally stated or framed that leads to the acceptable methods of solution. As a metaphor, "*to the person who only knows how to use a hammer, everything looks like a nail.*" With the organization, all problems take on the elements that are consistent with the preferred strategic framework. For a sales organization, all problems involve making the deal. To a financial investment firm, all problems focus on the selection of the portfolio. As such, the paradigm sets the framework, which structures the problem and thereby sets the range of acceptable strategies.

12.4.2. The Language of Strategy

Language defines our worldview and the paradigm defines language. This will be discussed in general regarding the paradigm later. Here, however, we need to discuss its impact on strategy. As language defines the worldview, its defines the way problems are formulated and strategies sought.

12.4.2.1. What's Important

First and foremost is the definition of what is important. The paradigm provides filtering glasses by which the particular issues are emphasized and other diminished. This is based on "*given truth*" of what is "*real*" what is not. We basically see something's and not others as defined by the paradigm and the language we use. Some ethical issues may enter a strategy discussion or not depending on the paradigm.

12.4.2.2. Conceptual Models and Relationships

The formulation of strategy is based on assumptions, which can be viewed as conceptual models and relationships. We assume the world works certain ways. These are built into the paradigms, particularly within the professional groups. It is actual built into the language that we use. For example, from a economics or financial paradigms, market demand for products always decline with price. This is a given, unless otherwise shown. Even when it is shown be incorrect, that finding will always be in doubt. These models and rules become integrated into the doctrine for strategic thinking.

12.4.2.3. Defining Options

Not only does the paradigm define the strategic view but it also defines the options or scope of possible routes. It sets the range of possibilities and constrains alternatives.

12.4.3. The Orthodox and the Unorthodox

Sun Tzu has noted that effective strategy is the application of the orthodox and the unorthodox. While many scholars have interpreted the orthodox and the unorthodox as complementary actions, from a paradigm perspective they are not. Processes must be viewed as orthodox is the application within an organizational paradigm. The value of orthodox actions is that they can be executed effectively within the paradigm. The ability to execute orthodox functions, is a sign of professionalism within the organization.

However, from a competitive perspective, actions should be viewed as unorthodox from the vantage-point of the competitor paradigm. Its advantage comes from the surprise of its application. In this context an action can be both orthodox and unorthodox. The land strategy during the first Gulf War (1991) is a good example. The strong left wing attack away from existing Iraqi defense can not be viewed as very unorthodox from a traditional land war perspective. However, being that the attack was made across "impassable" desert made it appear so to the Iraqis, which had neither tradition of a blue navy's ability to navigate nor experience with the new technologies. This made the action both orthodox and unorthodox.

12.4.4. Language

The paradigm defines language and through language the world view. The power of the paradigm is to define the vocabulary and the linkage between language and emotion. When we talk about language here, it is not only the explicit meaning but on the implications and emotions of words.

12.4.4.1. The Cognitive World

Our species has named itself *homo sapiens*, the "thinking man", focusing on one ability, to think, to manipulate thoughts and ideas. This is the cognitive world of ideas, which is dominated by language. It is the conscious world where ideas are defined and rules specified. Much of the functional paradigms operate in this realm.

12.4.4.2. Subconscious Concepts and Icons

However, much more exists below the surface, below the conscious. This is the realm of icons, fears, and subconscious motivations. This is the world of the "reptilian" mind that drives our emotional responses to situations. These too, are part of the paradigm and are intermingled with language.

12.4.4.3. Words are important

As previously noted, all cognitive processes rely heavily on language. Language is used to describe both the external world and emotions. By defining them language we define not only the world that we are in but also the options for reacting to it. While the developing of language is a group process, its use is on the individual mind. The control of the vocabulary is the prime means of incorporating the paradigm into individuals and their way of thinking.

12.4.4.4. Associative and Judgmental implications

Words don't act alone. They are associated with each other. This association carries emotions and connections. Among the word associations are those that convey judgmental implications. Words then carry with them not only meaning but "ethical" characteristics. The word "Capitalism" carries in the United States businesses a highly positive implication and is heavily associated with the idea of "free markets." The same terms are likely to have far different implications in China for example.

12.4.4.5. Language and Hidden Knowledge

Paradigms incorporate knowledge that it believes is unique to the organization. This "hidden knowledge" is usually transferred in terms of specific jargon. It may be truly trade secrets or just historical information.

12.4.4.6. Jargon and Secret Passwords

Words as specialized jargon act to maintain the group. They are "secret passwords" that prove membership in the group with the common paradigm. While it can always be argued that this jargon is truly needed to describe the specialized information of the organization, it also serves as a means of separation. The military is fond of using acronyms to describe their organizations and systems. While these nondescript names do provide a short hand, they also limit access to the knowledge and clearly distinguish members in the know from outsiders.

12.4.4.7. Common Metaphors

A cultural language contains not only the words and syntax but also a large set of similes and metaphors that convey further meaning and emotional connections. These may be incorporated into the language itself or be a part of the secret common knowledge that communicate the situation. The Paradigm maintains these common metaphors which provide both a "short hand" of the situation and prescriptions of solutions.

12.4.5. Increasing Contrast

A key decision making problem is the inability to distinguish differences in characteristics. This makes all decision making difficult with the need to consider a broad range of possibilities. A key function of the paradigm is to increase contrast of

ideas. It aims to simplify the situation by bifurcation. That is, the paradigm fosters the clarification situation by dividing the world into sets of two groups.

12.4.5.1. Enemy vs. Friend

The most basic is the distinction between friend and foe. The paradigm indicates who belongs to "our" group and who the enemy is. Though this appears to be simplistic, it allows a very fast decision process between whom we trust and from everyone else. While this is straightforward in the military, it also plays out in organizations, sometimes in strange ways. In organizations, functional groups often have internal allegiances that overwhelm corporate needs. The traditional rivalry between the Army and Navy may also be a difunctional element of internal allegiances.

It should be noted that the idea of enemy and friend are itself defined within the paradigm. While the distinction is made, the meaning of the distinction can vary greatly.

12.4.5.2. Good vs. Evil Behavior

Ethical distinctions are also incorporated into the paradigm. This may be both severe and subtle issues of what is acceptable and amiable behavior. Note here that the paradigm may differ greatly from what is written policy. On the severe side, military law and policy may dictate behavior not always followed.

As a general rule, evil behavior is associated with enemies while good behavior is associated with us. We behave properly, while those who wish to harm us, do evil.

12.4.5.3. Correct vs. Incorrect Approaches

But probably the most powerful distinction is between correct and incorrect methods, approaches or views. This can be very subtle issues but can have an enormous effect on the direction of strategic thinking. Only a limited number of approaches are typically viewed as acceptable or potentially correct. Other directions are often excluded as inherent incorrect. Once again, while this greatly limits the options, it also greatly improves the decision-making efficiency.

12.4.6. Viewing the World Through Filters

A consequence of paradigm is viewing the situation through a set of filters, both in terms of language used and the avenues of approach. The inherent nature of the paradigm is the presentation of potential problems and solutions in a unique way. It is both a strength, in simplifying the world, and a curse in limiting options. The real problem is that through the paradigm, there is little or no alternatives.

12.5. Forming and Maintaining Paradigms

For paradigms to survive they need to be maintained. As has been mentioned, paradigms are very basic in the decision making process. They are naturally formed and supported within organizations, not out of a desire for the paradigms but simply as part of the

efficient activities of the group, but more importantly of the individual. Ultimately the forming and maintaining of paradigms is within the individual.

12.5.1. An Organizational Heritage

Paradigms are a form of organizational "think" or heritage. It is past between generations through multiple inter-supporting mechanisms.

12.5.1.1. Documentation and Practice

However, even though paradigms are internalized, they are supported by written and unwritten policies and rules. Organizational practices are supported by the underlying paradigms and act to maintain those paradigms. As each generation canonizes its policies in various documents and examples, the paradigms become further embedded into the organization. Note that the paradigms are not only the solutions to problems but also the way of describing the situation. Documents reinforce these world-views.

12.5.1.2. Leading by Example

Leadership rather than merely management position reinforce the paradigm. Leadership can and should, of course, come from the management hierarchy. But leadership in most organizations also includes the informal "expert" structure. In the military this is often associated with the non-commissioned officers. In commercial organizations (and particularly in the industrial research laboratories) this is the senior professional staff. The paradigm is conveyed by example of how to do tasks and solve problems.

12.5.1.3. Myths and Legends

Organizational myths and legends act as parables to reinforce paradigm principles. These myths are part of the firm, the professional group as well as the social group. They provide guides for personal and professional conduct as well as provide a common set of examples to illustrate preferred points. Myths and legends are not necessarily "false." In fact, to be effective, they usually need to be based on fact and are assumed to be "True Stories." However, they are usually simplifications of situations and have been selected to illustrate and reinforce particular points and principles.

The simplest of these are reduced to simple line quotes that carry the story. For the U.S. Navy it is David Farragut's "Damn the Torpedoes, Full Speed Ahead" or John Paul Jones' statement of "I Have Not Begun to Fight."

Some myths carry both a positive and negative connotation. That is they convey both the precepts of what should be done as well as some caution of what to avoid. For example, the Dupont myth surrounding Wallace Carothers, the inventor of nylon and neoprene (first synthetic rubber) which indicates his great creativity and his insanity. He was a manic-depressant who committed suicide. A similar myth, for example, is repeated at Eastman Kodak about the inventors of Kodachrome film, Leopold Mannes and Leopold Godowsky. Here the issue was that they timed their processing experiments in the darkroom by whistling classical music. Hearing the music, George Eastman, it is said,

had once suggested that they be fired. The director of research, at the time, K. K. Mees, had to explain to him, how important their work was. Each of these stories contains key lessons for the young Navy officers or the young industrial scientist. Each myth teaches what is expected of the next generation.

It should be noted that the myths are not necessarily developed nor propagated by the leadership of the organization but by the organization itself. It is far more likely that the stories will be passed along by the next generation or the "gatekeepers of the organization, than by management. They may be effectively incorporated into the learnings of the organization and integrated into its "educational" process. Losing the myths, to some extent, indicate the loss of the paradigm.

12.5.1.4. Reward and Punishment

The paradigm is reinforced through the reward and punishment of behavior. This is far more effective than merely the restatement of guidelines and policies. In fact, the reward system may form the basis of an alternative or informal paradigm that is counter to and over-powering stated policies. Some organizations, for example, insist that they are ethical, may have paradigms that support very different behavior based on the reward and punishment system. Reward and punishment covers a broad range of forms of recognition including payment, position, title and award. However, the impact of the reward system is in the importance of recognition.

In the military promotion is the major form of recognition. Awards are used to acknowledge behavior outside of the advancement line. That is awards are used to recognize desirable behavior that while supporting the paradigm, are not along the lines of leadership.

In commercial firms, the scope of rewards is much more limited and focused on financial returns. Since promotion opportunities can be highly limited, raises and bonuses are the major source of encouragement. Unfortunately, in most commercial firms, financial compensation is often kept secret and therefore only weakly effects the formation and maintenance of the paradigms. Most of the reinforcing effect of awards and honors comes from myths and legends rather than actual knowledge.

It is unclear if reward or punishment is more effective in maintaining the paradigm. Organizations that are under apparent random terror (such as doing "down-sizing") tend to freeze in their behavior. If this continues much of the effect of the reward system may be lost. Clearly, known cases of punishment of "bad" behavior effects organizational actions into the future¹²⁵.

¹²⁵ It is interesting to speculate on the effect of prior punitive actions on US Navy ship commanders for accepting enemy damage had on the decision by the captain of the USS Vincennes in his decision to shoot down an Iranian civilian aircraft in 1988.

12.5.1.5. Peer Support

Paradigms exist in a social environment. They are taught, supported and reinforced by the "group." It is the acceptance or rather the preference for the paradigm that gives it authority. It is the basis of its stability. You simply can't change the paradigm locally and expect it to stand. Furthermore, the paradigm extends beyond the authority of management. For example, Dupont, in its home office, had a tradition of insisting that women enter and leave elevators first, irrespective of conditions. During the 1980's a decision was made to modify that behavior for both practical and ethical reasons. However, 20 years later the practice of allowing women to enter first was still enforced. The group practiced the paradigm and it was mutually supported.

12.5.2. Embedding into the Subconscious

Paradigms are fundamentals built into the subconscious of the minds of its adherents. The rules, models, and definitions that make of the paradigm become automatic and are accepted as "self-evident". It is the subconscious nature of the paradigm that makes it so enduring.

12.5.2.1. Cascade Structure

Paradigms exist as sets of hierarchical rules and abstractions. Each element and principle is built onto others. It is a cascade structure where operational rules are formed on the more fundamental "self-evident" truths held by the paradigm. These fundamentals are so engrained that they become non-disputable.

12.5.2.2. Building and Reinforcing the Fundamentals

These fundamentals can be viewed as icons or primal truths. A good illustration is in the three principles of U.S. Military Academy at West Point "Duty, Honor, and Country". It is from these principles that the military paradigm derives its justification. Not only do they become the basis of the rest of the paradigm but they are also reinforced by their application. It becomes a continuous reinforcing process.

12.5.2.3. Making Indistinguishable

What makes a paradigm different from other policies being followed is that these rules and principles become indistinguishable from personal approaches. They are fully integrated into the way the adherents think and function. As such, the paradigm, itself grows by integrating individual contributions as they are passed on to others.

12.5.3. The Individual Paradigm

On an individual level, multiple paradigms typically are in play. Even within the military, which concentrates on a uniformity of paradigms, there is a range of different paradigms at work. As previously discussed these paradigms represent professional, organizational and group mores and norms. While elements of the individual paradigm

are held in common within their organization and profession, the combination is unique to the individual.

12.5.3.1. The Formative Age

It is almost obvious that the earlier that the paradigm is taught the easier and the more complete it is will be incorporated into the individual. This is particularly the case, when the initiate is immersed into the paradigm. It is, therefore, not surprising that the senior US military staff tends to be alumni of the military academies. This has the positive effect of having a well-schooled staff with a common set of beliefs but also one that may not see alternatives.

The old British Navy went this approach one better by taking mere children out to see for their schooling. This fully immerses them into the Naval culture before any other influences can take hold. Many of the older and established commercial firms tended to promote almost exclusively from within the firm. Until recently many of these senior managers had only worked for that one firm. This allowed for a full integration of the organizational paradigm at the risk of inflexibility.

12.5.3.2. "Best Practice" and the "Way"

The statement that "there is the right way, the wrong way and the company way" appears to be a truism and well-known adage in most large firms and organizations. It represents the recognition of a well-established order within the organization and supports stability over optimization. However, the distinction of what is the "best" and what is the company "way" tends to get blurred. The way things are done tends to become first familiar and then the "only" way. The more insular the firm, the more likely that its procedures and approaches will be viewed as not only the best method but also the only one.

12.5.3.3. Self Interest

Ultimately, paradigms are maintained for the self-interest of the individual. It is self-interest, which inherently maintains the paradigm. Personally experienced rewards and punishment, more than that seen elsewhere influences the maintenance of the paradigm. This is critical for "organizational development" in that the treatment of the individual, more than anything else will dictate his future behavior and the maintenance of his paradigm.

12.6. Changing Paradigms

Paradigms are fundamentals to how individuals and organizations think. They are incorporated into the very way problems are defined let alone how solutions are sought. As such, it is very difficult, if not impossible to change real paradigms. However, paradigms can be modified. We will discuss this later. But here we need to contemplate the process of actually and fundamentally changing the paradigms. Remember this involves changing the culture as well as the language.

12.6.1. Requirement for Survival

The forces that act to maintain the organizational paradigm are extremely strong but subtle. The paradigm is so integrated into the thought process that to change it requires a revolution. Such revolutions as Kuhn had described do not happen easily or without some form of destruction. As such, they are strongly resisted. Typically, this happens under two conditions and usually both at the same time, (1) strong convinced leader and (2) a condition of major threat.

This threat needs to be severe enough to breakthrough the inherent resistance. This is usually a perceived threat to the survival of the organization or state. Simply a difficult-time is usually insufficient to make this type of transformation. Militarily this type of transformation accompanies a major war that threatens the existence of the nation. For America, its Civil War and World War Two were sufficient to change major thinking about war and the governance of the nation. In Europe, the religious wars of the 17th century, the Napoleonic wars and the First World War each changed the fundamental paradigms of government and the military.

Changing the actual paradigms of organizations and commercial firms is rare and extremely difficult. Even with threats to the survival of these organizations rarely are they able to transform themselves. Transformations, when they do come usually coincide with external forces such as mergers and acquisitions.

12.6.2. Of Priests and Prophets

As previously mentioned, paradigm changes require a strongly convinced leader. It should be noted that the leaders of a paradigm change usually operate within the old paradigm. These are prophets who come to teach the new ways. They themselves rarely have fully adopted the new thoughts. They can "not cross into the promised-land" themselves. They can only show the way. A manager once confronted Edwards Demming, the great prophet of Total Quality Management, that though he advocated a democratic management process but practiced an imperial style. He responded by noted at his advanced age he could not readily change. So be it with all prophets.

However, we should note that with prophets of the new paradigm are the "priests" of the old. This is not a simple transformation. The old paradigm holds on with all its might. As noted above, there is significant self-interest in maintaining the existing paradigm. It validates past knowledge. Abandoning the old paradigm reduces the perceived power of the existing establishment. On the other side, however, is the creation of a new generation of priests for the new order. These come not only from the prophets but more from the "newly converted" older priests.

Finally, there is the necessity to have a leader-prophet. Only prophets with support or power can survive. According the Machiavelli, prophets without power enviably come to bad ends. For a paradigm change, this support must be overwhelming to overcome the inherent resistance.

12.6.3. Being Serious

Changing paradigms is serious business. This is not merely changing titles and using a different vocabulary. It involves fundamental changes in view of operations. There are usually three key measures of change that are necessarily associated with real paradigm changes. They are changes in (1) the fundamental structure of the organization, (2) the reward-punishment system and (3) the work that is actually done. Usually, major personnel changes are required.

12.6.4. Killing off the Old

As Thomas Kuhn appeared to observe, you don't change paradigms, you just die. This is a surprisingly old observation that the prophet Moses had to discover (God knew better). The ancient Israelites had to wander in the wilderness for 40 years until all of that generation died out to replace the "enslavement" paradigm for a new one.

Forty years is a long time to change paradigms, particularly in modern organizations. Jack Welch of General Electric seems to have found a way to accelerate the process. General Electric has introduced a policy of firing 10% of its established management staff. While this policy's stated objective is to improve performance, its result is to "clean-house." Following this policy, by random reduction, only a third of the original staff should still be employed at General Electric after only 10 years. We don't know whether this severe policy is being maintained with the new management, or whether it was planned as a permanent feature of GE policy. However, it seemed to work in allowing new strategies and directions to be implemented in an otherwise very old established firm.

12.7. "Paradigm Shifts"

We have been discussing changes in the fundamental paradigm. However, that is usually extreme. While paradigms tend to defend themselves, they also tend to have sufficient flexibility to allow modification. These are the "paradigm shifts." They are not really fundamental changes in the paradigm, but modifications that are allowed within the paradigm itself.

12.7.1. Robustness of the Paradigm

The ability of a paradigm to adapt to new conditions defines its robustness or flexibility. Flexible paradigms are those that can adjust through new learnings and experiences. On the contrary, rigid paradigms are unable to adapt and must be changed otherwise the organization dies. This change would require then a revolution with all of the consequences discussed above.

However, most paradigms have means of adaptation built in. For example, most military paradigms foster the adoption of new technologies though often used only within the context of established tactics. Reseller organizations' paradigms encourage new products and exploration of new markets, though here too, the means of operations usually are maintained.

The longer a paradigm has been allowed to exist unmodified, the more rigid it tends to become and therefore the less capable to withstand new challenges. An example of this is the physical scientific tradition in the late nineteenth century discussed by Kuhn. At this point, it was assumed that all important issues of mechanics had been solved other than a few "obscure" problems. It was these problems that represented challenges that the traditional paradigm could not handle and that lead to the scientific revolutions in the early twentieth century.

12.7.2. Tweaking the System

If there are no changes in how the organization reacts, then there is really no change in its paradigms. At a minimum, the effect of learnings should have some effective change in the way things are done. And as the way things are done change, the underlying paradigm evolves. In this regard the paradigm is the living culture of the organization. However, that evolution generally is slow and painstaking. Changes are made with great pain. Furthermore, the changes in the paradigm are incremental in that it involves continuous small modifications. It is the "tweaking" of the system.

The problem, of course, is that not all require changes are incremental. Some changes are catastrophic and are often beyond the ability of the paradigm to absorb. This is the condition that Kuhn describes and needs a "revolution." The paradigm is then unable to adapt to the changing needs or "observed truths."

12.7.3. Shifting Practices, Tools and Processes

Among the modifications that most paradigms can absorb are those involving changes in practices, tools and processes as long as they do not conflict with the basic tenets of the paradigm. This allows for new "methods" to be adopted without greatly changing the paradigm. However, the actual work done is usually still dictated by the original paradigm, only the processes for that achievement have been changed.

The implementation of Total Quality Management and Six Sigma programs in firms, for example, has taken on these characteristics. These approaches have provided a wealth of new processes and procedures as well as terminology. These processes have been readily incorporated into the problem solving approaches of firms with little change in objectives or their underlying paradigms.

12.7.4. Semantic Shifts

If the paradigm can not be modified, then individuals operating under the old paradigm must find ways of reacting to the new learnings and challenges. The simplest of these reactions is by changing language. For example, a commercial organization that wishes to superficially move from a traditional sales orientation to that of "marketing", often merely substitutes the word "Marketing" for "Sales" in titles and documentation without any other policy or process change.

It should be noted that changes in the language are often necessary for any subsequent changes in policy or for the communications of new ideas. In this case, however, we are highlighting that the change in language does not accompany substantive changes.

This is particularly the reaction when the organization is overloaded with stimuli for change. During the 1970's and 80's there was a profusion of new management theories and procedures that were imposed on organizations. Senior management with the best of intentions of seeking out "best practices" tried to move the new learnings into their organizations. It became a process of the "theme of the month" with new concepts being routinely introduced faster than any organization's paradigms could adapt. The results in most cases were, at best, semantic shifts with organizations only changing the language being used.

13. Technology and Strategy

In this section we discuss the connection between technology within strategy. There is a distinction that should be drawn between the technology strategies and the impact of technology on strategy. In the former case, we consider the strategy of developing and implementing technology. While this is an important and useful undertaking, it skirts the issue of the impact of technology on strategy itself. This is the focus of this discussion. It is an area of immense mythology. In particular, the historical revisionism of the Second World War has spent much effort on “what if “ of axis technology. What if the Nazis or the Japanese had developed such and such sooner? Such speculation usually misses the point of whether or not it would matter.

13.1. Abstracted Strategic Learnings

Overall technology can have a huge effect in the conduct of strategy. Technology tends to development in a continuous fashion, which limits the competitive advantage. Differential technological advantage, therefore, seldom has an overwhelming effect in the conduct of strategy. It is usually how the technology is used that provides the differential advantage rather than what the technology difference itself.

13.2. Nature of Technology

Technology is the ability to do something faster, better, or cheaper than before. As such we will use the term “technology” very broadly and not limit it to “hardware.” Methods and approaches can be as important and revolutionary as physical things. Encryption and its reverse engineering, code breaking” had been among the effective technologies of armed conflict as any physical weapon. A means of operating a business such as mass marketing similarly constitutes a technology.

13.2.1. A Technological Context

Strategy exists only within a technological context. Historically strategy can only be understood in the context of capabilities and therefore, of technology. This is inherent to any issue regarding strategy whether it be military, political, or commercial. For example, Caesar's Commentaries are meaningless without the recognition of the Roman road system in Gaul. Similar the lack of recognition of the technological limitations can be disastrous. The actions of Robert E. Lee at Gettysburg could be attributed, at least partially, to the failure to recognize the technological difference he faced compared to that of Napoleon at Austerlitz. And Alfred T. Mahan's discussion of "The Influence of Sea Power Upon History" can be thought as a tracking of the application of naval technology.

Similarly, commercial strategy is likewise the application of capability to meet aims and goals. The onset of new capabilities leads to new potentially advantage strategies. The growth of merchandising in the 19th century and marketing in the 20th were due to new capabilities in mass production, communications and transportation. The inability of

organizations to adapt to new technology limits its range of strategic actions and often to their demise.

13.2.2. Capability and Technology

While the technology, itself, is the ability or more precisely the capability to do things, it is only in its incorporation into applications that it becomes useful. For example, the ability to fly is interesting but only as specific types of aircraft does air flight have value. As such, technology here refers only to the embodiment of the technologies. It should be noted that those embodiments might be used for a number of applications. For example, code-breaking technology may be applied to a number of different codes. A new aircraft, such as a B-52 bomber may be used for with both nuclear and conventional weapons or for reconnaissance. However, we do may have to differentiate between types of uses. In this sense, for example, the value and impact of the sale of products which represents a technology is likely to be very different from the user of those products. However, the distinction or uniqueness of technologies may be derived by either the underlying capability or in how it has been applied.

13.2.3. Quantum vs. Continuous Capability

The capability to do things or “technology” always improves. For example, the process of molding and firing ceramics has been around for thousands of years, yet this technology is still improving. The only technologies that tend to stagnate are those that are not practiced. Sailing ships of today are far improved over those of a century ago. This is a continuous process of improvement. However, periodically and rarely are they changes in the technology that are abrupt. These are unique events that are sometimes referred as “quantum changes” to emphasis the break for past levels of performance. These represent distinct changes in the achievement of intrinsic measures of performance¹²⁶. For example, the gas turbine (jet) engines represented a quantum change in the power delivery to weight of engines. Another example, would be integrated circuits which delivered both economic and performance characteristics unmatched by discrete components.

It should be noted, that high performance applications can be developed using existing capabilities rather than only through quantum changes in capabilities. Furthermore, rather mundane applications can come out of quantum changes in capabilities. In fact, early applications of new capabilities often result in mediocre performance.

13.2.4. Dominating Technology

The concept of dominating technology represents conditions where a technology is better than all others for a major and important set of applications. This concept is analogous to the concepts of dominating positions such as dominating portfolios in mathematical

¹²⁶ The term “technology break-through” has been so over-used as to become meaningless. In general, “break-throughs” appear take place when it is useful to get funding.

programming¹²⁷ or from strategies in game theory¹²⁸. It should be noted that while technologies do substitute and replace older approaches, this process usually takes place over a long period of time. Emerging technologies usually have unique sets of problems and weaknesses that limit their dominance to a small set of applications. Only as a successful technology is developed, does it tend to replace all of the major applications of previous technologies. For example it took over half a century for steam power to replace sail as the dominant form of propulsion at sea.

13.2.5. Critical Technology

As previously discussed there the lines separating issues of strategic, tactical and operational are blurred. As such, defining what is strictly *strategic versus operational technology* is virtually impossible. What is critical is the importance of the technology is fulfilling the mission. It is the criticality of the technology that is important. Issue of importance is how the technology will impact the ability to achieve the Aims. However, the terms “strategic and operational” as applied to technologies usually refers to the range of activities rather than the pursuit of Aims. The term “strategic weapons”, for example, is a euphemism for what is now referred to as “weapons-of-mass-destruction”. (It is amazing how semantics change.)

13.2.6. Disruptive Technology

Recently a concept of describing technology with overwhelming impact has been proposed. These are technologies or more specifically applications of technologies that are not only dominant and critical but for which there is no competitive alternative or counter-measure. These are referred to as “Disruptive Technology” in that they overpower any alternative other than universal acceptance. It disrupts the status quo! While the concept is interesting, and over a long time, there is any number of examples, in the short term they are difficult to identify. Furthermore, since the development timeframe for such technologies is quite long, the competitive environment generally can respond.

An interesting example of industry response to a disruptive technology was the introduction of electronic television. While the technology was invented and developed during the late 1920's and early 1930's its adoption was postponed by the industry until the late 1940's when the patents had run out. Even though the technology was clearly disruptive, an alternative mechanism, in this case, political was imposed to reduce the competitive impacts.

¹²⁷ Multiple Criteria Decision Analysis rests on the potential existence of solutions to linear programs (portfolios) that are better than all others (the ensemble) within a local range. From a traditional linear programming perspective these portfolios are optimum for a broad range of objective functions.

¹²⁸ John Nash extended game theory to include the concepts of dominating and collaborating strategies. The idea behind dominating strategies is the ability of some strategy to almost always succeed for others.

13.3. Strategic Success

We live a world of history revisionism! There has been any number of books written and television documentary proclaiming that the new technologies of the Axis powers, and particularly, Nazi Germany, if developed early “could” have changed the course of the war. However, almost none, but may be only one, could have qualified as being potentially strategically successful. And that is due to the complexity of a technology having a significant impact on strategy, particularly on military strategy. That is not to say that technology could not have such an impact, only that it is not easy no matter how advanced that technology.

13.3.1. Value

Technologies, to have impact, must have value. That is they must do some good in promoting and implementing the strategies. In some cases the technologies have inherent value. A new product that will be sold by a firm has inherent value. It is a key component to the commercial strategy of the firm. However, value is not always inherent. For example the V-2 rockets of the Second World War had neither the range nor the accuracy to produce meaningful destruction in England or anywhere else to have strategic value. In fact, it is likely to have had the opposite effect of promoting indiscriminate air warfare that probably contributed to the justification of area bombing such as the destruction of Dresden.

This is not to say all war technologies had little strategic value. Code breaking, radar, and the proximity fuses by allies were critical for the successful prosecution of the war. And the development of jet fighter aircraft by the Germans and the Long Lance torpedo by the Japanese were both potential valuable weapons.

We have been using a very broad definition of technology. As such, we should also include the means of production. Industrial process technologies, for example, have a much higher correlation in many cases with profitability than does new product technology. Once again, the mass production and organization that was associated with the American method of manufacture must be considered to have been a highly valued technology of the Second World War. It was clearly targeted to fulfill the strategic needs for the war effort.

13.3.1.1. Mission Value

Technology and systems are often designed with a single purpose in mind. In military terms this is referred to as a “mission.” It can be described by well-defined specifications or requirements. This is a narrow definition of use but often appropriate. While multiple missions are always sought for technology, the primary mission usually is the basis for evaluation. For example, there has been a wide range of proposed missions for nuclear weapons, however, the only one that seems to justify their development is strategic bombing.

It should be noted that the requirements for a mission may read directly from the technology. New technologies tend to create the possibilities for novel missions.

Satellite surveillance was only possible with space technology. The mission therefore followed from the possibility of the technology. Similarly personal mobile telephones was possible only with the existence of cellular phone technology.

13.3.1.2. Potential Value and Flexibility

As previously noted there are often a number of known missions or applications of a technology. In fact, there is often an anticipated broad range of possible missions that are only scarcely recognized during development. The value associated with this possible range is referred to as "potential" value in that it comes from unspecified future applications. As will be discussed later, the "growth" of the use of a technology or its penetration rests on increased applications.

The flexibility of a technology is a measure of the range of applications. In this respect, technology should be thought as being hierarchical in that some technologies are more basic and impact a broader range of applications than others. The potential value of a technology incorporates its flexibility. For example, while the development of new military aircraft may focus on the replacement of existing assets with defined missions, its value should be expanded by new capabilities and thereby have abilities to undertake yet unspecified new missions¹²⁹.

13.3.1.3. Perceived and Demonstrated Value

It is useful here to distinguish between perceived and demonstrated value. Demonstrated value relies on the ability to either physically show improved capabilities or at least compute the intended advantages¹³⁰. With military systems, demonstrated evaluation is often carried out through simulations and "games" as well as from actual combat. Perceived value on the other hand represents the perception of the relative benefits derived from the technology. It is a mental process. In the military procurement process as well as in the commercial marketing of consumer products, perceived value dominates the decision process. With consumer products perceived value is the only value of importance.

13.3.2. Effectiveness

Not only must technology have potential value, but it must be highly effective. That is the technology must provide significant competitive advantage. That means that the application of the technology must be effective within the situation or missions that it will be applied. The Second World War are full of examples of effective and ineffective

¹²⁹ The effort of John Boyd to identify ranges of technical advantage for new military air superiority aircraft is discussed in the section on "Strategic Positioning" (The Calculus of Victory). This is a good example of building in flexibility.

¹³⁰ Engineering economic value models are often used to compute the relative performance of technologies and products. This is referred to as "Value-in-Use" analysis and represents the "normative" value of the technology. However, these models tend to focus on overall cost reduction and rarely include operational benefits. Typically this type of "systems analysis" provides a minimum computed value.

technologies. A good military example of the competitive advantage would be the Russian T-34. Throughout the Second World War, and into the early post war decades the T-34 out performed competitive designs. It became the basis of all modern tanks. What was most noteworthy of this tank was the broad range of temperatures and conditions for which it was effective. It was interesting that the apparent “low machining tolerances” of these tanks added rather than decreased its effectiveness¹³¹.

Commercial technology needs to be effective to have value. During the 1990's the Internet was touted as the technology that will drive in the “new economy” where earnings were subordinate to information activity. Unfortunately, for many “dot.com’s” it did not work that way. Effectiveness still rules! If the technology does not add significantly to a firm’s competitive advantage, it doesn’t do much at all. Effectiveness is usually defined in terms of capability that is the competitive equivalence or performance against competitive specifications.

13.3.3. Efficiency

For a technology to be effective, it must also be an efficient use of the resources in its development, production and in its deployment. This is true in commerce, in politics as well as in military issues. Limited and expensive technology are rarely effective. However, the issue of efficiency must be played against what are the limiting resources. While efficiency is usually measured in terms of absolute financial costs, that is often not the most critical issue. It may be the timing of funds or the skills needed for development.

The most efficient technology need not be the most advanced. The “Liberty Ships” during the Second World War is an excellent example of “appropriate” technology, in its ability to deliver vast logistics potential and at relatively low costs. Here, however, efficiency was in terms of time to deployment rather than simply absolute costs. Alternatively, the diffuse development of many advanced systems by Germany probably resulted in an inefficient application of effort and delays in the few critical areas that could have effected the war.

A more recent issue is the development of a range of “smart” bombs which range in costs from \$20,000 each to well over a million. Clearly from an efficiency basis, the less expensive systems have a significant advantage particularly if it coupled with large quantities. Similar arguments can be made in the development of personal computing, where small relatively inexpensive computers have replaced the traditional “mainframe” hardware.

¹³¹ The Russians have historically capitalized on weak tolerances in their weapons. The AK47, assault rifle, for example, has far larger tolerances than western counter-parts. However, the AK47 is probably among the easiest personal weapons to maintain and has become the standard for most of the world.

13.3.4. Quantity

Joseph Stalin is not known for his insightful sayings, but one is critical here: "Quantity has a special quality of its own!" It is insufficient to have the best, it must be available in large enough quantities to prevail and have an impact. Here quantity refers to the effective availability of units. This covers the quantity produced, but also the logistics of delivery and the maintenance required keeping the technology functional.

In respect for maintaining the technology, there is an underlying requirement for the **Design-for-Use**. Successful technology needs to have progressed to the point where the applications can be easily maintained and used. The Russian T-34 is a good example of Design-for-Use while the German heavy tanks (Tiger and King Tiger) of the same period are examples of the opposite.

However, quantity is relative to the nature of the applications. Three atomic bombs (or maybe a half dozen) were clearly sufficient to end the Second World War. Though clearly the limited number of V-2's contributed to the limited impact of those weapons. In comparison, there were only in the order of a few thousand (~6,000) V-2, there were some 22 million proximity fuses produced during the same period.

Quantity has a double impact. Not only does it effect the application of the technology; it also effects the economics of its application. Economies of scale should provide a means by which costs for implementing any technology will decrease as the quantity produced increases. However, this is not assured. The embodiment of the technology, the application, needs to be **Designed-for-Manufacture**. These two concepts of Design for Use and Design for Manufacture are critical for the successful implementation of technology. Without careful consideration of Design for Manufacture neither reliability nor economies of scale will be assured. Without Design for Use, maintenance will be a problem leading to inadequate functional quantity.

13.3.5. On "Lean" Technology

The issue of determining the most cost-effective level of technology to apply to an application is a long-standing problem both in commercial and military arenas. The concept of "lean" technology has been adopted to emphasize cost-effective organizational design. Under the "lean" doctrine assets are designed to provide the optimum effectiveness. This is often a balance of reduced number of units acquired against the improved performance. Simple models of utility or advantage can be developed as having two factors: (1) number of units acquired and (2) a measure of the overall effectiveness of the units. The appropriate "lean" technology condition is at a level of effectiveness, which maximizes the overall utility or advantage at a given budget. The cost and, therefore, the number of units that can be acquired will depend on the technology used as measured by their improvement in performance.

A model for this can be developed which reflects the effectiveness of performance versus quantity along with an associated costing expression. Under a constant budget this can be expressed as the number of units being a function of their effectiveness. Previously it

was noted that dominating and disruptive technologies could result in impacts that far exceed the unit performance. However, the reverse is more common, where the collective impact of technology is less pronounced than the quantity of units. This is referred to as a "Stalin Asset" based on the quotation attributed to that Second World War Soviet Leader "Quantity has a quality all its own."

The relative cost of improved effectiveness is captured by the cost factor. The lower this term is the more it is economical to improve technology. However, we are considering the total system rather than just the acquisition cost. For example, the costs for a new improved personal weapon for the army must include all costs to obtain an infantry soldier. As such, the relative costs changes to make improvements in personal weapons tend to be small. The other costs in this case tend to out-weigh the additional development and acquisition costs. It is useful to separate costs into three ranges around the mid-range where the new unit effectiveness is balanced by the loss of a corresponding number of units. That is if the effectiveness is doubled, the costs correspond to losing half the number. Costs less than "balanced" are referred to as "economic" and those greater than "balanced" are referred to as "premium".

The chart below shows the optimum effectiveness levels (which are multiples of the original performance) for each of the groups of conditions based on a simple model¹³². This is presented here only for illustration purposes. For example, for a Stalin Asset and for economic costs for improvements, the model indicated that the optimum condition would be for a unit with 5 times the effectiveness of the base case. However, if the costs increased to the premium range, the model indicated that no improvement should be made.

¹³² We seek to determine the optimum performance of those units where the cost per units depends on performance or capability. Competitive advantage is set proportional to the number of units and a "power law" function of the capability.

$$\text{Advantage} = A = N \bar{N}^{\epsilon} <^{\epsilon}$$

Where **N** is the number of units produced. ϵ is the capability or effectiveness of the technology in equivalent units. \bar{N} is the effectiveness factor. Costs are measured in terms of the number of units that can be produced at a fixed total investment. We take the exponential form:

$$\ln(N) = \ln(N_0) + b + b\epsilon$$

Where **b** is referred to as the cost factor and **N₀** is the number of units produced when $\epsilon = 1$. And an expression for the relative advantage takes the form:

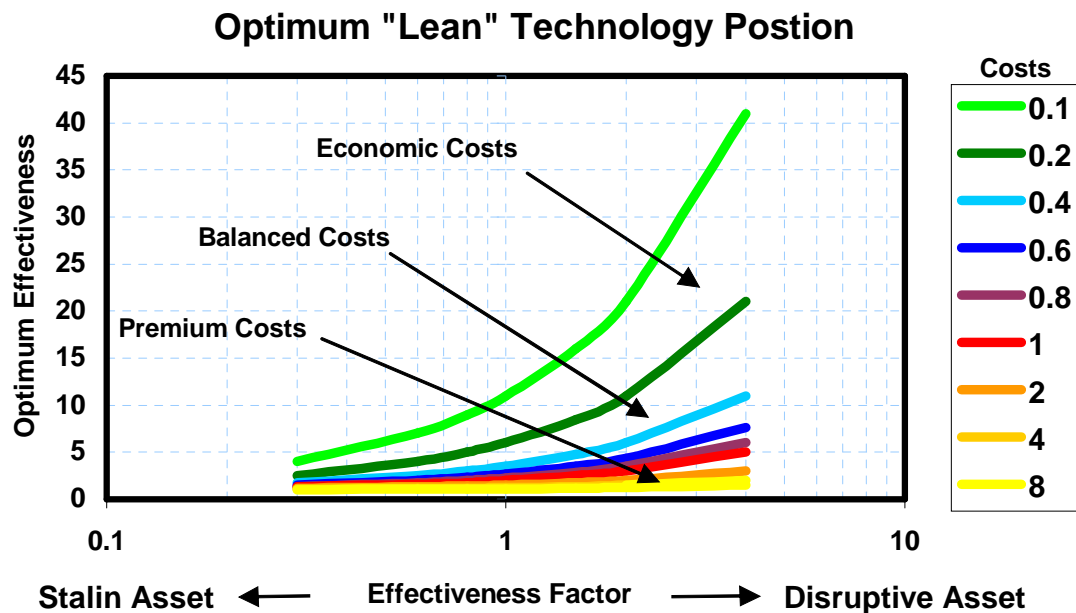
$$A/N_0 = (N/N_0) \bar{N}^{\epsilon} \{1 - \ln(N/N_0)/b\}^{\epsilon}$$

The first derivative of which is:

$$d(A/N_0)/d\epsilon = \bar{N}^{\epsilon} \{1 - \ln(N/N_0)/b\}^{\epsilon-1} + \{1 - \ln(N/N_0)/b\}^{\epsilon}$$

The optimum is obtained when the derivative is zero, this expression reduces to the simple forms:

$$N/N_0 = \exp\{-(\epsilon + b)\} \text{ and } \epsilon = 1 + (\epsilon + b)/b$$



Notice that both the performance (the effectiveness factor) and the costs effect the desirability of improved unit performance. Only the extreme cases of dominant technology and economic development result in extremely large development potential. However, it should be noted that the cost model probably should not be extended down to this level. Extreme increases in performance usually correspond to large increases in costs, not captured by this cost model. Most important is the interaction between the two factors. It is insufficient that the costs are under control, the impact of effectiveness must be large to justify large performance increases.

13.3.6. Supporting Technologies

As previously noted, technologies don't operate in isolation. Typically for applications of technologies to be effective, there must be a host of supporting technologies in place. Commercial aircraft were only effective and efficient with the existence of modern airport, land transportation, and air control technologies. To extend the concept of technologies, the home video recorder was only commercially successful with the establishment of the infrastructure of video stores. The availability of effective physical and operational technologies serving both the supporting and auxiliary needs are critical for successful implementation.

This need for supporting technologies and infrastructure belies the revisionist perspective of ancient invention of advanced technologies. The fact that a submarine was used during the American Revolution as well as during the Civil War is, of course, interesting and useful from a historical perspective. But such neither was effective because the auxiliary technologies of electric and internal combustion propulsion as well as the self propelled torpedo was not available. It is the coupling of technologies that make them successful. The Me 262 needed its advanced 30 mm cannon to be effective. The Atomic Bomb needed the B29 for delivery.

13.3.7. Skill

Technologies do not operate on their own. Technology, or more precisely, the applications of technologies must be manned. That is not as simple as management usually assumes. Rarely do devices operate effectively on their own or can be applied for strategic effect without skilled users. This is true in commerce as it is in military applications. In many cases, it is the lack of skill users that limits the penetration of the technology. For example, the ineffectiveness of German jet fighters (Me 262) was at least due to the lack of experience pilots at the end of that war.

13.3.8. Integrated Strategy

If the technologies can not be applied well, they can not be effective. This is a critical concept. Most radical new technologies of war have required similarly radical changes in strategy and tactics. The initial use of both poison gas and tanks were effective due to the lack of understanding of their impact and how to use the weapons. Similarly, the effective use of modern mass communications and merchandizing took decades to development. This was particularly true for political applications.

13.4. On Designing Applications

As previously noted technology is seen within the products and processes that utilize it. It is the product that shows the technology, not necessarily technology itself. In this regard the technology and the products of the technology are inseparable. In this section we have discussed technology and its products as one and the same. We face the issue now of how to design the products that incorporate the technologies. We can look at this as the process of generating value. Value in technological products arises from six sources which are the bases of design.

13.4.1. Design for Performance

We undertake the development of a technological improved product because it should be superior in performance over those previously available. This is a simple concept but with a huge implication. If a technology does not provide a noticeable performance improvement it does not deliver value. This is a strictly an engineering perceptive focusing on only a few critical measures.

13.4.2. Design for Use

However, the product needs to be used. As previously pure targeted performance is inadequate to assure effectiveness. Effective products require a focus on how they will be used. This is a non-trivial problem. Tank design during the Second World War is a good example comparing the German Tiger II tank and the Russian T-34. The German Tiger tank, while being a high performance weapon could not be maintained as compared

to the smaller but much more effective Russian T-34. This is the issue of Design for Use in that the product performs beyond expectations¹³³.

13.4.3. Design for Manufacture (Quality)

And finally but of no little importance is the design for manufacture. Products need to be designed to be produced. As previously noted, this is not a secondary thought. Production volumes and costs determine the ultimate value of the technology. The products must be in sufficient volume to do the job, and that implies at a low enough cost to be affordable. Cost control along with the need for flexible and consistency are the design guide rules.

13.4.4. Design for Sales (Commerce)

Products need to be sold. The attractiveness of a product that drives its acquisition goes beyond its physical use. Here we are dealing issues of image, of brand, and even of the “sexiness” of the product concept. The “Look” of a product may have nothing to do with how it is used¹³⁴. A racing stripe on a car does nothing for its performance. But it provides value which sales the product¹³⁵. These features need to be designed into the product.

13.4.5. Design for Function (Systems)

The value of products is derived from the results that come from their effective application. This requires knowledge of how to systematically utilize the new technologies. This is beyond just simple using the products, but the strategic manner by which they are to be deployed. This often involves new applications, previously unknown. These can be derived from the new capabilities or to its eventual ubiquitousness. The application of cell phones, for example, extended far beyond those originally envisioned due to its wide availability. As such, new technologies are rarely effectively deployed as a mere substitute for older technologies. Failures to effectively strategically utilize new weapons, for another example, are well documented.

However, beyond learning how to deploy new products, there are also the auxiliary technologies and things that become required. Rarely are technologies effectively employed alone. Micro-processors required a host of new technologies to provide the

¹³³ I tend to refer to this as the “gee wiz” effect in that the resulting product performance is beyond that which would be expected. It is the reaction to having a electric device survive what should have been a physically damaging accident. Design for Use is the process of building-in unexpected value.

¹³⁴ This is the “wow” or “pizzazz” effect. It is not a necessarily a useful feature or characteristic but it can carry significant value. It is the Mercedes or Lexus logo or the designer label. It does not change the product but makes it more valuable to some potential buyers.

¹³⁵ This concept transcends consumer products. Weapon systems have to look effective to be sold. The reliability of industrial product are carried by it brand name. The old adage that no one has been fired from buying from IBM” carries with it that type of implicit value.

Personal Computer. However, these things need not be new products but supporting systems. For example, the success of the VHS video player/recorder was made possible only by the availability of rental videos. Similarly the success of color TV in the 1950's (and I suspect 3D TV today) was only possible with available content. One could argue that success of military jet aircraft (due to their inherent range limitation) required the development and wide deployment of mid-air refueling.

Success of new products may require development of a host of skills and other products. It is, therefore, a critical factor for effective design to consider these additional items. For the developing organization, these additional systems often become a greater opportunity than the basic product themselves.

13.4.6. Design for Value and Growth

Environments are transitory. The competitive environment is always changing. For example, the introduction of new offensive military systems always breeds new defensive technologies. And vice versa, new defenses breed new offensive weapons. The long term strength of new products rests on their ability to lead that change. They need to be able to adapt. This is the robustness of the technology. Just as in evolution, those things that are unable to adapt die. It is a part of effective design to provide that robustness.

13.5. Dynamics of Technology

Developing strategies based on the use of technology must be driven to some extent by the dynamics of technology. While all technologies are by the nature unique and can, therefore, be expected to have unique characteristics there appears to be some general principles of how the technology will change and how its applications will expand. The growth of technology depends on, at least, three phenomena: (1) expected increase in future capabilities, (2) growth of the applications of its use, and (3) distribution and dynamics of value.

Together these forces can generate huge effects in price and capability. While it might be somewhat naïve to refer to modern integrated electronics as an example, but it does illustrate the dramatic effect of all three elements. Collectively they resulted in the cost of a unit capability, in this case a bit of memory decreasing by a factor of several million over the past six decades. Even modest changes, produce new opportunities and threats that must be considered in the construction of any strategy whether it be political, commercial or military.

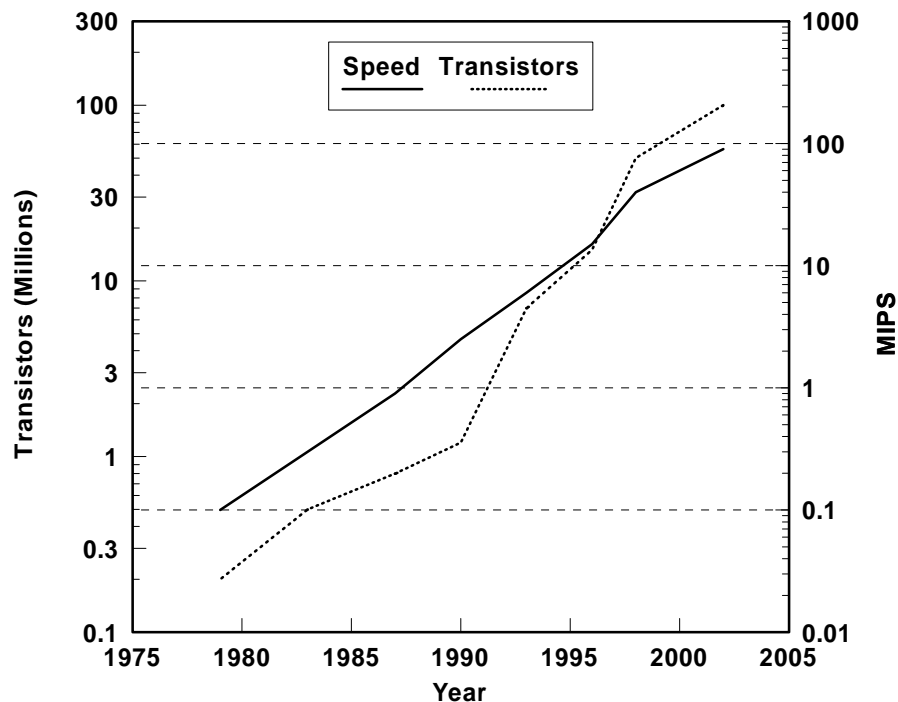
13.5.1. Expectation of Capabilities (Moore's Law)

Expectations combine the anticipation of change and its desirability. Merely to anticipate a change doesn't by itself drive the phenomena. But anticipation combined with its desirability based on value, one obtains a "self-fulfilling prophesy." Various technologies have tended to project a continuous exponential growth over time.

One of the best known of these "laws" is attributed to an IBM Executive and is known as "Moore's Law." It states that the density of integrated circuits will double every 18

months. However, the principle appears to be far more general, in that the capabilities of computer central processors appear to have been following this rule long before the advent of integrated circuits. At the present time, the principle appears to be applied to processors, random access memory, and peripheral memory (hard drives). This is shown in the diagram below.

It should be noted that other technologies have shown exponential growth in capability, though not at such a rapid rate. For example, the power of aircraft engines has appeared to doubled every six years since the Wright brothers. Ship sizes also seem to have grown exponentially but a much slower rate.



13.5.2. Growth in Applications (Sales Growth Curve)

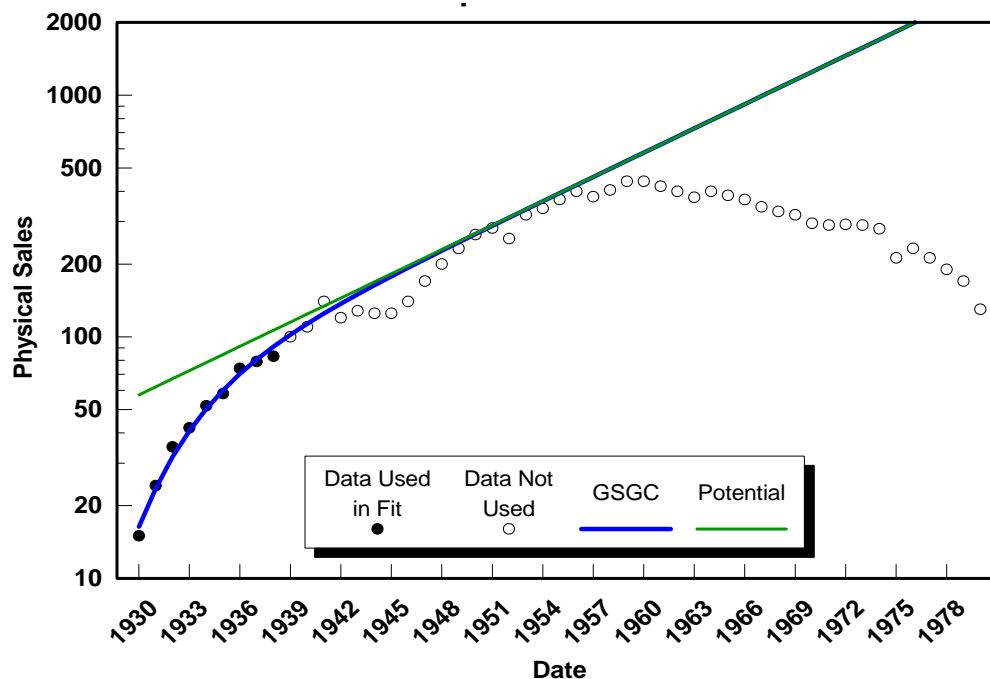
The sales and production of products derived from technology appear to grow along a common shaped curve, at least during their initial growth phase. This appears to be true over a wide range of categories of products and over at least two centuries. The curve gives a very fast initial growth, which asymptotically approaches an eight percent growth as indicated in the following relationship:

$$U = P_o(1+i)^{\{t-t_o\}} (U_o/P_o)^R$$

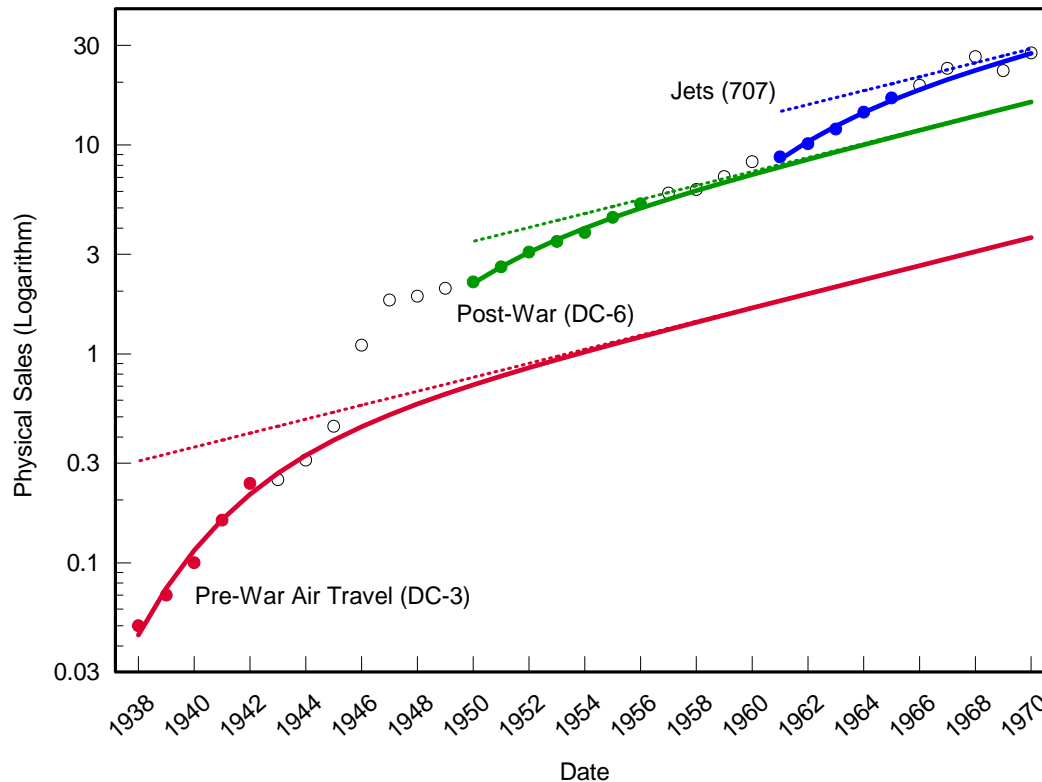
U is the sales or production of the product at time **t**. **P_o**, **U_o**, and **t_o** are parameters of growth, specific to the product. And **R** and **i** are universal parameters¹³⁶.

¹³⁶ Discussion and the testing of this General Sales Growth Curve can be found at <http://www.lieb.com/Documents/FORECAS6.pdf>.

Below is a typical example of a comparison between this General Sales Growth Curve (GSGC) and data. This is for a early synthetic film products. Notice that the sales volume breaks from the curve at some point. All things can not grow indefinitely at eight percent otherwise we will be hip deep in the stuff eventually. Products, therefore, at least mature if not decline as in the case of this technology. In this case, the earlier technology products were substituted by new technology. The potential indicated on the chart is derived from the growth curve. It represents the asymptotic portion of the relationship.



Below is an example of successive substitution of technologies. In this case, we examine the generations of commercial aircraft. Here we have pre-world war two commercial transport technologies, followed after the war with greatly improved aircraft and finally on the chart the introduction of the jet. Each of these technologies appears to follow the General Sales Growth Curve, with their own unique market potentials.

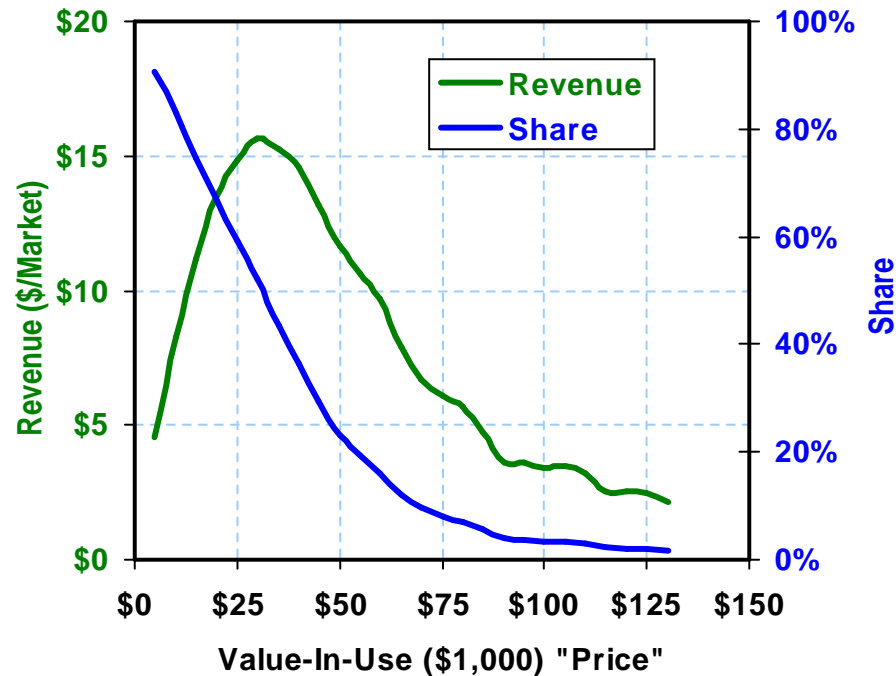


13.5.3. Value and its Distribution

The driving force for adoption of technology is the same as that for all products, that is, increased user value. Not noted this fact as lead to some very unfortunate developments. The introduction of jet aircraft is an interesting case in point. The commercial jet aircraft both decreased travel time and decreased costs. Prices for air travel has declined steadily and the introduction of jet aircraft only accelerated that trend. We will discuss the relationship in the next section. However, the issue of value is important here. The British and French somehow believed that the driver was speed alone and proceeded in the development of the Concorde Supersonic Transport. While the technology associated with the Concorde is impressive, it appears to be a dead-end as a trend in commercial air travel. Wrong value.

However, value is distributed. Not everyone values everything equally. In our example, there could have been sufficient potential passengers who would be willing to pay the increase price for the Concorde. Unfortunately there weren't. When we say that an application of a technology is valued, we mean that there is sufficient potential users who have greater value than its costs. Values for all things tend to form skewed distributions, as shown below. The blue curve shows the cumulative value distribution. This may be exponentially declining as in this case¹³⁷. The driving force for development of the technology in a materialist society is usually the moneys that can be derived from is commercial use. This is shown as the potential revenue, the green line on the plot.

¹³⁷ Other distributions are also used as the Gaussian and the log normally distributes for classes of products

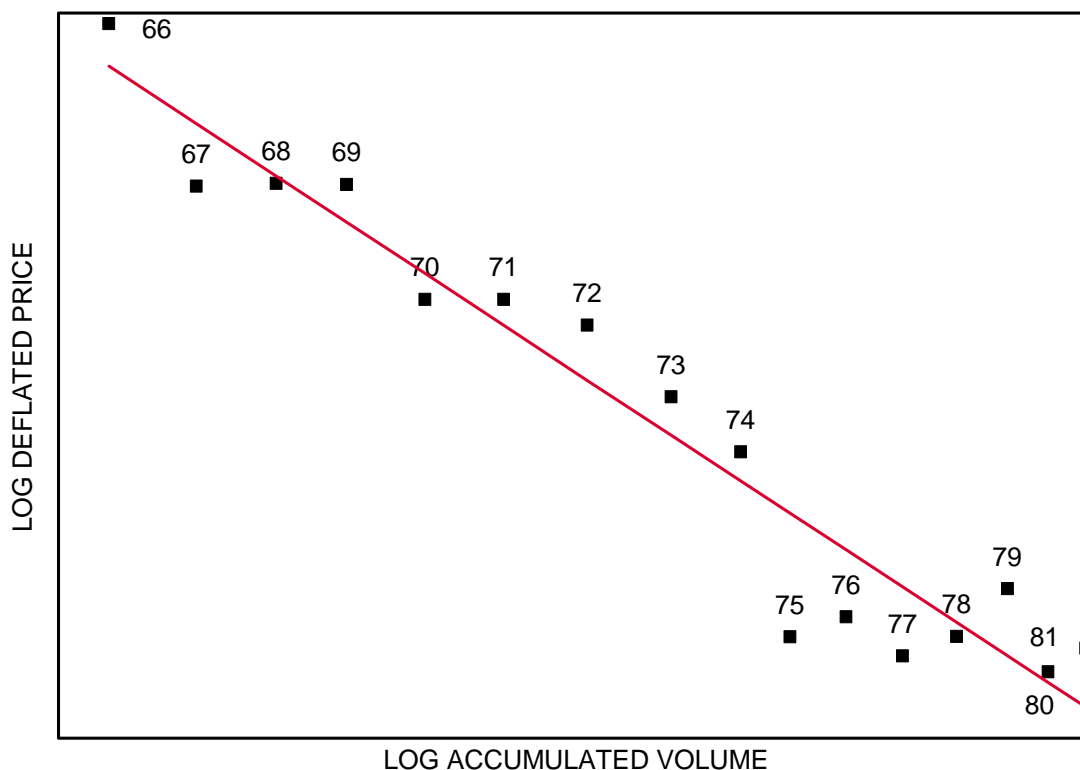


13.5.4. Cost Decline

Fortunately, during the introduction of technology driven applications, only the higher end of the distribution is necessary to be considered. However, as the product grows, other segments of users need to be attracted. This usually demands lower prices. This is an expected phenomenon. As the volume and use of technology driven products expands, it is expected that the prices will decline. There are two basic approaches to examine the decline in prices and costs: (1) The Learning Curve, and (2) Economies of Scale.

13.5.4.1. Learning Curves

The idea of the learning curve is that costs and therefore prices decline with increase experience in manufacture. One would expect that the prices for technology driven products would therefore decline with the accumulative volume that had been produced. This is shown on the following chart for polycarbonate resin. In this case we are looking at the deflated prices (removed the impact of inflation). The numbers correspond to the year of the prices. This is a very good fit. Unfortunately, in some cases, such as pharmaceuticals it may not be. This type of approach is based on the assumption that the manufacturer and marketers have been able to reduce costs based on learned skills. Under this assumption we would expect prices to continue to decline even when the sales of the products decline during substitution.

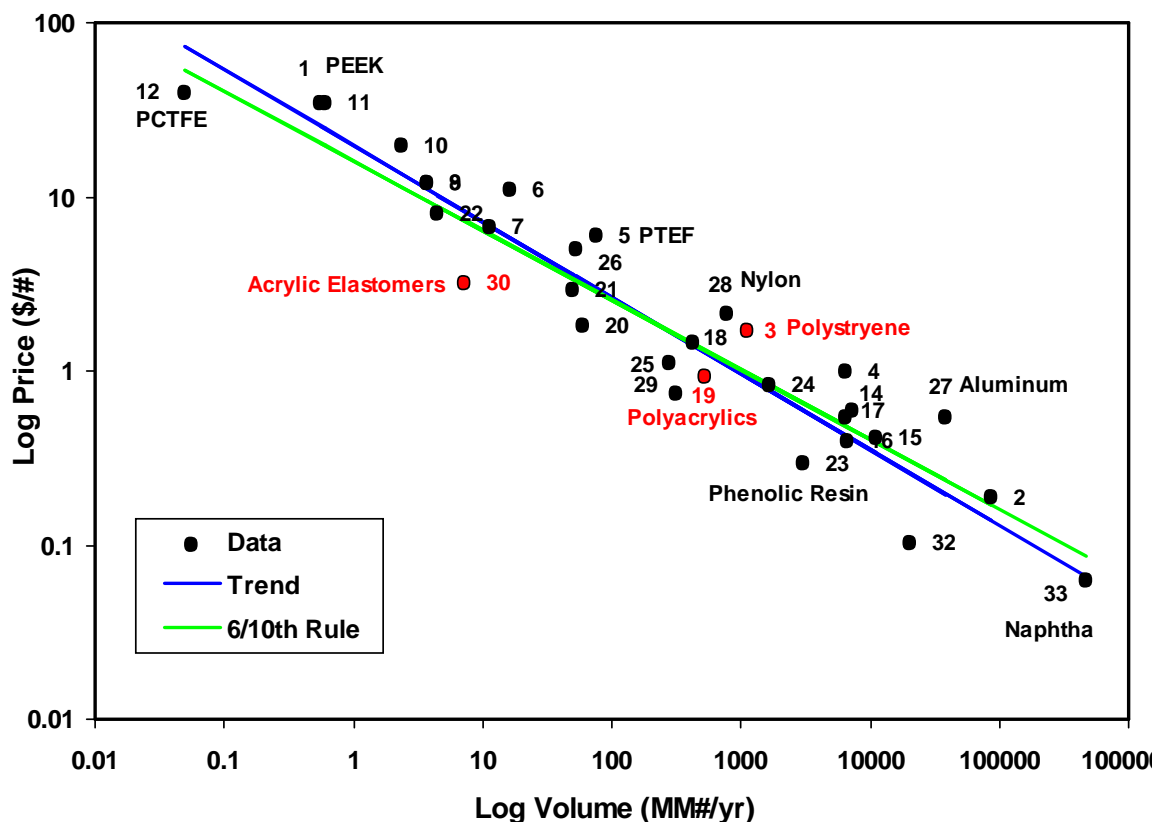


13.5.4.2. Economies of Scale (The Exclusive Curve)

An alternative view is that any cost and price decrease is due to economies of scale. That is the bigger the plant and the greater the quantity sold the cheaper it is to produce and market. Below is plot of the volume and prices for a group of materials. This forms a curve describe by the “6/10th rule,” which is related to the engineering scaling rules. This particular form of the price/volume curve has been referred to as the “Exclusion Curve”, since it is used to exclude infeasible forecasts for new chemicals and materials¹³⁸.

The mathematical forms of the two approaches (learning curves and economies of scale) are too similar to differentiate with growth data. It should be noted that based on economies of scale, prices of products during declining sales, should increase rather than continue to decrease as predicted by learning curves. There are several examples of each effect, however, to draw positive conclusions. Most likely, the mechanism that dominates will depend strongly on the nature of the products and the underlying technologies.

¹³⁸ Details on the structure of the exclusion curve can be found at <http://www.lieb.com/Documents/FORCAS6.pdf>.



13.5.5. Final Result

The resultant effect of these trends are usually severe declines in costs and prices for technology driven products and applications. This produces a major issue in strategies for developing and adopting technologies. To wait, reduces the competitive advantage but will result in reduced costs. These issues will be discussed with the alternative technology strategies later.

13.6. On Innovation

The long-term dynamics of technology implies that innovation and the underlying inventions have order. Somehow innovation can be anticipated, though by its nature, the specifics are always uncertain. But that anticipation is not universal. There are at least two factors that effect the predictability of innovation: (1) the existence of recognized supporting science and technology and (2) the perceived value of those innovations. Where the technology is known to exist, anticipation of new innovations can be expected to be high. Similarly, where there is a high perceived value, coupled with the apparent ability to access that value, there should be ample resources dedicated to the innovations with resulting high expectations. For discussion purposes, we can impose these two dimensions to form a grid as shown below. The likelihood of new innovations clearly runs from the upper left in this grid to the lower right.

		Perceived Value	
		High	Low
Recognized Supporting Technology	Available	Anticipated Innovations	Expected Sometime
	Unknown	Hoped for Innovations	The Surprises

Unfortunately the classifications is best viewed from hindsight, from a historical perspective. In reality it is often difficult to classify potential innovations looking forward. But from that historical perspective it is fairly easy to see cases of all four types of situations.

An indication of "*Anticipated Innovation*", where the means for the innovation and its value were available, is where there are multiple claims to simultaneous invention and/or patent infringement litigation. The telephone, the incandescent electric lamp, the gas turbine (jet) aero-engine and electronic television all had multiple inventors. Though in the case of electronic television the supporting technology was only barely effective at the time of the initial invention, making it more of a "*Hoped For*" than an anticipated innovation.

The phonograph is probably a good example of the "*Expected Sometime*" invention. While the technology was clearly available, the value of the innovation was not clear. The original intent of the Edison device was as a dictation machine rather than a mass entertainment instrument.

"*The Surprises*" tend to be more unique and must include Penicillin and Teflon® (polyfluorocarbon). In both cases the uses of the innovation were identified way after the invention and the invention was based on new phenomena. In the case of Penicillin, it was first tried unsuccessfully as an antiseptic and only much later, with its rediscovery from the scientific literature, tried as an antibiotic (which was fundamentally a new concept). In the case of Teflon, it was considered by Dupont to be a curiosity until it found a useful application in valve and pump seals in the isotope separation process for uranium. Its more peaceful and money making applications were only found much later.

13.7. Stages of Adoption

As noted in the last section, technology driven products can grow over an extended period of time. Some, such as telecommunication long lines have continued to grow for over a hundred years. That growth process involves the development of alternative applications. It is useful to think of the process as taking place in stages, though the stages generally overlap. The four basic stages are: (1) Pioneering of the technology, (2) Retrofitting existing applications, (3) Diffusion into new and often innovative applications, and finally (4) The condition at which the applications of the technology are fully established.

13.7.1. Pioneering

The first phase, Pioneering, usually involves somewhat wild search for useful applications. The vast majority of these applications are not economically effective. However, these applications tend to prove-out the technology. For material technology, there is always the ever present “high tech golf clubs, tennis rackets, and in some cases even athletic shoes.” These may appear weird, but they are generally easily approached industries. In many cases, such as with the early introduction of the personal computers, the pioneering applications may be “toys.” In other cases, they are exploratory military or scientific applications.

13.7.2. Retrofitting

Eventually, for successful technologies, some economically advantages applications are found. The technology then is a substitute for these applications. This is a basic retrofit. Just as the gasoline engine was substituted for horses in the early years of automobiles, so all technologies go through this retrofit stage. The first applications of the “Xerox” plain paper copies were to replace carbon paper and other ineffective office copiers. This is basic first step but critical step..

13.7.3. Diffusion

Typically, technologies could not grow much beyond the first six years of commercialization if they relied solely on the first retrofitted applications. Once the technology is in place, but often only barely, new economically attractive applications tend to appear. These usually will dominate the applications in future years. But at this point, they are merely exploratory new uses, which often have limited support. In the case of the plain paper copiers, this would include the use of overhead transparencies, new editing procedures, and finally its use as a duplicator and printer.

Much of our modern world has come from this form of diffusion of applications. It is the major part of the technology innovative process.

13.7.4. Establishment

Finally, the technology applications reach a point where they are essential to organizations and for that matter, society in general. We could not function without automobiles, plain paper copies, the personal computer, e-mail and cell phones. Not because they are great tools, which they are, but because we rely on them. This is the end point of technology diffusion, when the new technology is fully established.

As previously noted, these are not truly sequential steps. Some applications may easily be established while others are still being introduced. However, it is useful to examine the technology strategy in light of these stages. A developer may wish to rejuvenate an older technology in order to maintain growth by finding value in yet untested applications. Senior management may be disappointed at the early potential applications of a new technology. Both of these situations are typical during the technology life cycle, each resting in a different stage of technology adoption.

14. The Calculus of Victory

Sun Tzu's observation that "victory can not be manufactured, but it can be computed" may be a little bit of an overstatement. But it does represent an important tool for strategic planning. That is that there are factors that influence the likelihood of success. We can think of these factors as those representing the difficulty of the situation and those giving advantage. And that those factors giving advantage can be, if not computed, at least given some conceptual value. From a military historical perspective, the computation of advantage was based on conventional warfare at a particular period and based on available assets. In the case of 17th and 18th century linear naval fleet warfare the computation of the number of guns in opposing fleets was sufficiently accurate a measure of advantage to determine a victor¹³⁹ (at least until Nelson at the Nile and at Trafalgar). Similarly in ancient land battle comparing the number of troops and cavalry tended to give a good indication of advantage.

The corresponding concept from a commercial perspective is referred to as "competitive advantage." It takes on the same characteristics as the Calculus of Victory. It represents the relative advantage of a competitor. This is typically preformed during a "SWOT Analysis" (Strengths, Weaknesses, Opportunity, and Threat) in an existing business or as part of a new venture proposal. In all cases, the objective is to determine the ease by which a contested strategy will prevail.

While the concept of competitive advantage appears to rest on the existence of a competitor or at least an antagonist, this is not necessarily correct. Though based on a military metaphor, it is convenient tool to estimate the likelihood of success even if the competitor is ambiguous. In all cases, competitive advantage measures the relative strength and easy by which a strategy should be accomplished. This is true whether or not there is a specified competitor or antagonist.

In addition to the concepts of strength and weakness expressed by competitive advantage there are the issues of opportunity and vulnerability. Opportunities and vulnerability and these are not the opposite of strength and weakness but inherent characteristics of the situation and the deployment of strength. As Sun Tzu identified it, one can not be strong everywhere. If you strength in one area implies weakness elsewhere. This is the essence of vulnerability. The reverse of vulnerability is opportunity. However, opportunity does not require an adversary. It may be the result of the situation. These two concepts of advantage and vulnerability are the essentials in the calculus of victory.

It should be noted here, as we will discuss, "advantage" and vulnerability both from a military and a commercial perspective is based on conventional and somewhat "symmetric" strategies as well as "perfect" knowledge. Military history is loaded with examples of the apparent underdog winning. As Alexander and Hannibal repeatedly showed, genius can trump the numbers. Advantage does not guarantee success only the ease by which it "should" be obtained if all participants follow conventional strategies.

¹³⁹ Wayne P. Hughes, "Fleet Tactics, theory and practice", Naval Institute Press (1986)

14.1. *Abstracted Strategic Learnings*

Victory is obtained by building, understanding and utilizing competitive advantage. Conflict or action is most effectively carried up under "unfair" conditions. This is taking advantage of vulnerabilities and opportunities. Alternatively, it is stupid and dangerous to ignore competitive advantage. However, advantage is manifested in the light of the difficulty of the situation. The function of competitive advantage is to over-come that difficult. Some sources of that difficulty may be inherent to the competitor. Competitive advantage consists of three elements (1) assets, (2) access and (3) motivation, all operating under the context of the situation. And vulnerability and opportunity focus on the potential for results, which make it dependent on (1) structure, (2) territory, and (3) time.

14.2. On Difficulties

Before dealing with the sources of competitive advantage it is critical to consider the issues that arise from the difficulty of the situation. As noted elsewhere, a major function of strategy is to reduce the apparent difficulty of the tasks. However, no matter how good the strategy and action plans are, there will always be difficulties associated with worthwhile undertakings. It is ancient wisdom that anything worthwhile of achieving would be difficult to do. However, one would normally expect that the more difficult the task, the less likely will be success or the more expensive that success will be.

There are many possible sources of difficulty. However, it is useful to identify difficulties as arising from two major sources, those that come as obstacles in the path of action and those associated with the process of undertaking the process and of completing it.

14.2.1. *Operational Difficulties*

Operational difficulties are those associated with obstacles in the task. From a positive perspective these are viewed as inconveniences and often sources of opportunity. Just as Hannibal had transversed the Alps in his invasion of Italy, it is conventional wisdom that any natural or even man-made obstacle can be overcome¹⁴⁰. In the case of Hannibal and for that matter the US experience in the first Iraq War; the obstacles represented opportunities since adversaries had not expected attacks through such difficult paths.

14.2.1.1. *Tactical Difficulties*

We associate the term "tactical difficulties" to all obstacles and operational difficulties associated with actions. These include for military situation to geographic barriers and fortifications. Commercial difficulties include existing brand names and the lack of market access. On the political front, these difficulties would be entrenched competitors. Tactical difficulties make of the majority of the obvious problems and obstacles to

¹⁴⁰ This saying has been attributed to George S. Patton Jr. at the end of the Second World War.

success. They cover a broad range of issues and concerns. But all of these are confined to the "battleground".

14.2.1.2. Strategic Difficulties

Strategic difficulties deal with those issues in the preparation and sustaining of action. From a commercial perspective these focus on the availability of resources and assets. Military issues associated with logistics and political alignments are considered strategic. However, these strategic difficulties are also operational since they focus on the external problems of making the plan work.

14.2.2. Operational Difficulties

Operational difficulties deal with the accomplishment of the action plan. These can be viewed as physical difficulties. Functional or planning difficulties, on the other hand, deal with management. These are "header" things. Functional difficulties arise from the inconsistency between the way that the organization deals with strategy and plans and the basic structure of the situation. These difficulties are often subtle and not recognized by the organization. They often can only be seen from the outside. While these difficulties are often fatal in military conflicts, they may become endemic in commercial organizations where the same apparent mistakes are made repeatedly.

14.2.2.1. Organizational Difficulties

"Organizational Difficulties" focus on the inconsistency, ineffectiveness or inappropriateness of existing paradigms and accepted strategic frameworks in dealing with the problems. The organizational paradigms and frameworks define how strategy and action plans are defined and programs carried out. When these are inconsistent with the tasks, the resulting programs become inherently difficult to carry out. We see this when a sub-group of firm is assigned to a task that it is not prepared to carry out. The task may still be done, but it will be a far more difficult chore than otherwise.

14.2.2.2. Functional Difficulties

Even if the strategy is successfully executed and all of the tactical objectives obtained the strategic aims and goals may not be necessarily assured. That is strategic "victory" requires that the aims are obtainable within the context of the organization's paradigms. For commercial ventures this is referred to as strategic "fit", the ability to manage the resulting situation. If the aim of a commercial program is to enter into a new type of business, the firm must be able to manage it.¹⁴¹ In this context if the organizational paradigms are incompatible the resulting situation the aims will not be met.

¹⁴¹ This is not straightforward. For example, conventional wisdom indicates and the PIMS database confirms that forward integration, that is when businesses attempt to move closer to the ultimate customer, tend to be very difficult and unsuccessful. This is due most likely to the inability to manage the new form of business.

14.3. Local versus Global Advantage

All real advantage is local. Since all battles and engagements take place within highly constrained territory, only those advantages that can be applied locally within that territory will be effective. This is true whether we are dealing with military engagements or business transactions and deals. They are all applied on constrained territory and time. However, the ability to sustain advantage is global. Often the ability to apply resources and assets locally is limited. It is the ability to replenish, which provides a key advantage. It reflects the ability to follow through in the grand strategy, which is the manifestation of the global advantage.

An example of this as previously mentioned was the aftermath of the *Battle of the Bulge*. The relative local advantage during this battle was not overwhelmingly favorable to the allies. Furthermore the actual losses of the allies were comparable with that of the Germans. What differed was the rapid ability of the allies to make those losses good. Here the allies had a far greater global advantage with vast amounts of strategic assets resources available.

Commercial, global advantage is a measure of its long-term financial strength. On a local level, this global advantage would manifest itself as, the ability of a business to sustain a price war.

14.4. The Elements of Competitive Advantage

As previously noted strategic advantage is typically viewed from a competitive perspective and is referred to as competitive advantage. However, it applies equally as well when there are no coherent competitors. Strategic or competitive advantage represents the ease by which a strategy should be able to be executed and the likelihood of success. In a competitive environment it is assumed that one of the competitors will "win". This assumes a type of "zero sum" game. Where there is a winner and a number of losers. From this traditional viewpoint, competitive advantage measures the relative likelihood of an organization winning. As we have discussed previously, this is not necessarily the case. There may be multiple winners or all losers.

There are three factors that drive competitive advantage: (1) availability and the effectiveness of assets, (2) territory issues including the ability to maneuver and (3) the motivation to execute the strategy. The commercial competitive intelligence community refers to these three as *Capability*, *Capacity* and *Intent*. Furthermore these factors operate within the context of the situation and strategy.

14.4.1. Context

All strategic situations are defined around the context. It is the "nature of the situation". Assets, the ability to maneuver, and the motivation to act are all defined within the situation. While context is a general description of the situation, it usually covers three keys issues.

14.4.1.1. Defining Victory

The first key issue of context is the definition of victory. What are the objectives of the key players? What are the possible outcomes? Competitive advantage is only made operational within the context of the strategic objectives.

14.4.1.2. Competitive Nature

As we had previously noted, competitive advantage is just that. It is the advantage over the competition. The context includes the comparative advantages and disadvantages of the competitors. Who are the competitors and allies in this situation? What are their goals?

14.4.1.3. Degree of Difficulty

The situation constrains the ability to accomplish goals. Difficult situations make any victory uncertain. Sun Tzu refers to the "Way" as the situation that captures the difficulty of accomplishing the task.

14.4.2. Assets and Resources (Capability)

The simplest and oldest view of advantage focuses on available assets. It must be noted that this includes not only funds, manpower and tools but also the non-tangible factors. These intangibles include possessing an image of the force (projection of power) for military operations. Alternatively, intangibles like brand, trademarks, and copyrights provide competitive advantage for commercial strategies. Furthermore these are assets in that they usually don't come cheap. They involve an investment of time and funds to development.

14.4.2.1. A Power Focus

The purpose of assets is to accomplish a task. As such, the issue of competitive advantage comes from that ability. As we had discussed previously, this characteristic of assets is referred as power. It represents not merely the number or extent of what is available, but their ability to produce results. Power as we had previously discussed functions of specific space and time. Competitive advantage is thereby derived from the application of assets in territory and over specific time.

14.4.2.2. Effectiveness

Just having assets does not produce results. The assets must be specific to the problem as defined by the context. Furthermore, the assets must be applied or at least have the ability to be applied.

While assets may appear to be equal in number, their ability to accomplish tasks may differ widely. For example, during the Second World War, German ground forces were generally regarded as much more effective on a manpower basis than the allies. In fact, it was calculated at two to one. That is, German units were twice as effective as British,

American or Russian units. However, this was balanced during the latter part of the European war with the allies having vastly larger local ground force assets than the Germans. It is generally understood that numbers can overwhelm effectiveness. This balance between quantity and quality is discussed in the section on Technology.

Among the sources of effectiveness is the ability to *coordinate* and *concentrate* assets. This is the great effective multiplier. The ability to put assets where needed is more important than the numbers and quality of assets theoretically available. For example, an American military innovation during the Second World War was the ability to coordinate artillery from multiple organizations and put it into the hands of local and field commanders. Local officers could thereby call upon the artillery of all local units against his opposition. This combined with the use of the proximity artillery fuse produced a devastating effect on the German forces.

14.4.2.3. Strategic Reserves

The concept of "Strategic Reserves" is based on the need to reinforce assets for local actions. The classic example of the use of Strategic Reserves was during the First Battle of Bull Run (the American Civil War) where the Confederacy was able to rush reinforcements into battle by rail capturing victory from defeat.

Strategic Reserves bridges the gap between local and global advantage. As previously mentioned the ability of the allies to make good any losses secured victory during the Second World War. The ability of corporation to sustain losses allows it to undertake risks. However, Wayne Hughes²⁹ points out, that strategic reserves are only useful when they can be employed. In the case for fleet operations, he pointed out, that reserved assets can rarely be brought to bare in time to be effective.

14.4.2.4. Transients, Losses and Growth

Results take place by engagement. No strategy can be successful unless it is implemented. The very process of implementation, by its nature, is transitory. The implementation changes the situation. Assets are depleted and are rebuilt. At the same time, strategic assets as discussed earlier should increase in their inherent effectiveness as they are used.

14.4.3. Maneuver and Access (Territory)

Action takes place through territory. Since before Sun Tzu and Julius Caesar it has been recognized that position in the battlefield and control of territory provides advantage. Here we focus on the ability to maneuver and to have access. Both provide critical advantage. This is analogous to classic concept of having "good ground" for combat.

14.4.3.1. Freedom of Action (Lines of Attack)

Having a range of possible actions is an advantage. This provides the freedom to plan actions, which will yield the greatest benefits. Alternatively, constrained action almost always represents a disadvantage. It limits the ability to maneuver and therefore actions

can be anticipated. While this is mainly a principle of competitive strategy in general and military strategic in specifics, it holds in the commercial environment as well. The boarder range of potential action provides larger market and financial opportunities.

14.4.3.2. The Principle of Indirection

The "Principle of Indirection"¹⁴² is an extension of the traditional military maxim (Sun Tzu) of being fluid and devious in one's actions. However, it is not entirely certain how it transfers to the less competitive environment. However, it reinforces the need for freedom of action.

14.4.3.3. Offensive vs. Defensive

Being on the offensive is almost always viewed as an advantage since it provides a broader range of action. However, there are military and probably commercial cases where it is desirable to induce the adversary to attach and thereby take disproportionate losses. The advantage of the defense, however, appears to be determined by the lack of freedom of action by the adversary¹⁴³.

14.4.3.4. Sanctuary

Having a safe place to prepare for action and to accumulate assets can be a critical condition for success and provide a strong advantage. From a military perspective that can be seen first during the Second World War in Europe where both the United States and to a great extent the Soviet Union enjoyed and explored their sanctuary while Germany had little. Similarly the action by Sherman during his March to the Sea, during the American Civil War illustrates the value of depriving an adversary of sanctuary.

From the commercial perspective the effect is similar. Having a strong market position in any area provides security to expand into other areas. Not having such a position almost always represents a source of vulnerability.

14.4.3.5. Non-Linear and Non-contiguous Spaces

The more convoluted the active space the more options exist and the greater the freedom of action. The development of air-ground strategies not only opened up the direction of action but the non-linearity of action. Strategies can take on different timing and actions become asymmetric. Similarly, the development of mass marketing and merchandizing

¹⁴² The now classic discussion of this is by B. H. Liddell Hart in his book "Strategy, Second Revised Edition", Meridian (1967). Hart's focus is on military strategy and was highly influenced by the ineffectiveness of the frontal attack strategies of the First World War. His thesis is that all effective military strategies are based on indirection of action.

¹⁴³ It is interesting to note that it appears that Robert E. Lee had wished to be on the defensive at Gettysburg (American Civil War) which he viewed as an advantage but took the offensive with very unfortunate consequences.

changed the nature of commercial development. It became no longer a linear (person-to-person) process.

14.4.4. Motivation

History is full of examples of having the assets and the "good ground" but being unsuccessful in war and in commerce. The ability to translate those advantages into action is necessary and a key source of competitive advantage.

14.4.4.1. Capability

First and critical is the ability to engage in the activities. This is not straightforward. Just because the assets exist does not mean that the leadership and the force can be properly utilize the effectively. This situation is particular true in commerce where firms attempt to enter businesses for which they have little or no experience. The skill-sets required are often not only lacking but unrecognized. For example, the American army has historically found it difficult to engage in counter insurgencies in that its training and ethics tend to limit its actions.

14.4.4.2. Effective Time

Previously we had discussed the idea of characteristic "time constants" for action and the Boyd Cycle. If the decision time constant of the organization is slower than that of the process, the organization is likely to be unsuccessful. This is true for military, political as well as commercial situations. For example, some markets require new products to be available on a seasonal basis the inability to meet that timetables will inevitably result in failure, irrespective of other forms of success. The faster an organization can respond the better.

14.4.4.3. Intent

Even with assets, the "good ground" and the capability, there may not be the intent of action. Indecision "killed not only the cat" but many a General. However, intent is not only the desire to take action but the ability to make it happen. That is, intent is organizational. In highly hierarchical organizations, that decision may be concentrated in an individual. However, in almost all cases it involves a broader group of leaders.

14.4.4.4. Esprit de Corp

The spirit of the organization to carry out the actions can be critical. To some extent this is translated into the effectiveness of assets. The greater the organization believes that it will be successful, the greater the likelihood that it will be¹⁴⁴.

¹⁴⁴ It should be noted that this type of spirit can be built into the organization both through training and the situation. The removal of a means of retreat can produce a organizational commitment, which can act as a catalyst for a spirit of success. Historical examples would be Alexander's sending away his supporting ships when Greeks invaded Persia and the burning of the ships by Cortez in the invasion of Mexico. In both cases their troops at little choice but to believe in success.

At this point, it is useful to point out the "dark-side" of Esprit de Corp. If taken too far, it leads to suicidal behavior that can result in a weakening of assets. While the Kamikaze aircraft attacks were effective during the Second World War in the Pacific, the suicide charges by the Japanese on the Pacific Islands were not. Not only were they not effective, the loss of trained personnel reduce future effectiveness of their forces.

14.4.4.5. "Triumph of the Will"

Shear "will" as a value of its own. The willingness of leaders and participants to endure the hardships and reversals to gain victory is critical for success. I find it interesting, that while the Nazis seemed to understand the principle, they seemed not to have recognized it in their Soviet adversaries during the Second World War. The perceived value of victory and potential cost of defeat determines to a great extent the willingness to make the necessary sacrifice to gain victory. How important the action is to the participants is critical in determining the competitive advantage.

14.5. Nature of Competitive Advantage

Competitive advantage is a dynamic property which can be expected to change as both resources are converted to assets, the situation changes, and the adversaries advantages grow or wane. Its use is also highly subjective. What is viewed a very strong competitive advantage in one participate may not be by others. There is often little analytical information to just the "true" effectiveness of comparative competitive advantage¹⁴⁵.

14.5.1. Symmetry

The discussion of symmetry is critical as we discuss the meaning and usefulness of competitive advantage. As previously noted competitive advantage exists within a context. The term "Strategic Symmetry" has meant many things to many people. Typically, it is associated with the difference in the ground rules of war between adversaries. However, for our discussion there are at least two forms, those associated with context and those associated with operations and strategy. Both, however, are based on the assumptions and concepts of competitive advantage.

14.5.1.1. Contextual Symmetry

The weakest form of symmetry is based solely on a common context and how within that common context the "game rules are set." It is a weaker-form of symmetry in that rules and assumptions need not be in common but they can be viewed as being "symmetric". With merely contextual symmetry, competitive advantage need not be symmetrical. That is the advantage of one participant need not represent a disadvantage of others. In fact,

¹⁴⁵ Seeking of analytical information regarding competitive advantage is a major theme of strategic planning literature. The acceptance of these principles is based on the assumption of the effectiveness of advantage and is basis of the strategic frameworks that will be discussed later.

the advantage of one may actual be an advantage to others. However, contextual symmetry is necessary to make any type of comparison.

14.5.1.1.1. Perceptual Symmetry

A situation is contextually symmetric if the participants of the engagement would view the situation the same if they were in each other's position. That is, if the situation were reversed, they would view the context similarly and set the rules to be the same. An example of this can be seen as a comparison of the American Revolution and the last stages of the Vietnam War. In the first case, the Americans were basically a guerrilla army with the objective of survival while the British took the perspective of a colonial army. The Vietnam War provided the reverse with the American forces having the perspective of a colonial army, now dubbed an "anti-insurgency force" and the Vietnamese as the guerrilla force. Very asymmetric rules but with a contextual symmetry¹⁴⁶.

14.5.1.1.2. Contextual Commonality

A more constrained situation is where all participates see the situation in a common context. This is far more extreme than just perceptual symmetry which only requires a similar or "rational" perspective.

14.5.1.1.3. Contextual Asymmetry

In the extreme case, the context may not be common nor the perceptions symmetric. It is, however, important to recognize the difference in a form of the asymmetry. The use of suicide fighters, while radical from a western perspective, is not unknown (i.e. the Alamo). Both the Soviet and the Germans during the Second World War used aerial ramming tactics. However, its present use with the Islamic extremists, is so far outside of understandable context to make it truly asymmetric¹⁴⁷.

14.5.1.2. Strategic Symmetry

Strategic symmetry is a stronger form in that it requires both common context and common ground rules. The result with strategic symmetry is that competitive advantage for one party represents a disadvantage for the others.

14.5.1.2.1. Congruent Advantages

If competing parties viewed their strengths to be identical or congruent, it would lead them to select identical strategies. This is the ultimate in symmetry. Fortunately, rarely if ever can the advantages of all parties be considered identical. However, when it seems to have happened, such as in the First World War, the results have been disastrous.

¹⁴⁶ Qualitative models of this type are referred to as "HipBone Analyses" and have been used for conflict resolution. Some real brave souls have actually tried it to analyze the Israel-Arab dispute.

¹⁴⁷ Here it should be noted that suicide tactics is not condoned by any traditional Islamic teaching.

14.5.1.2.2. The Offense and the Defense

In almost all cases, there are clear advantages and disadvantages to adversaries, which lead to differences in strategy. The classic, of course, is the offense and defense. All war theorists have indicated that there are conditions for both. For example, Sun Tzu talks about specific numerical local superiority for the offensive.

14.5.1.2.3. Game Theoretic Structures

From a game theoretic perspective selecting strategies and goals are basically tied together. Symmetric strategies follow from competitors having similar goals. Competitive advantage in this view represents the potential for different goals and therefore different strategies.

14.5.1.2.3.1. Game Strategic Symmetry

From this perspective, symmetry reflects commonality of interests and goals. Since competitive environments are dynamic, the goals or better objectives may change. The Symmetry among multiple competitors should generate objectives that are mutually exclusive. Competitive advantage will provide each competitor with a dominant or preferred strategy.

14.5.1.2.3.2. Nash Equilibrium

John Nash proposed an interesting concept of an "Equilibrium" where competitors may find a set of objectives for which are feasible for all competitors. That is the interplay of the strategies determined by the participants' advantage will allow for a mutually acceptable set of objectives. Here the advantage dictates the acceptable results.

14.5.2. The Role of Adversary and Alliance

The competitive advantages of alliances have always been debated. Machiavelli looks poorly on them in that if allies are weak they are less than useless in that they become a drain while if they are strong they are a threat. On the other hand, American military history has provided a far more positive position. From the American Revolution through both World Wars alliances provide strong competitive advantages. From the commercial perspective, as previously mentioned, alliances cover a broad range of agreements and therefore, their advantages and disadvantages will vary over a broad range.

14.5.2.1. The Role of Adversaries

The relative strength and nature of adversaries greatly effects their impact on alliances. Where territory in general and geography in particular are important factors of advantage, alliances may provide that critical element. Clearly the British alliance in both World Wars was critical for effective American participation and provided critical elements in the allies' competitive advantage. In commercial strategy, alliances in the forms of joint

ventures as well as less formal structures are often critical to provide access to markets and technology. Here the alliance itself forms the competitive advantage.

14.5.2.2. Alliances and Strengths

As previously noted, Allies' strengths can often be inherent threats or worse. History is full of example of political allies becoming bitter adversaries. Successful alliances are usually based on mutual advantage and separation of action. The threat is derived from the very competitive advantage that is being sought. The most stable situation is when each ally is providing a critical component of competitive advantage and the mutual outcome far exceeds the value of separate individual gains.

14.5.2.3. Alliances and Weakness

Weaknesses with alliances seem mainly to focus on reliability and inaccuracy in estimating its real value. Strengths obtain within an organization are usually reliable in that the commitment to their use is determined within the organization. Strengths attributed to others always carry the potential unwillingness to use them. The commitment is often negotiated under different conditions than arise when assets are called upon to be used.

14.6. Nature of Vulnerability and Opportunity

Competitive advantage is best exploited against opportunities or competitors' vulnerabilities. An adversary's vulnerabilities are not due necessarily to the lack of strengths but as often as not is due to their existence. For example, the French had deployed vast resources to build and man the Maginot Line at the outset of the Second World War in an effort to create an invulnerable barrier¹⁴⁸. In fact, it created vulnerability against the mobile advance of the Germans. Some form of vulnerability exists everywhere. As such, a major requirement of strategy is to reduce the danger of inherent vulnerability and to take advantage of opportunity.

The idea of vulnerability is imbedded into the military concept of the defense while opportunity implies offense. That is we think of vulnerability as that which induces damage if attacked from adversaries while opportunities conveys the idea of capturing victory by attacking. This carries on into the commercial and political arena. Though as we will see idea of opportunities can have a wider application.

14.6.1. On Vulnerability

Vulnerability is as much about the deployment and the potential deployments of assets as it is about the inherent advantage of competitors. It is a concept tied to motion and time. As previously mentioned vulnerability is based on results. That is, we need to focus on what is vulnerable. Is it territory and "position" or is it assets? A position may be

¹⁴⁸ The French appears to have had a habit of building vulnerable stationary target. They seemed to have repeated it at the battle of Dien Bien Phu in 1954.

vulnerable if it can be taken, while the assets are vulnerable if they can either be taken or destroyed.

This is not a simple distinction. For a military example, a great distinction should be made between the Russian reaction and vulnerability during the 1941 and 1942 German offensives. During 1941 territory but more importantly assets were destroyed. The assets were destroyed by having them made vulnerable by not retreating. During the assault of the spring and summer of 1942, the Russian gave ground but did not allow its forces to be surrounded and destroyed until Stalingrad. This made its forces invulnerable while forcing the Germans into a vulnerable situation. A reverse case can be made for the behavior of the Germans in their defense of both the Northern Front in the East and of the Atlantic Wall in the west. In both cases, the Germans held ground and allowed their forces to be "neutralized".

Note that vulnerability is not merely due to the action of the defender but can be induced by circumstance and the action of adversaries. The classic creation of a "double envelopment"¹⁴⁹ is an example of vulnerability generated by the action of the adversary. This involved surrounding a larger enemy force and relying on geography to provide advantage.

There are three main components to define vulnerability:

14.6.1.1. Structural

The idea of structure here is the ability to deploy assets. That is to move relevant assets into action. In the military this is generally forces, but in commercial and political arena it could any of a number of assets that could be used to shore up defense or provide counter actions. Vulnerability here is leveraged by the ability to "relieve" a position.

14.6.1.2. Territorial

Vulnerability is embedded into strategic territory. Here territory is the strategic concept discussed earlier, not necessarily physical geography. Vulnerability is set by the territory that is to be defended. Its importance is determined by its impact on defense of other connected territories.

¹⁴⁹ The classic example of this was the destruction of the Roman armies by Hannibal at the Battle of Cannae. However, it should be noted that generals have been known to make their own double envelopment on themselves. The Germans appeared to have done just that at the Battle of the Bulge, putting themselves into a highly vulnerable position. This idea of self-created vulnerabilities by no means is restricted to land war. The Russian Navy during the Russo-Japanese (1905) war appears to have compounded their difficulty by moving into their own vulnerability. Here the Japanese Navy had gotten the Russians into a classical naval fleet vulnerability by "crossing the T". The Russians appeared to ignore the situation and continued to make things worse by not breaking formation.

14.6.1.3. Temporal

Vulnerability is, of course, dynamic. What is vulnerable at one point in time may not be at another. It is a highly volatile concept. This is inherent both to vulnerability but also to the idea of opportunity.

14.6.2. Building in Invulnerability

As vulnerability represents potential weakness and danger, strategy needs to build invulnerability into the situation. The ultimate invulnerability is the territorial concept of sanctuary. This is the condition where territory is relatively immune to attack. Note that this is highly relative. As the army adage goes, "all positions can be successfully attacked, if you are willing to pay the price". And the reverse is somewhat true, though less so today, that all territories can be made relatively invulnerable, if you are willing to pay the price." The problem is that observed by Sun Tzu, if you are strong at some point, you will be weak elsewhere. You can not be invulnerable everywhere. The trick then is to determine where you must be.

14.6.3. On Strategic Opportunity

While vulnerability is measured by the potential loss, opportunity is quantified by the potential gain. In this respect opportunity is the flip side of vulnerability. Vulnerability of one adversary is by definition the opportunity for another. However, this symmetry is limited. Opportunity can exist for all strategic participants.

14.6.3.1. Situational and Strategic

Opportunities are situational in that they represent potential gains if successfully exploited. They are defined within the situation of the problem. By definition they may be strategic in that victory would be enhanced by the gains obtained by successfully exploiting the opportunities. Notice that not all potential opportunities are strategic. That is not all things that might produce gain, will effect positively the likelihood of strategic success, victory. This is a non-trivial observation since the pursuit of opportunities will expend resources¹⁵⁰.

14.6.3.2. Results Oriented

By definition, opportunities are results oriented. To be of value their exploitation must be worth the costs of assets. Since all activities should be viewed as risky, the issue is whether the exploitations of the opportunities are likely to produce favorable results.

14.6.3.3. Temporal

And once again, like vulnerabilities, opportunities are highly time dependent.

¹⁵⁰ This can produce some uncomfortable and difficult moral consequences. During the Second World War, the allies had the opportunity to destroy the German death and concentration camps and opted out of doing so since they were not viewed as "strategic".

14.7. Exploiting Advantages and Vulnerability

The specific nature of advantage is, of course, defined within the strategic frameworks that apply to the situation. Similarly, how advantage is exploited is defined within those specific frameworks. However, there are a number of general concepts that always need to be considered in the effort to strive of success through competitive advantage.

14.7.1. The Orthodox and the Unorthodox

Sun Tzu observed that success in war is obtain by using the "Orthodox and the Unorthodox" methods. Orthodox or expected approaches are those that are usually most well known and effective. Unorthodox approaches are creative, new and surprising directions, which can overcome disadvantages.

14.7.1.1. Playing by the Rules

Competitive advantage traditionally is defined within the context of orthodox behavior. By its very nature, the comparisons of strengths are based on the assumption that the assets will be applied as "expected." This is orthodoxy in its most classic form. If all participants act according to the "script" competitive advantage should dictate the winner. As such, it is usually in the interest of the most favored adversary to follow the script and if feasible to force the adversaries likewise to follow an orthodox or conventional pattern.

14.7.1.2. Creative Approaches

Unorthodox actions can be highly creative and often are the means of overcoming competitive weakness or more exactly, adversary's advantage. It is the counterpoint to orthodox actions. However, what is orthodox and what is unorthodox will depend on perspective. In our discussion of strategic symmetry it is easy to see that what is orthodox to one participate may be unorthodox to another. As such, it is often infeasible or at least unwise to merely assign a scheme as being orthodox or not. The German attack in the Ardennes or the Japanese attack on Pearl Harbor during the Second World War might be viewed as unorthodox but not in the light of their perceived competitive advantage, that is in the attack. They could within their own perspective be viewed as obvious orthodox actions.

14.7.2. The "Fog" of War

All actions take place in an uncertain world. We can think of this as a stochastic situation where many conditions might take place. Alternative this is referred to as the "fog" of war. Where outcomes are never what they might be expected. Competitive advantage assumes that all things will act according to expectations, which of course never happens. The trick is to take advantage of that fog if you are a disadvantaged competitor and to avoid or reduce the uncertainty if you are distinctly advantaged.

14.7.3. Robust Strategies

The typical method to exploit advantage is through robust strategies. These are strategies, which implores multiple routes providing stable outcomes in spite of and sometimes counting on the "fog" of war. This will be discussed later in more detail. At this point, it should be noted that one of the key results of competitive advantage is to provide the means for robust strategies. One of the famous disputes during the Second World War involved the use of a robust large front strategy by D. D. Eisenhower and the narrow targeted thrust approach advocated by General Montgomery. As events played out in that European war Eisenhower's approach assured victory while the narrower approach lead to Operation Market-Garden which was disaster.

14.7.4. Attacking from Strength

The purpose of having competitive strengths is, of course, to take advantage of the situation defined by the vulnerabilities and opportunities. It is to gain the advantage and assure "victory". As Sun Tzu notes it is critical to know your strengths and that of your adversaries.

14.7.4.1. Through Threat

It is important here to return to the basic idea that the goal of strategy is victory not conflict. The existence of strategic strengths can intimidate competitors and lead to easy victories and thereby provide great value. As noted in the section on assets and resources, that using assets is expensive. Sun Tzu observed that the employment of forces results in damage that can even destroy the objective of the action itself. For example, a price war may not only damage all firms involved it may also damage the structure of the market for future ventures; an all-around bad idea. The Cold War between the United States and the Soviet Union was basically a posturing activity focusing on perceived competitive advantage. While it may have been very expensive, the alternative was far worse.

14.7.4.2. Through Position (Market)

Organizations usually attempt to utilize their competitive advantage in the defensive or offensive mode. This can be dangerous in that those strengths may not be as effective as the user expects. The danger is derived from the old adage that "*to a person with only a hammer, all things look like nails*". There is a tendency to build strategies solely based on those, often historical, strengths.

It should be noted here that the source of competitive advantage might not solely be based on a leading position. In fact, power can come from being a "lesser" player. Commercially, there is power from being the second largest share firm in a market. This "Power of Number Two" is derived from increase flexibility of action. Being the largest player in a market limits action because any costs that are incurred are inflicted disproportionately on the largest shareholder. Similarly, being the "The Low Cost Provider" rather than the largest provides unique advantage through its ability to survive aggressive pricing and allow for more flexible strategies.

14.7.5. Exploiting Vulnerability and Weakness

Sun Tzu warns that you can not be strong everywhere. This warning applies not only on territory but also in every aspect of strategic operations. The very nature of accumulation of assets requires a balance. If one is strong in one locations or area by necessity they well be weak elsewhere. In a sense the trick is not to be a slave to your strengths for that will produce weaknesses.

14.7.5.1. "Hitting them Where they An't"

The military concept of "Hit them Where they An't" has been attributed to Douglas MacArthur¹⁵¹ but has a much longer history. The idea is to strike the adversary where he is weakest and by pass or neutralize strong holds¹⁵². It might be viewed as an application of Liddell Harts' concept of "indirection"¹⁵³. You never wish to attack an enemy directly.

14.7.5.2. Niche Strategy

The most straightforward approach to avoid weakness or alternatively competitors' strengths is to "choose your battle". While the results may be similar to acting on strengths, it is taking a different perspective. You choose the areas of action where your adversary's strengths are least effective and your strengths will act disproportionately in your favor.

The commercial examples of this are wide spread. Firms entering a market often choose to compete in areas where the competitive pressure is least or where the main competitors do not have sanctuary. Similarly military examples would include General McArthur's famous maximum of attacking where the enemy isn't.

14.7.5.3. Stealth

Secrecy and indirection are alternative approaches to handling strong adversaries. These are usually strategies best suited for military actions. Rarely during commercial operations can the market not detect competitors' intent.

14.8. Strategic Positioning

Traditionally competitive advantage is used to identify the likelihood of success in a specific action. However, from a strategic perspective it would be far more useful to

¹⁵¹ Douglas MacArthur used this doctrine in the strategy of capturing Japanese positions in the Southwest Pacific Theater during the Second World War and for the invasion of Inchon during the Korean War.

¹⁵² A more recent example might be the invasion of Iraq during the first Iraqi war 1991, when Allied forces attack Iraqi positions from the western desert.

¹⁵³ Liddell Hart was strongly motivated by the experience of the First World War to believe that all successful military tactics are based on indirect actions and avoiding frontal attacks -- see "*Strategy*", B.H. Liddell Hart, Meridian, Second Revised Edition (1967)

select where one will be successful or alternative how to position oneself to be successful. Selecting advantageous battlegrounds has always been a goal of good generalship. But we would like to go beyond that to design-in success. This sought of thinking is not new but it is usually only applied conceptually and rarely analytically. As such, this section should be viewed as speculative in that the process is still hypothetical and the ideas are still developing.

14.8.1. Extending the "Boyd's" Model

It is useful to use some of the early work of John R. Boyd on fighter aircraft as a metaphor for strategic planning. Before John R. Boyd worked on the criticality of timeframes in strategy, he had devoted developed concepts for understanding the general operational advantages of fighter aircraft¹⁵⁴. His analysis was based on the assumption that fighter aircraft's operational advantage is derived from its relative energy and its ability to change energy (speed and altitude). From these assumptions he was able to compute the relative advantage of pairs of fighter aircraft over a range of operational conditions.

In a sense this reverses the traditional analytical process where we seek to compute the competitive advantage given its context. Here we seek to understand under what conditions would be advantageous given sets strategic characteristics. He later used this approach for the development of new advanced fighter aircraft and thereby designing advantageous assets (F-15, F-16, and F-18 were the results). Here we will extend the idea into the concept of a favorable strategic region, flexibility and the building of competitive advantage.

14.8.2. Fundamental Sources of Advantage

From our previous discussion, it would seem reasonable that fundamental sources of advantage can be identified within strategic arenas. These should be based upon the sources of advantage but specifically defined for the context under consideration. For strategic commercial problems these would focus on the means of growth, profitability and security. For military applications, they might focus on the relative strengths and capabilities of potential adversaries. For analytical purposes¹⁵⁵ the sources of advantage need to be quantifiable. They need to be identified and the strengths determined. But most importantly, the impact of those advantages need also be quantified in some form. For the purposes of these exercises, it may be in the form a subjective likelihood of success.

¹⁵⁴ John Boyd later work on reaction cycles and timeframes appears to be an outgrowth of his earlier work. Computation of the operational effectiveness of the F-86 against its rival the MIG-15 would indicate a slight advantage of the MIG-15 over the F-86 though the "kill ratio" did not support that. John Boyd concluded that other factors need to be considered and the ones he discovered were connected with the speed of action leading to his strategy theory of timeframes.

¹⁵⁵ In the case of John Boyd, he was able to reduce the sources of advantage into a set of engineering relationships and computations. Though those computations appeared to be relatively complex, with modern computers the exercise was doable.

14.8.3. Advantageous Regions

With the broader understanding of competitive advantage it is feasible to identify conditions under which those advantages will be maximized. These areas can be viewed as strategic regions of advantage. Viewed in an alternative perspective the competitive advantage defines the dimensions of potential strategic action. We can thereby view the strategic alternatives in terms of having advantages as well as the more traditional perspective of characteristics and outcomes.

14.8.4. Strategic Flexibility

The idea of a range of advantageous opportunities leads to the concept of strategic flexibility. Here we consider the increase in robustness and risk reduction by having multiple routes for solutions. The flexibility is derived by having sufficient competitive advantage effective in these multiple routes to make them both feasible and efficient.

14.8.5. Back to Grand Strategy

The success of the grand strategy in building assets and organization can be viewed as the range of conditions that become advantageous. In this perspective, advantages are to be built into the organization rather than viewing them as fixed. A general goal of grand strategy should be, therefore, to extend the range of opportunities that can be successful and the flexibility of situations that become competitively advantaged.

15. Taking Risks and Building-in Robustness

Risk is inherent in the execution of any plan or strategy. It is part and parcel of the process. However, effective strategy involves selecting which risks to incur and which should be avoided. That selection is a critical part of the strategy design. This is often referred to as the distinction between conservative versus aggressive strategies. Conservative being those that minimizes exposure and risk, while aggressive strategies take-on risk by use of bold and sometimes "foolhardy" actions. Both approaches work and may be appropriate under some conditions. In this section we will explore both the conditions by which each is appropriate and how such strategies are constructed.

15.1. Taking and Avoiding Risks

Taking risks are an essential element of all strategies. The trick, of course, is to choose which risk to take and when. "Avoiding Risks at All Costs" lead to no action and no gain. It is strategy without value since it must inherently fail in achieving any new aims. The issue is how to assure success or at least provide a feasible route toward success. In some cases, it may be through brash action and others it is through robust strategy where adverse risks are avoided or counter-acted.

15.2. Abstracted Strategic Learnings

Good strategy should assure success! However, all strategy incurs some risk. Taking risks can produce "brilliant" results or failure. Risk can be reduced by design but involves costs. Excessive conservative behavior may increase the costs to the point of being a source of failure. But clever and careful design can build-in robustness.

15.3. On Being "Brash" or "Brilliant"

The term "being brash" carries with it a value-judgement of severe unwarranted risk taking. It is a critical view of risk taking from a conservative perspective. However, there are advantages of action. From a pragmatic view what is brash and what is brilliance usually comes from the results. In both cases, it usually implies risk taking and action. Overly conservative behavior can also be risky and in some cases in can be far more risky than taking early action.

15.3.1. The Value of Surprise

"Surprise" carries a value of its own. Over time assets can be built and forces carefully deployed. With haste, much of that advantage that comes from the concentration of force may be missed while the advantage of momentum and the lack of preparation of adversaries are gained. In this regard, "surprise" has been known to have an overwhelming advantage in the short run. This can be viewed as a multiplier effect of force. Small concentrated force acting with surprise can have an effect of a much larger force otherwise acting slowly.

Surprise may be due to either brash action or innovative and novel approaches or both. In all cases, surprise represents action that is unexpected by the opposition. By its effect, novelty and brash action are indistinguishable. The result is actions that are so unexpected as to produce at least short-term advantage.

15.3.2. Compressing Time

The adage "Cease the Day" reads on the value of a strategy of immediate action. However, such immediate action often comes with significant risk. But here time has costs. Early accomplishments tend to have more value than later. Timing is everything! If early development of a new business concept has value such as before competitors enter the market, then delays are costly. Immediate or accelerated action, therefore, may be critical to the action plan, even though it will incur additional risks.

15.3.3. The Calculated Risk

Some risks are taken because the expected return outweighs the exposure. This is the basis of the concept of the "calculated risk." That is that the risk/return is such that it is "worth" the chance. While the term "calculated" implies an analytical basis for the choice, it rarely is. Typically, we use the term to imply an attitude toward risk rather than any type of computation.

15.3.3.1. Balance of Rewards to Damage

The idea of calculated risk implies a balance between the gains resulting from the risky action and the potential or expected damage that will also result. To some extent all risk taking should be calculated. Otherwise it would be foolish. Though foolishness in strategy is not unknown, it isn't recommended. However, what is foolish from one perspective may not be from another.

15.3.3.2. The Importance of Damage

Not all damage is created equal. There is a time dependency here. As previously noted when assets are scarce they are precious while on the other hand when they are plentiful, they are expendable. This is a critical element in the concept of "calculated risk". What is risky at one time, and for some participants, will not be at other times for other participants¹⁵⁶.

¹⁵⁶ For example, Operation Market Garden, (the Battle for Arnhem) during the Second World War was a risky enterprise intended to end the war in Europe quickly but failed for the Allies. However both the real and expected losses were easily recouped. On the other hand, the German counter attack through Ardennes resulted in losses that could not be recouped and had a devastating effect in the later battles over the Rhine. Both could be considered calculated risks, but the German offensive carried with it far greater potential loss.

15.3.4. Against Great Disadvantage

Brash action may be the only counter to the situation of great disadvantage. The most famous innovative battles in history are usually result of an unorthodox victory of a disadvantaged opponent. Alexander at Issus and Hannibal at Cannae as well as Drake (and others) against the Spanish Armada, are the traditional examples of successful brash and innovative action. Under these circumstances, the side taking these brash and innovative actions may view themselves as having little other choice.

15.3.5. Being Outrageous

From another perspective, being innovative is equivalent to being outrageous. It is how far extreme the action is viewed by the opponent. The invasion of Inchon by General Douglas MacArthur during the Korean War should clearly be viewed as outrageous. It was both novel but also extremely risky. Success relied on the almost total lack of opposition. It took place under extremely unfavorable landing conditions. Yet it was highly successful both tactically in that it was accomplished but also strategically in that the opposing armies were forced to retreat from the southern peninsula.

15.3.6. The Cost of Being Brash

Brash actions imply the taking of risks. This is always dangerous. Taking actions, no matter how innovative, against superior forces or under disadvantaged conditions is always likely to come to bad ends. While we often remember the brilliant general or commander of industry who against great odd succeeded, these are rare. In most cases, they will not succeed.

15.4. Reducing Risk

As we had noted the trick is to reduce risk. Effective strategy is designed to assure success and that means to overcome potential and "real" obstacles and uncertainties. As we have previously discussed, risk should be divided into their impact and the likelihood of occurrence. These are, of course, not independent. Those items that are likely occurrences with modest impact we usually try to handle directly. Those which are rarer but have potential impact we handle with some type of arrangement or insurance. And those that are truly catastrophic but very rare, we tend to ignore.

15.4.1. Reducing Impact

Bad things happen! The issue is can we reduce the impact of those things, when they do happen. There are two directions (1) build the system to withstand the event and (2) provide some type of insurance that will off-set the damage. In both cases, this is an insurance concept. In the first case, we become self insured. That is, we anticipate the possibility of the event and take steps to handle it. This is the case of building levies against floods or building up a civil defense system. The second involves finding some way to off-set the loss. This might involve using formal insurance or some type of group self-help program or alternatively have sufficient reserves to handle the problem.

15.4.1.1. Fixing the Problem

The simplest and most straight-forward approach is to fix the potential problem. We build the system so that the downside events will produce little or no damage. We build “strong walls” against bad outcomes. Alternatively, we can try to resource the undertaking sufficiently to overwhelm the possibility of bad outcomes.

15.4.1.2. Minimizing Exposure

An alternative is to design the strategy that eliminates potential problems. This involves selecting routes that minimizes exposure. This might involve using out-sourcing or tolling of production for commercial ventures; or using surrogate organizations both commercial and military to undertake speculative activities. Contractors or mercenaries can also be used again minimizing exposure.

15.4.1.3. Factoring the Danger

Rather than minimizing the exposure one could “factor” it others. This is the concept of options and is inherent into the formulation of alliances. While gains are expected to be shared among members of the alliance, exposure is also shared. Joint ventures are a typical means of commercially factoring the exposure as well as gaining needed assets and skills for commercial ventures. In commercial operations, accounts receivable can be sold to speculators at a discount factoring the risk of late payments. This concept extends into financial instruments with formal derivatives and options where outside investors can buy options against financial variability.

15.4.1.4. Underwriting/Layers of Insurance

The final method and among the newest approaches is using formal insurance. This can be thought of as an underwriting process where investors sell insurance against the damage from specific events. In the commercial world this is done in multiple levels allowing the insurance against large and even catastrophic events. Unfortunately, the range of insurable events is limited. It would be interesting if there was a market for insurance on the outcome of war. That would be an interesting [measure of the likelihood of the outcome](#).

15.4.1.5. The Flip-Side

The down-side to reducing exposure is, of course, cost. All of these approaches tend to reduce potential gains or increase operations costs. Resources and assets are lost in the process. Reducing exposure comes at a price. The balance, of course, is between the implication of the potential loss and the present loss of resources.

15.4.2. Reducing Likelihood

The likelihood that a path will not be successful depends on both the resources that are dedicated to its accomplishment and the existence of alternative approaches. In many cases, there are alternatives. The more alternative paths that are followed the greater the

likelihood that at least one will be successful if they all can be fully resourced. That is of course the hook. The more avenues pursued the more expensive the process and the less resources that are available to concentrate on the primary ones selected.

15.4.2.1. Multiple Routes and Portfolios

As previously noted when the likelihood of not reaching a goal depends on the route taken, then that likelihood could be increased by providing alternative non-correlated routes. This is a fundamental principle of strategy. Correlation here relates to the likelihood of mutual success. If two approaches do not rely on any common phenomena they are independent and the risk is not correlated. If the two approaches rely on the existence or non-existence of a phenomenon then their risk would be correlated or negatively correlated for that effect.

15.4.2.1.1. Correlated Risk

The focus is on the correlation of risk. Only the risk associated with elements that are not correlated or, better, negatively correlated are effected. Just having a lot of routes does not in itself reduce risk. In fact, there is an inherent cost of multiple routes. It may diffuse effort and will clearly reduce the ability to concentrate assets.

For example the German's during the Second World War undertook a broad range of turbo-jet aircraft and rocket development. Most rested on the solution of specific and common problems. Risk was not deferred by the multiplicity of programs. However, the diffusion of the effect limited resources and delayed development.

15.4.2.1.2. Keeping Options Open

Another way of looking at this is to keep your options open. If the options are non-correlated or negatively correlated they will produce the same reduced risk result, if sufficient assets will allow. This is the classic example of the choice between a broad versus focused approach. An example of this choice was the western allied strategy during the ending stages of the Second World War. General Montgomery recommended a narrow "focused" threat into Germany from the north while Eisenhower selected a broad strategy with multiple lines of attack. The former was riskier¹⁵⁷ but was more efficient than the latter.

15.4.2.1.3. The Portfolio Model

The extreme example of this means of reducing risk is in financial portfolio theory which is discussed in more detail as a general planning approach. Here each route is a separate investment vehicle. Correlation between them can be computed based on past price history. A portfolio can then be selected that provides the lowest intercorrelation and thereby provides the lowest overall reducible risk.

¹⁵⁷ The result of the focus approach was the unsuccessful thrust at Arnhem (A Bridge Too Far) while the broad strategy allowed for the successful defense in the Battle of the Bulge.

15.4.2.1.4. Dynamics and the Stage Gate Approach

The process for developing risky new businesses is referred to as a “Stage Gate Process” where alternative options are periodically evaluated. This is a dynamic approach starting with an extensive portfolio of routes and narrowing selection based on gathered information. This illustrates the dynamic nature of risk reduction. Often the specific nature of the correlated risk is unknown at the start of the strategy. As information is gathered the associated risks can be assessed and a preferred route ascertained.

15.4.2.2. The Problem of "Rare Events"

Truly rare events are almost impossible to predict. Most have never happened in human memory or for which we wish have never happened. Rare events are the most problematic issues in the risk assessment of strategy. Their impact can be catastrophic but their likelihood negligible.

15.5. Designing In Robustness

Strategic robustness focuses on the assurance of success. It is the means by which a strategy will result in success in the face of uncertainty, error, poor execution, and “bad luck”. Robustness can be summarized by the statement of Warren Buffet in that he “invests only in companies that an idiot could run, because eventually an idiot will run them”. It is the effort to design success into the strategy.

15.5.1. Building on Strength

The key to robustness is exercising strength under adversity. That is a robust strategy remains favorable and strong over a large range of conditions. Strength and advantage by themselves provide a degree of robustness but only to a point. It is how strength is utilized that secures victory and therefore assets should be deployed to broad strength. Our assumption here is that differential advantage is not in question only its deployment.

15.5.1.1. Overwhelming Force

Economy of strength suggests that we select only sufficient assets to secure victory. However, that does not assure victory. Victory can slip through one’s fingers; the vulgarities of conflict may prevent victory when insufficient forces are applied. Furthermore, when a light force is used, the opposition may apply unexpected counterforce. The alternative is to use overwhelming force. That is to totally overwhelm the opposition to such an extent that “resistance is futile”¹⁵⁸. The problem with this strategy is that while it is robust in the narrow focus of the strategy, it is expensive and may limit options elsewhere.

¹⁵⁸ Think of this as the “Shock and Awe” strategy.

15.5.1.2. Strategies of Attrition

An attrition strategy can be robust for the case where one side is vastly stronger. This is a viable strategy as long as losses can be sustained by the applying side over that of the opposition. This was the basic strategy applied by Russian and to some extent the western allies against the German's in the Second World War as well as the Chinese against the Japanese. It can be an effective strategy but very costly. It is based on the assumption of the sustainability of sometime great losses. During First World War the western front became a war of attrition which almost destroyed all participants. In commercial arenas, price wars tend to be strategies of attrition. The problem here is that the strongest participants tend to have the largest market share and therefore take on inordinately large share of the losses during price wars. Often it is the minor players that do best in these cases.

15.5.1.3. Appearing Strong Everywhere

While “being strong everywhere” should be viewed as an illusion, “appearing strong everywhere” has value in limited attacks and surprises. It follows the adage “When do you stop fighting with a 500 pound gorilla? When he wants to!” The image of strength provides a deterrence that limits competitive actions and provides a standing threat of unexpected counter actions.

15.5.1.3.1. Overwhelming Resources

As previously noted the image of overwhelming resources deters competitors and adversaries. If applied well it carries the prestige of leadership, the image of a “world power”. It is the concept of the market maker, the company or organization that is central to the situation. That image itself helps secure victory, for victory is expected.

15.5.1.3.2. Costs of Leadership

There may be, of course, a large cost in obtaining and maintaining leadership. Leadership comes with responsibilities and expectations. It is expensive in terms of support of the required assets, of allies and even on some occasions of adversaries.

15.5.2. Endurance

Endurance provides robustness. This is often the basic strength and advantage of weaker opponents. The ability to survive perplexes opponents. It involves carefully selecting battles and activities.

15.5.2.1. Turning Weakness to Strength

The power of endurance comes from turning weakness to strength. Since a weaker opponent can not survive a direct attack he must rely on stealth and indirection. Smallness has value since it is inherently fluid. It can move where larger forces and leaders can not. Therefore, keeping small provides robustness to strategy.

15.5.2.2. Gaining Longevity

Endurance leads to longevity. We simply outlast the competition. The last man standing becomes the victor. This is true in business and in nation building. Victory in both the American Revolution and the Vietnamese War went to the longest standing party not the strongest.

15.5.2.2.1. Sanctuary

Maintaining sanctuary is critical for longevity. A safe haven is required to prevent opponents' "overwhelming" assets to destroy you. The sanctuary may be external to the conflict territory or internal to it. In commerce, external havens are other "safe" businesses that provide resources. Internal sanctuary may be secured by popular support in the case of guerrilla wars.

15.5.2.2.2. Husbinding Resources

Resources and assets need to be maintained and safe-guided for longevity. They need to be expended only with care and as they can be replenished.

15.5.2.2.3. Value of Alliances

It is the need to replenish resources and assets that alliances become critical under these circumstances. Where longevity is the key source of robustness, it needs to be maintained through long-standing alliances. This is a critical concept, where only sustainable alliance will count.

15.5.2.3. Forcing Conflict

Paradoxically, endurance is aided by forcing conflict, not necessary obtaining victory. The opponents need to be exhausted. This requires continuous activity. The trick is to maintain action while husbanding assets.

15.5.3. Becoming Invulnerable

There is a difference between being invulnerable and being invincible. Invulnerability focuses on removing the sources of vulnerability, the sources which could produce fatal damage. Reducing invulnerability increases the robustness of the strategy. Invincibility is much harder, since it focuses on the inability to be defeated. It is the ultimate goal of robustness in that to be truly invincible will assure success. Unfortunately, invincibility is historically at best an illusion. Believing in invincibility unfortunately leads to vulnerability.

15.5.3.1. Removing the Center of Gravity

While the term of a strategic center of gravity is relatively new it really represents an ancient concept of the nexus of power. Until recently most forms of governance focused on the existence of competitive single autocrats. This was the ultimate concentration of

power. These were the times of omnipotent monarchs. However, destroy that center of power, that strategic center of gravity and all is lost. It is the ultimate in vulnerability. The trick to obtaining invulnerability is to remove those centers.

15.5.3.1.1. Virtual Centers

Though effective strategy requires coordination of assets and forces, with modern technology, there is no reason to have a real center. Here, the metaphor to the physical center of gravity provides an interesting analog for strategic design. The physical center of gravity or mass represents the center of an object whether or not there is anything there. A hollow sphere will still have a center of gravity at the geometric center irrespective of the fact that there is nothing there. From a vulnerability perspective these centers are then virtual in that they exist functionally but not geographically. They can not be readily attacked.

15.5.3.1.2. Networks

An alternative approach is to make the total communications and support structure the center of gravity. That is we form a network such that the destruction of any part of the structure will not cause a major disruption. This is analogous of broad command structures where removal of any part will be automatically replaced without interruption.

15.5.3.1.3. Autonomous Units

The ultimate in robust structures is where the smallest units operate autonomously. This is not to say that they are “automatons”. They each do not operate without thought but under more remote guidance, such as under doctrine. Guerrilla war appears to operate to some extent in this manner. Large corporations tend to function as conglomerates with businesses that tend to be fairly independent. As the strategic planning units are independent, the corporation as a whole tends not to have a functional center of gravity.

15.5.3.2. The Illusion of Forts

Here it may be useful to examine the concept of forts or other devices that are intended to provide invincibility. It is simple to remind ourselves of the catastrophic failure of the *Maginot Line* by the French at the start of the Second World War. But it is far too easy to assume that such a failure was do to stupid thinking that we would not repeat¹⁵⁹. Unfortunately, it is an easy path to take. Typically such a fortress only becomes either a target or a device for adversaries to try to bypass. In either case it results in further vulnerability.

¹⁵⁹ I suspect that the “Missile Defense Initiative” (Star Wars) falls into the same category. It is intended to provide “fool-proof” protection against all probable major adversaries. I doubt that any such protection is feasible.

15.5.3.2.1. Hardening Territory

However, while forts themselves do not make one invincible they do make things harder. They do provide some degree of invulnerability at least within a narrow focus. They require adversaries to think of alternative approaches which may be more difficult to execute or less likely to be successful. In this manner of thinking, hardening of territory if cost effective can be highly useful to increase the robustness of the strategy.

15.5.3.2.2. Having Sanctuary

The ultimate use of hardening territory is to provide sanctuary. Maintaining of sanctuary is critical for providing any degree of invulnerability. As previously discussed sanctuary is the area or territory from which activities can be undertaken with impunity. Robustness of strategy usually relies on gaining or at least maintaining sanctuary. It is usually the basis of resources and thereby the source of assets.

15.5.4. “Clever” Design

All strategies are not created equal. Some are mundane and some are clever and creative. The more mundane and predictable a strategy the more vulnerable it is. This is not to say that mundane strategies are necessarily less robust only that they tend to be more predictable.

15.5.4.1. Winning Every-way

The more robust the strategy the more success is gained irrespective of actions of others. If there are multiple routes to success, they should be all covered if feasible. The more routes, the more robust the strategy is. This often requires a clever and unfortunately sometimes a devious attitude toward strategy.

15.5.4.2. Allowing Multiple Roles

The more roles that are played in an activity the more alternatives there are for success and the more robust the strategy. In many cases there are multiple roles for example one could act as the instigator or the arbitrator of disputes and sometimes both. Being both allows for more avenues for success and is therefore more robust. This is similar to working through surrogates in that it allows for more alternative directions in strategy.

15.6. The Cost of Robustness

As noted, strategic robustness is expensive. Every action taken to assure victory costs assets. Strategic robustness is a form of conservative planning. Here we use the term conservative to reflect the need to assure success. It increases the cost of action but with a greater likelihood of reward. The trick in good strategic planning is getting the assurance at a minimum increase in additional cost.

PART 4 STRATEGIC PLANNING APPROACHES

To this point we have been dealing with universal principles and influencing factors of strategy. They apply across the applications and across organizations and conditions. Now we need to deal with more specific bases for formulating effective strategy. These are the "Approaches" which guide the specific processes. The practice of establishing academic schools of strategic thought and study has inherently developed these approaches. In this regard we need to separate these formal approaches from specific strategic frameworks. Approaches are general principles of structuring and analyzing the strategic situations. They are more akin to procedures of analysis. Strategic frameworks on the other hand include the definitions of specific types of problem and the conventional wisdom of how to approach the successful planning process. These are much more specific and included within the paradigms of the practitioners.

In this section we examine the main planning approaches. These approaches are not mutually exclusive or independent. They are applied in any number of ways and mixtures. Furthermore, not all, however, are applicable to all situations. For the most part they are an attempt to apply discipline to the decision process. Most structured "management" or "leadership" traditions are based on the application of a number of these approaches. Organizational paradigms discussed in the last section usually incorporate a number of these approaches and attributes a "best practice" label to them under specific conditions.

16. Operational (Incremental) Approaches

Operational or incremental strategies consist of a series of local actions with the expectations of ultimately reaching the desired aims. By their nature, incremental strategies focus on the short-term. The aims are usually viewed as continuous and with a local focus such as the achievement of growth objectives or the containment of an adversary. Incremental strategies can be thought of as pseudo-equilibrium approaches where it is assumed that the structural and functional factors remain constant. Actions are taken usually on a single "front" at a time.

Most organizational, and for that matter personal, decision making is done incrementally. Each decision is viewed in isolation as if it had little or no consequence to other decisions. It is usually the simplest type of decision and strategic process. It is also the ultimate form of decision by delegation. Since decisions can be handled locally, there is not reason not to delegate them to those "closest to the problems".

It should be noted that this is the situation in most American corporations where the "long-term" strategy time horizon is only two or may be five years. This short-time focus almost requires an incremental orientation rather than the truly strategic view.

16.1. Characteristics and Scope

16.1.1. Building Strategy from Tactics

Incremental strategies are more a structure of resource allocation than a plan of coordinated effort. The strategy is formulated based on perceived superiority in the allocation of resources on a series of tactical operations. Continuous success in the tactics should result in victory according to this approach. As previously noted, these strategies, therefore, encourage widespread delegation of authority.

16.1.2. A Process Focus

Control with incremental strategies is instituted through the construction of processes and doctrines to "rule" action. Unfortunately with widespread delegation of authority there is ample opportunity (and may be the inevitable result) for abuse. This I believe is inherent in all delegated incremental strategies.

16.1.3. A Quality Perspective

With all strategies, but with incremental strategies in particular, it is vital to "learn." The very nature of incremental strategy requires that the same type of decisions will be made multiple times. It is, therefore, critical for success that a learning capability be build into the process. In the commercial environment is capability is associated with one of the Quality management initiatives (Total Quality Management, Six Sigma, and Quality Function Deployment). These methodologies are designed to facilitate the learning process within the sales and manufacturing environment. Similar processes are designed within long-term effective military establishments.

16.1.4. Optimum versus Incremental Control

The purpose of *Optimum Control Theory* is to find the "best" policy to control the trajectory of a system. Typically this aims at reducing the time to restabilize a process or to minimize aberrations. *The "Optimum Control Policy"* is typically computed based on elaborate models of systems and is an exercise in advanced mathematical analysis.

Analyses of some fairly complex systems¹⁶⁰, however, have indicated that simple responses or incremental controls do just as well as the optimum control policy. That is, most systems are responsive enough that incremental control and actions will lead to the optimum result without recourse to more complex and proactive strategies. While this is not to say, that incremental strategies will always be sufficient, it does say that in many if not most cases, it probably is.

16.2. Abstracted Strategic Learnings

To some extent all tactics end up being incremental. It is in the strategic realm that problems arise. The real question on incremental approaches is when they can be used, and when they will lead to disaster. Incremental strategies are usually adapted when there is the perception of significant competitive advantage can be applied.

16.3. The Smooth Response Surfaces¹⁶¹

The appropriateness of incremental strategies can be viewed in the context of the nature of the response to action. From a mathematical modeling perspective that response is referred to as a surface describing the results from changes along a number of alternative parameters or stimuli. As long as that surface is smooth and continuous, than one can seek out an optimum solution incrementally. However, if the surface is discontinuous or highly non-linear, then incremental changes will not lead to a "best route" and therefore would not be an appropriate strategy. The consequence to this line of thought is that the type of strategy selected should be dictated, at least partially, by the nature of the response to action as well as the interconnectivity of elements.

16.4. Pressing Advantage

The attractiveness of incremental strategies is that they are simple and local and that they allow for the clear application of competitive advantage. The declaration of we will "*Crush them like Bugs*" expresses the belief in the overwhelming competitive advantage. Simply by pressing the advantage, "victory will be assured". Clearly not always, but in many cases.

¹⁶⁰ These were chemical process systems that are notorious for being complex and often non-linear.

¹⁶¹ This perceptive on the appropriateness of incremental strategies was suggested by Pat Robinson (Robinson Consulting).

Note also that simple incremental strategies may not require a great deal of competitive or market intelligence. The underlying assumption is that since all actions are incremental and therefore tactical, we possess sufficient information for successful execution.

16.4.1. Leveraging Strengths

The classic use of incremental strategy is based on strength usually size or numbers. With conventional (symmetric) activities, it is assumed that in any engagement the side with the greatest strength will win. As such, it is unnecessary to consider the long-range strategic issues. Note, however, that strength is obtained through any number of sources of advantage including position and surprise.

16.4.1.1. The Traditional Line (Frontal) Attack

Simply aligning opposing forces is the basic assumption behind much of the classical theory of war. Under eighteenth century naval war theory (prior to the Battle of Trafalgar) fleets lined up and incrementally blew each other up. As previously discussed, the Calculus of Victory here is straightforward, it consists of just added up the relative number of effective guns. As Mahan¹⁶² had noted, the mere existence of a large battle fleet is often sufficient to end the military issue.

16.4.1.2. Attrition as Strategy

An unfortunate consequence to this approach is the belief in ultimate victory is assured by just having more resources, usually soldiers in land war or money in commercial conflicts. This leads to "wars of attrition." The last guy standing wins! It is interesting, that following this approach the actual intermediate strategies is irrelevant as long as the other competitors are losing proportionally as much resources. The both the American Civil War and the First World War showed what the final results of this strategy could be. In both cases, the side with the greatest resources finally won. But at what cost!

16.4.1.3. Insurgencies

The strength of successful insurgencies typically rests on patience. In these cases, it may not be feasible or desirable to "win" engagements, but only to survive and be active. Once again, the actual strategy is incremental. Each action is taken separately with the goal of inflicting some damage but surviving. Here, time is working in favor of the insurgents.

16.4.2. Leveraging Weaknesses

The flip side of capitalizing on strengths is to turn weaknesses of the competitor or situation into advantages. As observed by many strategist since Sun Tsu, every

¹⁶² Captain Alfred T. Mahan, *The Influence of Sea Power Upon History*, Dover Publications

strength carries with it a potential source of disadvantage. The trick is to find it and utilize it.

16.4.2.1. Size as a Handicap

The primary example of strength having a disadvantage or a cause of weakness is sheer size. Typically sizes both represent power for action but also vulnerability. Losses are often proportional to size. For example, in price wars, the firm with the larger share takes the greatest hit. As such, the market leaders are likely to be hurt more than smaller competitors even though the larger firms are usually thought to have a stronger position.

Though somewhat different in nature, large fixed fortifications, such as the Maginot Line of World War 2 represents a weakness in strength. To obtain a strong position, it was immobile and therefore vulnerable.

16.4.2.2. Power of Number 2

A consequence of this thinking is the unique strength of "not being the leader." Commercially, the second market position is often viewed as particularly stable and therefore, freer to undertake strategic actions. The leader is often too vulnerable to do anything but respond.

16.5. Formulation Aims

While the end point or long-term aims of incremental strategies appear the same as for dynamic well-coordinated strategies, the structures are different. It is assumed with incremental strategies that a continuous process will get them to that end-point. Incremental strategies, by their nature, assume that the world is in a pseudo-stasis or equilibrium state as previously discussed.

16.6. Anticipation of Results

Incremental strategies are built on the basis of anticipated results and "continuous progress." The perennial adage of "seeing the light at the end of the tunnel" dominates the thinking. Each move is expected to yield a movement toward the ultimate aim.

16.6.1. A Linear and Non-linear View

It is usually assumed that the result of incremental actions will be solely related to the extent of the activities. In the simplest case, one anticipates linear results from incremental activities. That is, the returns will be proportional to the effort expended. But even when one accepts the concepts of threshold levels of actions and non-linear effects, all results are still related to specific incremental action.

16.6.2. Interactive Effects

Effects of multiple incremental actions are often overlooked in the strategy formulation. For example, the American forces never anticipated the collective psychological impact

of the Tet offensive during the Vietnamese War. While US forces were clearly able to counter each of the incremental actions of the North Vietnamese forces the collective action had unanticipated consequences.

16.6.3. End-game Strategies

Rarely is the "end-game" considered in the formulation of incremental strategy. It is usually assumed either that the process itself will be so successful that the end result will be obvious or that the end-game strategy will be taken care of along the way.

16.7. Examples

The following are some examples of what could be considered as incremental strategies. Note that these are interpretations of situations.

16.7.1. Western War in Europe (World War 2)

The strategy for the land war in Western Europe appears to have been designed to be highly robust with a very broad front. This was similar to the strategy on the Eastern Front. The conduct was incremental, all battle fronts were support to the extent feasible. The endeavor was to maintain pressure and exhaust the enemy¹⁶³.

16.7.2. Colonial Wars

Colonial wars and anti-insurgencies tend to be series of responses to provocations. This is incremental in nature. The basic assumption in this type of warfare is usually that the "real" population supports the occupying power and the insurgents are merely terrorists or malcontents. The strategy is then to weed out the terrorists and all will be well. Alternatively, the population can be controlled through fear. In both cases, the war is conducted as a series of incremental actions.

16.7.3. Incremental Marketing (Pricing)

Unless a business is facing a major change in its structure such as the introduction or retirement of products, then its marketing behavior tends to be incremental. That is, the business team focuses on changes that would give it incremental competitive or earnings advantage. These usually consist of new promotional campaigns and relatively small changes in price..

16.7.4. Organizational Processes

Organizations favor stability and as such, change processes tend to be incremental. This both provide a means of control and a safeguard against catastrophic events. As previously noted, organizational processes are usually designed to support the existing paradigms and as such, belong to the forces of stability.

¹⁶³ This seems to be a similar strategy to U. S. Grant during the later years of the American Civil War

16.7.4.1. Resource Allocation

While much has been made of "zero based budgeting", in reality resource allocations are typically done incrementally. Next year's budgets are typically based on the present year. To an even greater extent, manpower and resources are similarly based on history rather than any other measure of strategic needs in organizations.

16.7.4.2. Stage-Gate Processes

An interesting example of institutionalized incremental strategies is the new product development process. This process is often referred to as a "Stage Gate Process" in that the projects are sequentially reviewed and screened. However, these processes are inevitably incremental. Each project is considered independently usually mainly based on economic viability rather than overall corporate strategy.

17. Reactive Approaches

To some extent the concept of reactive strategies is a social statement of physical principle that for every action there is an opposite reaction. To some extent that is true. All actions change the situation which fosters reactions. Though as we will see, that action and reaction structure is voluntary in that it is a part of strategy rather than a dictate of the natural world.

Reactive strategies and tactics are a broad family of incremental actions that focus on the response to competitor or competitor perceived actions. These cover commercial situations in the form of “*Price Wars*”, classic military responses in the form of “*Arms Races*” and political actions in the form of negative campaigning. While each has different characteristics and dimensions, each is basically dictated by a perceived need to react to apparent or potential actions of a competitor. Basically these are competitive strategies. However, they may be under the influence or even the control of a third party. Auctions are such an environment where by a third party establishes a competitive situation, hopefully for their own interest. During the *Cold War* developing countries were able to use the competitive political situation to bid up foreign aid. The basic issue is how to manage these situations.

17.1. Reasons for Reactive Strategies

Strategies that are partially or fully based on reaction exist because they provide a function. There appears to be three underlying functions for this approach in that the reaction to a provocation will: (1) provides a means to deter further and more destructive behavior, (2) give license for actions that are viewed as favorable, and (3) provide a means to placate or motivate your forces through acts of revenge or vengeance. These should not be necessarily viewed as irrational. Each can be thought of as a rational part of an overall strategy. The problem that we will see later is that approach can accumulate into a very expensive and dangerous situation.

17.1.1. Deterrence

We have discussed earlier the concept of deterrence of potential actions. The effectiveness of deterrence is based on the concept of a believable and feasible counter action. For a deterrence to be effective, the actions behind it must be believable.

Unfortunately, it usually implies their occasional use. For example, the “*Mutual Assured Destruction Deterrence*” (MADD), strategy of the Cold War was based on the belief that both the US and the USSR would use its nuclear weapons. While it was more theoretical for the Soviet Union, the Soviet Union would have no doubt the capability of the United States to use nuclear weapons since it already use them twice before.

In a more ancient context, formalized tribal war was usually taken as a means to demonstrate one’s willingness to protect territory. It can be thought as a form of deterrence. In this regard, the actions that are taken are intended to assure deterrence not

destruction. The concept of “proportional” or “reasonable” response may be applied here.

17.1.2. License

Provocation is an ancient excuse for taking action; whether that provocation is real or not. For example, the start of the Second World War in Europe and the Spanish-American War were both initiated by some alleged attack on battleships. In both cases they were clearly not a true provocation but it really didn't matter in terms of the response. The underlying principle is that the provocation allows for the use of an actions which otherwise would be viewed as illegal or at least immoral but are believed to be advantageous.

17.1.2.1. Change in State

The provocation is viewed as a change of the situational or political state. It justifies a broad range of actions which otherwise could not be considered. In our previous example of the initiation of war, the provocation acted to automatically change the political state. It does not require further explanation. Similarly, the use by the Germans of indiscriminate aerial and submarine warfare changed the state of how war could be fought. Furthermore, the German use of indiscriminate ballistic weapons (V-1 and V-2) ended any discussion of the morality of Allied area bombing of Germany.

17.1.2.2. Effectiveness

The extent to which the license will be applied is related to the assets of the responder not the conditions of the one receiving the action. The concept of proportional response is not applicable here. The rationale for the action is to obtain a significant advantage not necessarily to deter future counter-action, though that may still be an additional advantage.

17.1.3. “Vengeance is Mine”

While the first two functions of deterrence and license can be considered rational, vengeance is often not. However, from both an operational and strategic perspective it may be. The need to appear powerful and effective may overwhelm any counter effect to such actions. The “Doolittle Attack” on Japan by medium bombers (B-25's) flying one way missions off of an aircraft carrier in 1942, was both desperate and ineffective from an operational perspective. However, it was highly effective from a morale perspective both in the United States and in an inverse manner in Japan. The net effect was to accelerate Japanese Naval action which resulted in the Battle of Midway, a decisive U.S. victory.

17.2. Abstracted Strategic Learnings

Reactive strategies are not necessarily poor, just often expensive approaches. The key issue to recognize that these competitive approaches are based on perception rather than on reality of threat. The aims are often lost in the process of reactive competition.

Victory with these strategies can be obtained as readily by not reacting. The goal of the strategy is often to intimidate the competitor, which can backfire leading to ever increasing commitment of resources. It is important, in maintaining an effective reactive strategy, to differentiate between competitive actions and their actual threats.

17.3. The Basic Models

The archetypes of modeling reactive strategies are based on work on Arms Races. Richardson¹⁶⁴ modeled classic arms races as sets of linear differential equations where the rate of accumulation of arms by each of two competitors is proportional to the difference in the perceived disparity in weapons. In the simplest form this is the following differential model:

$$dW_a/dt = C_a \cdot (W_b - W_a) + C_{a0}$$

$$dW_b/dt = C_b \cdot (W_a - W_b) + C_{b0}$$

Where W_i is the weapons held by i th competitor, and C_i is the coefficient reflecting the perceived threat and C_{i0} is constant reflecting other forces both for the i th competitor. This model can be generalized for any number of competitors or expanded to include other terms that would act to either accelerate or to “cool” the competitive process.

These linear models can be easily solved given initial conditions, and produces periodic and exponential solutions. These solutions tend to be dominated by rapidly increase accumulations of weapons or whatever in the case of arms races or decrease in the case of price wars. As will be discussed later, there are any number of modifications of the basic model including balancing factors and the use of lags and expectations. For the most part, these modifications do not change the basic growth characteristics¹⁶⁵. The general conclusion from this analysis is that classic arms races are not “winnable,” but rather lead to war or economic collapse.

17.4. Chaos

A dynamic process is that is describable, it is impossible to predict future behavior is referred to as chaotic. Small changes in the present situation under chaotic conditions will produce large changes in the future. Similar competitive models, as described above, can produce chaotic processes if there is severe and consistent reactions. The conditions for these processes to be chaotic are: (1) significant lag between provocation and the

¹⁶⁴ Lewis Fry Richardson, *Arms and Insecurity*, Atlantic Books (1960)

¹⁶⁵ There is one interesting exception in that using a finite difference model with non-linear (quadratic) driving terms can produce chaotic results, which are unpredictable. However, this is a unrealistic set of conditions.

response, (2) non-proportional response¹⁶⁶, and (3) additional players. However, though the reactive strategies may tend to look irrational, they tend not be chaotic.

17.5. Examples

Reactive strategies are a primary form of incremental actions. As such, they are prominent in both commercial and political arenas. While most take place innocuously; dealing with minor marketing and deal making issues, several have major consequences.

17.5.1. Arms Races

Arms races are the classic type of reaction process. These have been well studied¹⁶, and have both ended with catastrophic and peaceful results. The onset of World War One has often been attributed to the severe arms race that proceeded it. In the recent past, the arms race between the United States and the former Soviet Union ended peacefully but with the near economic collapse of the Soviet Union and nearly so for the United States. It is interesting to note, however, that the "cold war," which amounted to an arms race, appeared to act as a stabilizing influence on international affairs but expended huge resources. The principle of an international "balance of power" often leads to arms races by simply identifying the set of adversaries.

17.5.2. Counter-Force Deterrence

An "interesting" extreme example of a potential reactive strategy is the theory of "*Counter-Force Deterrence*." This was a concept proposed during the late 1960's as an alternative to "*Mutually Assured Destruction Deterrence*" (MADD) as a strategy for limited nuclear war. In the counter force concept, response to nuclear strikes will be proportional counter strikes as opposed to the MADD concept of a massive retaliation. Of course, neither concept is nice to contemplate and fortunately had never needed to be implemented. This is the application of "*proportional response*". The idea here is that by limited the reaction, the process will not spiral out of control.

17.5.3. Price Wars

Commercial "Price Wars" are another form of reactive strategies. While these activities may not produce the catastrophic results of military arms races, similar rules seem to apply. Here competitors continuously reduce price to gain market share. This behavior has been seen often enough to recognize the consequences. Price often falls below the average costs making them a net loss to all participants. The classic joke in these cases is that the "management expects to make it up in volume." But volume never comes, as all competitors drive down prices. The winner is the one least hurt in the process.

¹⁶⁶ The classic simple chaotic process involves finite difference dynamic relationships (indicating lags) and a quadratic (severe) response.

17.6. Why do they exist?

Incremental reaction strategies are pursued either under a guise of “necessity” or more rationally based on the belief that superior resources and capabilities will prevail. That is in the form of a “war of attrition. The underlying concept here would be that there will be a winner and that the gain to the winner will compensate for the costs.

17.6.1. Information Driven

Information or often the lack of it drives these strategies. The reactive strategies rest on the interpretation of competitive actions as being provocations. Lack of information, or sometimes the invention of intelligence, can lead to gross miss-interpretation. Here it is important to access not only the competitor’s capabilities and capacity but also his intent. Far too often, intent is inferred by capability. If the competitor has the capability, he would surely use it¹⁶⁷.

17.6.2. Perception of Strength

In order to rationally engage in reactive strategy it is requires that the organization have a perception of strength. It is a strategy built on the assumption that one’s resources, in the long run, will over power the adversary. In this respect, reactive strategies can be considered as a form of attrition.

17.6.2.1. The Quest for Dominance

The underlying game is dominance. That is each player in the reaction strategy is trying to maintain or surpass the competitor. Each is attempting to secure itself against the perceived threat. The ultimate in this process is the establishment during a Cold War. Notice that Cold Wars¹⁶⁸ are not new either in global politics or in commerce.

There has been several theories centered on the importance of various types of dominance in world affairs. Probably the most influential, at least in regards to arms races during the end of the 19th and through the 20th century was Alfred Thayers Mahan thesis that the dominance of military sea power was critical in world affairs.¹⁶⁹ This thesis by itself has been attributed to any number of naval arms races.

¹⁶⁷ There may be an inherent assumption that the competitor is going to behave as protagonist would under the same conditions. Unfortunately, the conditions are rarely the same.

¹⁶⁸ Probably the earliest recorded situation of this type was between ancient Egypt and the Hittites. A more recent example might be between the British and French throughout the 17th and 18th centuries and only ending with in the early part of the 19th century formally. In second thought it still appears to be going on.

¹⁶⁹ Mahan, Alfred T. *The Influence of Sea Power Upon History, 1660-1805*. Abridged ed. Englewood Cliffs, NJ, Prentice-Hall, 1980. 256 p.

17.6.2.2. The Quest for Share

In commerce that is an assumption that market share provides competitive advantage. While having a dominate market share does not always assure the highest profitability is does seem to provide some degree of competitive advantage at least against minor participants. As such, firms with moderate share, then to fight for increased share.

17.6.2.3. Seeking Stability

One of the positive results of the reactive situation is to exclude other smaller players. Only the “*Big Guys*” can afford to play. This effect was most notable during the *Cold War*. Only the US and the Soviet Union had the resources to play the “one-upmanship” reactive game. This excluded minor powers to only act as third parties and tended to produce a less vital world order. Unfortunately, the rest of the world may not have seen it that way.

17.7. The End-Game Strategies

Reactive conflicts tend to be easier to start than to finish. As such, it is advisable to examine the end-game options before undertaking the activities. Unfortunately, reactive conflicts are usually fallen into or assumed to be inevitable rather than being a part of a rational grand strategy. The following are common end-game results for reactive conflicts.

17.7.1. Intensified Conflict

The classical danger of reactive conflicts is that they will accelerate to more dangerous situations. The contestant that perceives that he is losing may wish to expand the scope while he has some degree of parity. However, it should be noted that this is not inevitable. Wars do not necessarily follow from arms races. However, many major wars are proceed by arms races such as in the cases of both world wars.

17.7.2. Punic Victories

Reactive conflicts will consume resources. Severe reactive conflicts, either in the form of arms races or price wars, can exhaust one or all the participants. The ending of the last cold war appeared to have bankrupted the Soviet Union and came pretty close to that for the United States. Both the United States and Soviet Union were stuck with a huge military complex ill suited for post cold war geopolitical situation. Severe price wars can produce similar effects by severely draining business resources.

17.7.3. Avenues for Respectful Retreat

Sun Tzu noted that a wise general provides his opponent an avenue of escape. Only a foolish general would corner the opponent and suffer the consequences of a desperate struggle. If a “painless” end to a mutual reactive competition is sought, it is critical that avenues of retreat are provided. Typically, this is handle by some type of formal or

informal agreement¹⁷⁰. In this case, we wish to provide a means of low cost surrender or a mutual way out.

17.8. The Role of Perception

Reactions are based on the perception of threats. Perception is the issue here. The actions driving the response do not have real to get a reaction. They only have to be perceived as real. A wonderful recent example was the perception that Iraq had weapons of mass destruction. Whether or not the weapons existed was less important in the US decision to invade than the perception that they did or could have them. In this regard, perception is everything.

17.8.1. The Nature of the Threat

In a purely reaction strategy, the extent of the response is related to the threat that the provocation has engendered. It is the perceived threat that the response is driving the response, not the specific action. In fact, the action may appear to be innocuous to the competitor but perceived as a catastrophic threat to the responding organization. For example an attempt by a salesman for a firm to make a deal might be interpreted by the competing company as a severe price reduction and trigger a broad based price response. Something that neither firm had in mind.

17.8.2. Virtual Threats

It is important to note the threat need not be real. Price wars can be instigated by buyers by providing false information about competitive prices or competitive intentions. A classic example of unreal threats driving overly reactive behavior took place during the cold war. During the late 1960's the United States started the development of a number of supersonic bombers including the B70. The B70 looked particularly threatening to the Soviet Union due to purported sustained high speed and altitude capabilities. However, the project was cancelled to the perceived vulnerability and cost of such an aircraft. But not before the Soviets developed an interceptor, the MIG25, Foxbat. It is a classic interceptor, sacrificing range, maneuverability, and armament for speed and altitude. Unfortunately, the American analysts viewed it differently, since the United States was going to have a supersonic bomber, the only purpose for such a plane was as air superiority (fighter) aircraft. Certainly, the United States could let such a challenge go unopposed. The result, of course, was a new round of major fighter aircraft development of the F-15 Eagle and the F14 Tomcat (However, more on the F-14 later). This in turn led to development of a new generation of advanced fighter by the Soviets.

The late 1950's and early 1960's were full of similar incidences some like the "bomber and missile gaps" generated dangerous results. The Cuban Missile Crisis could be viewed as an almost fatal step in that process in which the Soviets tried to overcome an apparent disparity in reach of nuclear weapons by placing them in Cuba.

¹⁷⁰ The problem with agreements may be legal. For example, pricing agreements are clearly illegal in the United States. However, while signaling is also illegal, to some extent it can be done to provide an exit.

17.8.3. Relative Threats

It is not the competitive action that is the threat, it is the potential impact of that action. The launching of the *HMS Dreadnought* in 1906 did not merely represent an additional battleship but a technology that was perceived to obsolete all existing battleships. This one ship thereby represented a relatively large threat. However, most threats become incrementally or marginally less important. Once you can destroy the world three times over, increasing that to 3.5 times does not increase the threat significantly. This decreasing relative marginal threat represents a cooling effect on reactive processes.

17.8.4. Intimidation

A counter intuitive approach to induce a lower response to a perceived threat is through intimidation. If a competitor could be induced to believe that "resistance is futile" than the reaction to the threat may be reduced. Note that intimidation does not necessarily effect the extent of the threat or its relative importance only that there is little that can be done to reduce it. Of course, the danger to this strategy is that the competitor may just take the opposite action and commit even greater resources.

17.8.5. Lagging Responses

Timing of reaction can be critical in the perception of the threat. A greatly lagged reaction by a competitor could be viewed as a preemptive move rather than just a reaction. This action could then be perceived as a major threat rather than "business as usual" resulting in a new round of reactions.

This is particularly a problem with large businesses whose management may change more rapidly than the decision process time of the market served. In this case, the new management may not realize that the competitive actions presently being observed were result of early actions of his business. It should be noted that product and facilities development may take five years or longer to reach the market. This is a reverse case of the Boyd Cycle where the competitive time constant is so long, that it is perceived as non-reactive.

17.9. Alternative Models

In order to capture the range of possible factors influencing reaction processes the archetype model (Richardson) can be modified. It is useful, however, to start by understanding what characteristics we are looking to generate. Typically, we would like to understand the mechanisms that would control, moderate or reduce the growth in actions. As previously mentioned the dynamics of the classic model tends to lead to accelerated (exponential) growth in arms or unrestricted decline in price whichever is appropriate. These tend to lead to unstable and unacceptable results. Most acceptable aims would restrict actions to be non-self defeating. Clearly preferred aim would focus on mutually favorable results. It is, therefore, desirable for any reactive strategy to be constrained or at least to have the growth in actions to be limited to a range that is economically sustainable.

17.9.1. Perceived Threats

Converting the model to handle the effect of perception tends to make the relationships non-linear. That is, threats are perceived as a (non-straight line) function of the difference in competitive actions:

$$dW_a/dt = C_a \bullet F_a(W_a, W_b) + C_{ao}$$

$$dW_b/dt = C_b \bullet F_b(W_a, W_b) + C_{bo}$$

Here the functions **F_a** and **F_b** represent these effects of perceptive threat. In order to capture the decreasing incremental threat, the fractional change in position is used. For example in the two-competitor case the relative threat would be:

$$(W_a - W_b)/(W_a + W_b)$$

This decreasing relative threat would tend to decelerate the competitive conflict. However, the perceptive function may be either a calming or aggravating effect. It could either reduce the effective threat or increase it.

17.9.2. Resource Limits

The model can be further restricted for resource limitations by constraining the response function. That is:

$$C_i \bullet F_i(W_a, W_i) + C_{io} \leq \text{Value}$$

The limiting value, of course, can vary over time reflecting the changing conditions of the firm or the nation. It should be noted that since all of the responses are interconnected, limiting a major competitor would likely effect all other future actions.

17.9.3. Multiple Competitors

The existence of multiple competitors (greater than two) can have either a decelerating effect by reducing the impact of the competitive actions (through alliances) or accelerate it through an apparent increase in the competitive threat. Arms races have been characterized by both. Entry of additional competitors has mainly aggravated price wars. The additional competitors included by simply extended the model to more elements.

$$dW_1/dt = C_1 \bullet F_1(W_1, \dots W_n) + C_{1o}$$

$$\begin{matrix} \cdot & \cdot \\ \cdot & \cdot \\ \cdot & \cdot \end{matrix}$$

$$dW_n/dt = C_n \bullet F_n(W_1, \dots W_n) + C_{no}$$

17.9.4. Time Lags

Time lags are more difficult to handle analytically. If time lags are a major issue, it is usually advisable to use a "finite difference" structure to model the process. This is similar to the differential form but uses specific time intervals. In this way, time delays can be integrated directly into the model¹⁷¹. Alternatively, higher order derivatives can be used to capture the lags. However, this adds significant complexity to the model with little impact on the results.

17.10. Alternative Strategies

Given the potential dangers in following these strategies, alternatives need to be investigated. There are two basic types, unilateral actions and mutual withdrawal.

17.10.1. Not Reacting to Provocation

The simplest strategy to reduce the escalation of actions is not to react. There are two issues that need to be addressed. First is the recognition of the provocation, and second is the recognition that the reaction to the provocation may itself produce an action that may be more detrimental than the original provocation.

Simply not recognizing the provocation acts to discount it. This is particularly the case, when the competitor has gone out of his way to demonstrate it. However, in some cases, such as price wars, knowledge of the provocation, as previously discussed, can be iffy at best. As such, reacting to the non-existing provocation can be dangerous. The non-reactive stance should be viewed as a conservative position.

In the case of price wars involving vastly different market shares, the response of the leader can be highly detrimental to his survival. The share leader typically takes the brunt of the costs in price wars.

Finally, the ignoring of provocation is a signal that the competitor is believed to be impenitent to exploit and advantage that the provocation will generate. This may or may not be real, but at least it provides a brake to the reactive process.

17.10.2. Developments Out of Kind

As noted early indirection is often a better strategic route than a direct confrontation. This route is aimed at reducing the impact of the provocation by other than the expected reaction. For example, it might be expected that the development of new weapon system by a competitor would produce a response in the form of the development of a similar or counter weapon. However, competitor might, alternatively, develop an entirely different

¹⁷¹ The major problem with finite difference models is that they can become chaotic, producing random predictions. However, this would be very unusual. Most differential models of this type are solved as finite difference equations in any event.

weapon system in some area that the first competitor is vulnerable. It is not a direct reaction but one of indirection.

17.10.3. Agreements

Agreements not to engage in provocative behavior such as arms buildup can be useful, though often short term solution to the a reactive process. For example the 1921-22 Washington Naval Conference resulted in a reduction of the naval arms race that resulted after World War I. While its major immediate effect was to reduce the (historically) absurd naval competition between the United States and England, but had little long term effect on the Japanese. A further example would be the successful series of weapons limitation treaties between the United States and the Soviet Union during the cold war. It should be noted that complete compliance with the treaty conditions, is not necessary for the treaty to be successful. The aim of these treaties is to “cool” the reactive process. That has often been the result, even if all terms of the treaties have not been met.

17.10.4. The Principle of Maximum Force

The "*Principle of Maximum Force*" proposes that the maximum contemplated action (or more) will eventually be reached in any reactive process and therefore, the most positive results will take place if applied immediately. It is an attempt to utilize intimidation to the maximum. A good example is the concept of *Mutually Assured Destruction Deterrence (MADD)*. Here no alternative is proposed other than maximum force to be used in response to a nuclear attack. It should be noted, of course, that this strategy, in particular, is only workable if the opposition knows and believes that it will be implemented.

17.11. Influences

Given the consequences and the difficulty in withdrawing once engaged, it is useful to examine the forces that support a reactive strategy beyond political and economic beliefs.

17.11.1. Technology Development

Technology, itself, can tend to propagate reactive strategies. These come from two sources: (1) the dominate nature of the technology, and (2) the need for economies of scale to utilize it. “Technology races” are propagated by the belief that the new technologies have made existing ones obsolete. The greater this belief, the stronger will be the perceived need to react. Technology dominance provides a major motivation for reactive strategies.

However, in some cases the nature of the technology itself requires intensive competition. The economics of chemical processes, for example, are highly sensitive to scale¹⁷². The introduction of new production technology can thereby trigger a price war designed to

¹⁷² This is referred to as the 6/10th rule where by the capital costs goes up by the 6/10th power while the volume is linear. This results in severe increases in earnings with scale.

capture share needed to justify the new capacity. This has happen in over a number of development cycles with anhydrous ammonia production¹⁷³.

17.11.2. The Paradigm

The operating paradigms of corporations, military and government makes it difficult to back down. There are always potential political losses in not responding. It is far too simple to respond. It is also, unfortunately, the easy solution.

17.11.3. “Military Industrial Complex”

There are vested interests in product development organizations and firms to promote competition. This is not inherently sinister but in the nature of development and organizations. These groups finish the means of reacting and exist to provide those services. It is only natural that they wish to first survive but more meaningfully to prosper. It is interesting, that this situation existed as much within the communist Soviet Union, as in the capitalist United States, or the basically socialist corporate structure. Each creates the assets for implementing the reactive strategy and then is surprised at their influence at propagating it.

17.11.4. Legal Constraints

As previously mentioned, legal constraints exist that limit the ability to negotiate out of commercial competitive situations. These can greatly frustrate activities to limit the impact of the strategies or to be able to back off from positions.

¹⁷³ This is basically a refrigeration process with new technologies introduced to reduce heat loss and thereby reducing costs. The new process technologies usually involve construction of ever-increasing plant size, which reduced losses. This in turn required increase volumes that the growth in the market could not support, thereby requiring increased share and severe competition.

18. Experiential and Process Approaches

Experiential and process approaches are the kingpins of all strategy formulation activities. All real planning procedures rests on using experience, cases and standardized procedures to proceed. The other approaches discussed in the following sections are additional tools for strategy formulation. They tend to be imbedded into the overall experiential approaches. Experiential approaches focus on the use of examples as simple templates for developing strategies. We look on past examples for guidance. We try to find examples that closely resemble the present situation and strategic aims. Then these examples are adapted to the new conditions. Standard strategic processes extents that idea to a formal set of rules and directions that summarizes past experience.

18.1. Characteristics and Scope

Experiential and process approaches are the most widely used strategic methods. These covers both the most informal approaches to strategy and some of the most structured. They are use in all arenas of strategy and at all levels. For the most part, all other approaches are used in conjunction with some form of experiential and heuristic approach. They are so general and ubiquitous that they may not be noticed. However, they remain the key procedures for strategy formulation.

18.2. Abstracted Strategic Learnings

In general, experiential approaches (including the use of standard strategic processes) are the major procedures used in the formulation of strategy. They are based on past organizational and personal experience and thereby are inherently biased. Standardized strategic processes are used to bring together organizational experience and for management to maintain control of the process assuring some degree of due diligence. Doctrines and policies are simplified forms of standard processes but allow for greater flexibility in interpretation. Doctrines are particularly designed to foster “management at a distance”, where senior management can not, or will not supervise actions in detail.

18.3. Using Experience

To some extent all practical strategic approaches are experiential. Strategists, planners, managers, and business teams rely on their own wisdom and learnings to develop plans. All strategic training is intended to provide bases for decision making in this form. This training provides some type of experiential learning either in the form of summary principles or case studies. The intent is to provide the studies with the learnings from the past that can be used in future situations. This is the basis for military leadership training as well as with formal business education. Policies and decision processes are used to help give structure to the experiential approach. They are intended to merge organizational experience and learnings with that of the individual decision makers to assure effective strategies.

18.3.1. Past Experience and Case Studies

We see the past through the rose colored glasses of memory. It is always distorted and it always favors preconceived approaches. This is a key problem with using one's own experience as a strategic guide for actions. Formal case histories or "success stories" also provides the conventional wisdom and the propaganda of the "victors". A case history of Enron written prior to its fall will appear to be a vast success story though the seeds of its disaster already existed¹⁷⁴.

18.3.2. Problems with Past Successes

The adage that "Future failures is imbedded in past successes" is a general truism in that future failure can only happen to existing undertakings which are the result of some degree of past success. However, there is a greater truth here is that any set of policies and approaches followed without adaptation will eventually lead to weakness and ultimately to failure. All things and policies tend to have a life cycle. What works at one point is likely to failure later. But beyond the general principle of all things changing, there is a specific issue here. While "all things are the same"; all things are also different. It is the difference that is critical. Simply following past experience will not normally lead to a repeated success. Things change!¹⁷⁵

18.4. Standardized Processes

The purpose of standard strategic process is to separate the fundamentals of strategy from past experience. It is designed to put past experience into a structure that enables the strategist to glean wisdom from the past but not to extend the concepts too far.

18.4.1. Templates

Standard strategic processes act as templates for action. They describe what steps and actions need to be taken. However, they can be both conceptual and specific. As conceptual models the standard strategic processes are a list of actions described in various levels of abstraction that must be taken in sequence. The list may consist of specific activities or end-points and objectives. The degree of abstraction depends on the need for control.

¹⁷⁴ Such a case was published on its E-Commerce business indicating a fully successful business model though later it was discovered to be a financial scam. The case study was obviously based only on what Enron corporate management had given the authors.

¹⁷⁵ For example based on some historians, Robert E. Lee followed the example of Napoleon at the Battle of Austerlitz when planning the Battle of Gettysburg. While it worked for Napoleon it didn't for the Confederates.

18.4.2. Primal Examples

The standard process may be highly specific and operational. In this case they take the form of “primal examples”. They represent examples of what “should be done”. They are actions that should be repeated or at least copied.

18.4.3. Organizational Experience and Learnings

Standard strategic processes should represent to some extent the organizational experience and learnings. When properly developed and used they should represent the accumulative experience of the organization. If done well, that experience may exceed a time frame longer than that of any living member. This is a primary advantage to this type of strategic approach. By canonizing previous experience, the standard process avoids repeating past “mistakes” and ideally should assist in streamlining the strategic process and increase the likelihood of success. Unfortunately, the approach can also calcify the existing attitudes and biases in such a way as to assure the repeat of past failures. The use of standard strategic processes by themselves does not assure advantage or the use of truly “best practices”.

18.4.4. “Best Practices”

While standardized processes have value in themselves, it can be highly useful if they are thought to be the best possible or “Best Practice”. This concept has been a mantra of professional management and academics over the past several decades. That is, organizations should seek out the best processes and adopt them.

18.4.4.1. Organizational Uniqueness

One of the key underlying principles and problems of the concept of “best practice” is the willingness to copy organizational processes. This assumes that all organizations are similar. The very source of competitive advantage is often its uniqueness. Unique organizations have inherently unique and hopefully advantageous characteristics. Other organizations’ “best practices” rarely match these unique characteristics.

18.4.4.2. Process Evolution

The world changes and the needs of organizations change. Furthermore, we should learn from our experiences. As such, processes need to change and adapt. Good standard strategic processes likewise must change. Care must be taken to avoid the canonization and calcification of processes mentioned above.

18.4.5. Sharing Fault

As discussed earlier all strategic activities involve risk taking. Many professionals and managers tend to be overly risk adverse. This is a key organizational problem. A key value of standard strategic processes is the reduction of personal strategic responsibility. If the action failed but the strategic process was followed, it can not be the team, but that of the organization. This clearly spreads out the risk, and reduces the fear of failure.

18.4.6. Process Philosophy

A process or procedural approach is based on having methods for everything. Ideally we have a rule book which gives the process for all strategic issues.

18.4.6.1. To Have a Process is to Control the Phenomena

A fundamental principle of process strategic approaches is that if you have a process the phenomenon is under control. The reverse also follows is that without a process the phenomena is always out of control. Under this belief, the process is essential. Senior management can thereby control the activities by imposing a standardized process.

18.4.6.2. To Control the Phenomena is to be able to Optimize It

The great reward from using standardized processes is, of course, to be able to optimize the value. This is the basis of the concept of a “Best Practice”. It is the optimum process that always yields the best results. It can only be obtainable with this approach through standardized processes.

18.4.6.3. Get the Process, All Else will Follow

By controlling the process in an organization, the organization is controlled. Success of strategy, therefore, comes from the process. Developing the process means that we understand the phenomena and therefore we manufacture success.

18.4.6.4. It is the Process, not the People nor the Conditions.

A corollary to this principle is that the process is what drives results not the people. The people are not then responsible for the results, if the process is executed appropriately. Unfortunately, if the process did not work well, it is because it was poorly executed, which brings us back to the people. To some extent, the process approach considers people as commodities. They are interchangeable¹⁷⁶. This is an unfortunate view which condemns many processes where creativity and excellence are required for success.

18.4.7. Strategic Assumptions

The argument for the use of standard processes rests on sets strategic assumptions. Most of which, focus on the commonality of the problems being undertaken and the existence of the “correct process”.

¹⁷⁶ This is a similar concept as expressed by the American soldiers during the Second World War, by referring to themselves as “GI’s”, Government Issue. They have become a part of a process and are therefore interchangeable.

18.4.7.1. Strategic Homomorphism

For a standardized process to be applicable, the situation and objectives must be similar. One must consider sufficient similarity of conditions so that the process will be always appropriate. This is probably the most constraining condition for the use of any standardized procedure.

18.4.7.1.1. Common Objectives and Aims

The effective use of standard processes generally relies on the existence of common objectives. The objective is the strategic purpose of the activity. One of the values of standard processes is the imposition of the common metrics of success. This implies common objectives and goals. By imposing the policies and processes, the designers thereby impose the objectives. Unfortunately, objectives may need to reflect the organizational needs which may differ even within a larger organization. The objectives of one business, for example, may be different than another, even though they are part of a common larger conglomerate.

18.4.7.1.2. Strategically Similar Conditions

As previously noted, standardized processes assume strategically similar conditions. The metrics and the actions that are to be taken are sufficiently similar to ignore differences. This can be viewed as “recursive self-similarity”, whereby undertaking the process forces conditions and metrics to be mapped into a common language. It is recursive since any significant discrepancy needs to be immediately reinterpreted in terms of process requirements. This can produce some unique and startling reinterpretations of conditions. It is not what counts but how to force it into the process.

18.4.7.1.3. Scale Independence

For example consider “Rules of Engagement.” These are the process or policies that direct when lethal force can be applied by the military. While the rules have some adjustment for scale, they basically apply across conditions. They would pertain to a response to any aircraft deemed a threat to a US Navy ship, for example¹⁷⁷. This resulted in the downing of Iranian passenger aircraft. In this sense we can view policies as containing a form of “scale recapitulation”. That is that what works on a small scale will be applied to any larger scale. If a process works for small projects it should work as well for large ones, with some modifications. This can be one of the major failures in the application of processes, policies and doctrine. That is scale produces great changes in asset requirements and risks. Ignoring those differences may lead to surprising failures.

18.4.7.2. The Existence of a “Best” Practice

As previously discussed, an underlying strategic assumption to adopting a standard process is the existence of a “best practice”. That is a way of planning and execution

¹⁷⁷ This resulted in the downing of Iranian passenger aircraft

which would be the best possible for the whole class of conditions that are foreseen. This is, of course, not a trivial assumption. However, it is an enduring one, following over a century of reliance on standardized processes in management and for centuries of craft and guild practices in manufacturing and engineering.

18.4.7.3. Incremental Optimization

But “best” is never really best. However, we expect to be able to move to the “best” from the “very good”. A key assumption is that whatever process we select we can move it to a better process incrementally. This is a fundamental assumption that we can get to the ideal from the accepted standard process. Unfortunately, this is also a fundamental problem if the route to improvement is blocked by the process itself. One can find oneself repeating past errors because they are so built into the process that they can not be escaped.

18.5. Doctrines and Policies

Doctrines and policies have some of the same characteristics as standardized processes. They are standardized and formal statements of what is expected and what is assumed. They provide a language for strategic planning and actions. Standardized processes lay out the specific procedures that need to be followed. Policies and doctrines lay out the concepts, rules and assumptions that are to be used. The specific processes are not determined. They are the prerogatives of the decision makers.

18.5.1. Providing "Discipline"

The underlying justification for imposing doctrines and policies is to provide “discipline” and uniformity of action. In our litigious world it also provides some insurance against legal and potentially criminal actions. In the military and commercial environment they provides “management at a distance”.

18.5.2. Management at a Distance

The function of “doctrine” and policies is to allow actions to be taken under uncertain conditions without direct management supervision. The idea of “doctrine” can be thought of as tools of the early formalized religions and military organizations. For religion it allows the local ministry to function without overwhelming supervision. By indicating the general principles that should be followed, the church hierarchy need not oversee local actions. For the military and particularly naval operations prior to modern communications, local commands often had to make decision regarding the use of lethal force with little direct guidance other than from general orders and established doctrine.

18.5.3. Training and More Training

Doctrines and policies are reinforced through training and practice. As such, training must be an integral part of the doctrine development process. Without continuous reinforcement through training and retraining, the doctrine and policies lose force. Policies that are not practiced lose their value and are often forgotten. This is worse than

not having policies and doctrines in place at all, since while they have become ineffective, they are believed to exist and are still functional.

18.6. The Total Quality Imperative

Total Quality Management and all of its incarnations (Six Sigma and others) are process and policy focused. They have recently become the basis of a whole range of strategic planning activities. And in some organizations it has become an imperative. The mantra for Total Quality Management is that “good processes produce good results”. Traditionally Total Quality Management has been applied to manufacturing processes, where the engineering of the process is clearly the route for improvement. In manufacturing “consistency of product: and “cost reduction” are the measures of success. In other areas, as previously noted, the dominance of the process is usually in doubt. Good processes don’t necessary produce good strategies. The Total Quality Management Approach focuses on the development and control of the process.

18.6.1. Establish Standardized Process

Without a process there can be no Quality! And that process needs to be “standardized”. A standardized process is one that will produce similar results with similar inputs. This means that all of the inputs must be known and the process determined.

18.6.2. Processes Under Control

The process must be under control which means that the inputs are stable and the results consistent to those inputs. This goes beyond just having a standardized process. It means that the process is totally understood and the inputs are under control. Once again, this is designed around manufacturing rather than strategic planning. In most strategic planning processes, inputs are not all endogenous. In fact the most important once typically are not under control and often not even fully understood.

18.6.3. Optimized Processes

If the process is fully understood it can be optimized either analytically or by some heuristic procedure. We will discuss the analytical approaches in another section, but it should be noted here that the process and analytical approaches tend overlap.

18.6.4. It is the System, Not the People

An underlying concept of Total Quality Management is that failure is based on the system, not on the people. As previously mentioned, this is a double edged blade in that it provides focus on the process and policies that are the central to Quality Management but also discounts the value of the people executing the process. As we have previously, the people are viewed as interchangeable parts of the process. People under this philosophy are not unique and the contribution is not unique. Therefore, they are responsible neither for success nor failure. All value is in the process. Rewards are made

then only to motivate the people¹⁷⁸. From a process development perspective this is reasonable, but from a strategic implementation perspective it produces problems.

¹⁷⁸ I find this to be one of the most unfortunate elements in the Total Quality approach but it is also often denied by its promoters and advocates.

19. Empirical Approaches

All real approaches tend to have empirical components. It is generally thought to be foolish to undertake decisions without any information and data. Furthermore, the “scientific” approach “always” rests on the use of accumulated information. To some extent the old adage “Information is Power” drives the empirical approach. However, there is a distinction between using data and relying on it to drive the decision. The empirical approaches try to do precisely that. They rely on data for the decision process. As in the cases of the other approaches, rarely does it go that far.

19.1. Characteristics and Scope

The empirical approaches rely on data and information from the field. This is distinct from relying on experience or the opinion of the staff unless those opinions are themselves based on actual observation or measurement.

19.1.1. Empirical Decision Approach

Probably the best examples of empirical strategic approaches come from the Total Quality and the Six Sigma teachings. These approaches are based on various sequences of actions which include empirical measurements. There are any number of almost classical Quality and Six Sigma methodologies. The following have become standard:

Measure \Rightarrow Analyze \Rightarrow Plan \Rightarrow Act (MAPA method)

Define \Rightarrow Measure \Rightarrow Analyze \Rightarrow Improve \Rightarrow Control (DMAIC method)

Define \Rightarrow Measure \Rightarrow Analyze \Rightarrow Design \Rightarrow Verify (DMADV method)

Identify \Rightarrow Design \Rightarrow Optimize \Rightarrow Verify (IDOV method)

In each case measurement or identification and analysis are critical steps. Furthermore, each method is cyclic in that after completion, the process starts over again. This is typical of empirical methods in that measurement and analysis becomes the center of the decision making. Note that analysis here does not necessarily mean analytical modeling. While modeling is greatly enhanced with real data, it is not a requirement. Analysis, however, is required. The analysis here differs from modeling in that it does not require prediction but only descriptions of the meaning of the data. We view the modeling driven decision making as the “Analytical” approaches which are discussed in another section.

19.1.2. Empirical Structure

The collection of data and information tends to focus on seven issues that are typically desired in any strategic planning process. While we think of them here as separate issues, in reality, they are interconnected. Collection of information in one area typically leads

to learnings in others. However, it is useful within the empirical approach to look at these as separate information needs.

19.1.2.1. Situation Analysis

Information is needed to simply describe the situation.

19.1.2.2. Capabilities and Capacity

Competitive capabilities and capacity is the knowledge of what the competitors can do. The issue here is “knowing your enemy”. People who do competitive intelligence typically divide the task into two issues: (1) competitive capacity and (2) competitive capability. Capacity relates to the physical ability of a competitor to take action. This focuses on the resources and assets of the competitors. The capability focuses on the human and management resources of making things happen. While these concepts generally are applied to recognized competitors, they should also be applied to other existing and potential participants.

19.1.2.3. Intent

To understand what a competitor is capable of is useful, but we also need to know their intentions. This is a big jump between what could happen, and what will happen. That is the difference between contemplating and doing.

19.1.2.4. Testing of Concepts

We seek to know what the impact of possible future actions are likely to be. This may be either the impact on other participants (i.e. the market) or on the competition. This allows us to understand the likelihood of success and its cost based on proposed actions.

19.1.2.5. Future Opportunities

Finally we need to view the future. This is both in terms of a linear progression of events but also on the potential of externalities creating a new world. With change comes both danger and opportunity. From a strategic perspective, it is the opportunities that are most insightful.

19.2. Abstracted Strategic Learnings

All strategic approaches in some form rely on data and information. In this regard they are all empirical. However, some approaches rely on systematically obtained data and information as almost a sole means of developing strategy. These truly rely on the ancient belief that “information is power”. Information has limitations. No information is perfect. As such, purely empirical approaches though very appealing tend to be themselves imperfect and sometimes dangerous.

19.3. Types of Empirical “Data”

Information takes on the persona of “reality”. However, all types of information do not have the same “form of reality”. Information and data vary from those that are both based on real, physical and measurable phenomena to those based solely on opinion.

19.3.1. “Factual” Information

Factual information is based on those things that one can assume exists. They are based on true “reality” in the sense that they are measurements of existing things. These would include measurements of existing strategic assets and how they are physically deployed. In business there are the accounting and transaction research information. In the military, these consist of the reconnaissance as well as classical spying. This type of information makes of the bulk of the data that is typically collected.

19.3.2. Opinion Information

Opinion information captures the thoughts, perceptions and attitudes toward things as viewed by the external participants in the strategic situation. As we have previously discussed, opinions and motivations are key issues in all strategic processes.

What makes interpretation of this type of information difficult is that it is often confounded with factual information. That is, opinion information is substituted for facts. When actual factual data can not be obtained or verified through direct measurement, opinion information is often substituted. “Facts” and opinions under these conditions become confused. Reliance of “intelligence analysts” in this situation is paramount¹⁷⁹. What are facts are those things that are interpreted as facts.

19.3.3. Projective Information

The third form we refer to as “projective” information which consists of opinions of opinions. This is where we normally deal with the issue of intent. We infer a future opinion or action based on the opinion at this point in time often as believed by a third party. For example, we would use the opinion of a reseller of a class of products or market experts to estimate the intentions of customers to purchase products. While this type of information is necessarily suspect it is also often the most vital in the decision process.

19.4. Collecting Information

Data is collected in really three modes depending on the generality of the conclusions that are required. Each of the modes provides power and comes with limitations.

¹⁷⁹ In both the onset of the first and second Iraqi wars, faulty opinion information was presented to the U.S. Congress as factual justification.

19.4.1. Quantitative

Quantitative information is that which can be used to project general principles on a statistical basis. That is, it is information from a representative sample of the population of interest. It represents a description of a population and how that population is likely to act. The description of future likely actions is the power of this type of information. It allows for general statements of conditions within the targeted population. However, its limitation is that only questions with are well recognized and mutually exclusive possible answers are useable. That is, we need to know the questions and the range of acceptable answers before seeking quantitative information. This greatly limits its usefulness.

19.4.2. Anecdotal

Anecdotal information is the opposite situation where sporadic and uncontrolled information is gathered and analyzed. Its power comes from the very openness of the gathering process. Since there are no controls over what is collected, events and conditions themselves tend to dictate. Here the situation dictates the message. Often in this case, while sources (spies) may be sought, the specifics of the information may not be. It may just come. This is also the weakness and limitation in this source. Since it is not controlled, its reliability is unknown at best, and suspect at worst. Great damage has been done by unreliable and self-serving anecdotal sources.

19.4.3. Qualitative

There is a third intermediate source which tends to carry some of the positive characteristics of both quantitative and anecdotal sources. This is referred to as qualitative information in that it comes from somewhat less structured research schemes and focuses on subjective information. However, the sources and methods are controlled and reproduced. Unlike quantitative research methods, qualitative approaches allows for the exploration of information. We seek to understand here the nature of the issues and the range of potential alternatives. This is opposed to the “how much” questions which is the focus of quantitative approaches. But unlike anecdotal methods, a structure is defined and an effort is taken to use multiple sources of respondents.

19.4.4. An Optimum Mix of Methods

It should be noted that typically multiple methods are and should be used. Typically qualitative and quantitative methods are used in conjunction for marketing research. Qualitative methods provide the range of questions and responses, and quantitative methods used to determine the extent and to build population models to test concepts. Anecdotal approaches are typically used to gather event information and to raise information gathering questions for exploration.

19.5. The Empirical Process

The empirical approaches rest both on pragmatic data-based decision-making and on data translation. Data translation is the process by which data and raw information is made

useful and relevant to the problem. Structurally we can look at this process as a chain of actions:

Data \Rightarrow Information \Rightarrow Knowledge \Rightarrow Wisdom

While this structure appears simple and straightforward, in reality it summarizes the total “intelligence” effort. Here we infer an “analysis” of data. That is really an interpretation of information that converts facts to descriptions of conditions and projections of their consequences. This does not necessarily imply complex and/or predictive modeling. It is as likely to be a heuristic unstructured process as one that involves mathematical or even conceptual models.

19.5.1. The Nature of Data

“Data” consists of all forms of “stuff”. It is the raw information that is gathered. These consist of published and privately collected textual information; discussions with people; pictures, videos, graphics and maps; quantitative and analytical measurements, and raw statistical data. With the advent of our huge computer systems along with advanced modes of electronic surveillance the range and extent of available data has become enormous. We can collect, in many cases data only dreamed about a generation ago and in do it affordably. Note that this is not always the case. Some forms of data are still expensive to obtain and in the case of military and security issues, sometimes very dangerous.

19.5.2. Information as Derived from Data

Raw data is a pile of stuff. And that pile, as previously noted, can be huge. The data has to be “distilled” or reduced to the meaningful clunks of learnings. This is roughly referred to as information. The modern concept of “data mining” is an extreme example of seeking out order from massive databases. But here it is only an issue of extent. But information is still not itself useful. It lacks context. We can view information as similar to generating the summary statistics from raw data. These would be the average values and measures of the spread of the data. They summarize the data but do not reveal how that information relates to the strategic problem; that is the chore of creating “knowledge”.

19.5.3. Evolving Knowledge

Knowledge is what knowledge does. Knowledge consists of the useful concepts derived from information and is the working basis of all empirical approaches. All useful information, therefore, must end up as knowledge. The process of forming information is basically analytical in that it is a reduction of data. The process of evolving knowledge is a synthesis of information. Information is merged with previous understandings of the problem, past experience and fundamentals to form relevant and useful concepts. Knowledge is telling what the information means rather than what the information just says.

In this regard, much that we associate with information is really some form of knowledge. A report on that provides interpretation of information is a form of documented knowledge. In its simplest form knowledge is almost a continuum of information. However, it usually goes beyond that simple association and merges the all available other sources of knowledge.

Knowledge contains a human character. It is a heuristic and contextual analysis of information. It is created in regards to a particular situation with particular problems in mind. As such, it is often not general. This is an important point regarding the empirical process in that as the data is transformed and filtered, it loses its generality and to great extent its “objectivity”.

19.5.4. Seeking Answers

So far we have looked the empirical approach as a linear though potentially expanding process. However, the process is back-driven. That is, the inability of knowledge to answer all questions or to select from all possible strategic alternatives drives the need for more data. It is an inherent part of the process. The need for more information is driven itself by the expectation that such additional information will provide the necessary insight.

An alternative way to view issues is in terms of the development of institutional wisdom. The function of evolving knowledge generates principles of how that information should be structured. This concept can be associated with the idea of “wisdom”. It is a natural process that feeds back on the type of data and information that is sought and how it is to be analyzed. From this perspective, the empirical process is self organizing. As data is analyzed to form information and information is synthesized to form knowledge the process is guided by expectations. Those expectations correspond to organizational “wisdom” which itself is a product of that same process.

19.5.5. Information & Knowledge Management

It is important to note that the empirical process is not a one-onto-one mapping, but an interconnected expanding chain where data may end-up in any number of possible “pieces of knowledge”. It is this network of data and knowledge which makes the empirical approach so powerful. Data drives knowledge geometrically.

The trick, however, is to allow for this multiplicity of knowledge through management systems. Information management systems focus on the collection of documented materials and are, by definition, simpler to develop and maintain than those truly focused on knowledge. . Knowledge systems involve heuristic analysis. That is knowledge, by definition, incorporates human interpretation which makes each element of knowledge somewhat unique and interconnected. While there has been much discussion and research on knowledge management, for the most part it is still rudimentary based on documented and textual materials.

19.6. Limits of Empiricism

Empiricism is such a integral part of the “scientific” approach to strategic planning that we often forget its limitations. Information is always uncertain. Because of these limitations, empiricism is usually combined with other approaches to produce more robust strategic planning procedures.

19.6.1. Uncertainty Revisited

All information is uncertain and there is no way to totally eliminate this uncertainty. We can reduce some uncertainty with more information. However, there is a limit to what can be learned. That is, there are inherent uncertainties for which any amount of additional information can not eliminate.

19.6.2. The Here and Now

Information is obtained based on the “here and now” not on the potential future. This is a critical limitation to most empirical approaches particularly those that rely on human opinions and attitudes. Therefore, all information is based on the current situation. However, most strategic plan calls for actions in the future where conditions and attitudes may change. For example, we estimate the intention of customers to purchase a product in the future. While respondents can give their present intentions to purchase under given conditions, they may change by the time of the actual transactions.

19.6.3. On Creativity

Data collection is probably least reliable when dealing with hypothetical and creative conditions. The results of requesting information on present conditions should be reliable. But asking about things that do not exist, or may not possibly ever exist in the minds of the respondents, will not be reliable or even consistent. Yet this is the very information that we often seek.

19.6.4. “Paralysis by Analysis”

Just as analysis can lead to delay in decision making, as discussed in the next section, empiricism can also. If the lack of information becomes the excuse for inaction, it becomes a part of the problem not a part of the solution. We can always use more information. All good plans could be helped by useful and timely information. However, without information, plans still need to be made and action taken. Critical decision points, those perennial “fish or cut bait” conditions, will always come irrespective of the information available.

20. Analytical Approaches

The Analytical Frameworks are such a dominant management style that they are often viewed as the natural or "scientific" method. They have become so ubiquitous that they are the "normative methods" for strategic thinking. They are the forms of the ultimate image of "Rationality." When in the film "Network", the writers wished to convey the overly rational business framework, they used the idea of the linear programming model.

These frameworks focus on gathering and analyzing information. The unexamined assumption behind this approach is that with greater knowledge the decisions will be "better." The obvious down side to this method, from the perspective of practitioners is the tendency toward "paralysis through analysis." That is, the tendency to overly postpone decisions by demanding every greater amounts of data and its analysis.

The Analytical Frameworks are also very stealthy in that they impose themselves within the context of other frameworks. Whether the primary framework is competitive or strategically social, the analytical approach can be applied. In this regard it can be thought as a concurrent framework. However, its structure and requirements are so overwhelming that if allowed to, they tend to dominate all other approaches.

20.1. Characteristics and Scope

Analytical Frameworks focus on the application of knowledge and modeling to identify the "best" solution to the strategic problem. To some extent this requires viewing the world through the filters defined by the models and structures that are permitted by the various analytical forms.

20.1.1. "Implicit" Analytical Objectives

The purpose of the Analytical Frameworks is to find the "Best Feasible Solution." The term "Optimum" solution is also associated with these frameworks. The objectives are normally to meet or exceed analytically well-defined goals. These goals are embedded into the definitions of the problems and are limited by those definitions. In fact, in most cases, the objectives are limited by that which can be defined within the context of the analytical description of the problem. Therefore, the framework itself defines what are acceptable goals. The logic of the process is a little circular in that only acceptable goals are those that are able to be "solved for."

20.1.2. The "Black Box" Formulation

In its simplest forms, Analytical Frameworks try to structure the world as input-output models. Input variables are divided between those factors that define the world, from those that can be manipulated. Output variables are those that result from changes in the input parameters. The objective of the framework is to define the strategic problem in this context and then to manipulate the formulation to find the ideal or "best" set of conditions.

For the most part, the Analytical Frameworks focus on the results and then rationalize the process. This may be viewed as a "Black Box" formulation in which the consistency and rationality of the logic is less important than its "reasonability." Here we have to distinguish these Analytical Strategic Frameworks from the "Scientific Method." These strategic approaches are intended to identify directions and solutions rather than the pursuit of knowledge. While this may not be inconsistent with the development of knowledge, it is not an inherent goal of their application.

20.1.3. The Information Rich Environment

These frameworks are inherently based on potentially information rich environments. That is, they implicitly assume that the situations can be described with detailed information. The emphasis is on CAN BE rather than IS described. Often the true nature of the situation is not revealed but rather assumed. This can, of course, be dangerous in that the results are assumed to be true since they are derived from the analytical approach and yet these results also rests on the "quick sand of their own assumptions."

20.1.4. A Semi-deterministic World

Analytical Frameworks seek solutions to problems. For the most part this requires a "deterministic" world. Uncertainties if described at all, are handled as input parameters, not as fundamental characteristics of the problems. While this type of structure does provide means of handling the probabilistic or "stochastic" world, in reality, it is handled as if the inputs were known.

20.1.5. A Single Solutions

A tendency or rather a characteristic of Analytical Frameworks is the implied assumption of a single "best" or optimum strategy. The goal of these frameworks is to identify that "best" solution to the problem. While these methodologies are not limited to single solutions, the most of the deterministic forms, which are basis of most of these frameworks, do suggest it.

20.1.6. An Orthodox Approach

A major consequence of these frameworks is the restriction of solutions to those that would be expected. These are "orthodox" solutions within the parameters of the models. Truly unorthodox, creative, solutions are difficult to extract from conventional and therefore orthodox structures and models. This greatly limits the effectiveness of Analytical Frameworks.

20.1.7. A Focus on the Solution

Analytical Frameworks by the nature focuses on the identification of the solutions not on the implementation. In areas where they traditionally employed effectively, the means of implementation is clear and well structured. However, in other areas such as in market planning, the lack of inherent attention to the means of implementation is clearly a weakness.

20.2. Abstracted Strategic Learnings

The Analytical Frameworks have become ubiquitous to a great extent by being very successful in the handling of many classes of problems. They have been particularly useful in areas of engineering and production where the situation is well-defined, objectively clear and information available. In more vague situations they also provide a means of structuring strategic problems that have then encouraged the collection of data and clearer definition of objectives. Analytical Frameworks provide the language of strategic planning whether in forecasting in the form of Econometrics, or production through operational research approaches.

A unique concept from Analytical Strategic Frameworks is the idea of "optimum control policies." The goal of this approach is to identify the "optimum" approach to a solution rather than optimizing the solution its self. This is a more general approach to seeking objectives from a process perspective.

The use of Analytical Frameworks have indicated several observations in the general strategic formulation process:

- *It is critical to separate those factors that are under control from those which are "exogenous" to the situation.*
- *If you can not measure it, you can't control it.*
- *Control of the process is as important or more than the selection of objectives.*
- *Objectives are not always feasible.*
- *There is a limit to knowledge.*
- *Past Knowledge can be Rationally weighed with newer information.*

20.3. Tools and The Cult of Analysis

While a cult or group of adherents always form around strategic frameworks, this is particularly true with the Analytical Frameworks, which tends to require special knowledge and tools. It is the application of tools, which most differentiates these frameworks from others.

20.3.1. Inverting the "Calculus of Victory"

An alternative view of the Analytical Frameworks is as an inversion of the "Calculus of Victory." As previously discussed the "Calculus of Victory" is the process of estimating overall strategic advantage. The Analytical Frameworks formulizes this process and inverts it to identify the best solution or the maximum advantage.

20.3.2. The Value of the Tool or of Knowledge

To some extent these frameworks are "process" oriented in that the tools of analysis become the basis for strategy. In this sense, the strategy itself is the process of analyzing the situation. A major issue in using these frameworks then is to differentiate between the assumed tools and the knowledge of the situation. These are usually confounded by definitions and assumed relationships in the analyses.

20.3.3. Forcing the World into a Model

The major characteristic of all Analytical Frameworks is that they allow only elements that can be well defined within their structure. Those issues that can not be well defined or for that matter, where information is not available, are usually assumed away. Similarly, the objectives and goals included in these frameworks are only those for which solutions are defined and feasible. These issues, by their nature, limit the scope and structure of these approaches.

20.3.4. Optimum Control

From a strategic perspective, optimizing results is likely to be insufficient. The Analytical Framework provides a means of examining the process by which the objectives are met. This allows for the optimization of the process itself. This is referred to as an "Optimum Control Policy." The unique characteristic of the Analytical Frameworks, is the ability to actually "solve" for such optima.

20.4. Typical Frameworks

The Analytical Frameworks are widely taught at the universities and in industrial seminars. While other frameworks are presented, the Analytical Frameworks are presented as the theoretical and normative basis of business management. However, there are multiple ways for formulating problems with their own sets of definitions, structures and tools. Most of these Analytical Frameworks have evolved out of specific needs and areas of planning.

20.4.1. Operations Research Frameworks

The term "Operations Research" covers a broad range of analytical approaches to management and tactical problems. These cover commercial, operational, and military applications. Logistics (supply and value chain) applications have been particularly amenable to these methods. These methods require the formulation of a "model" with well-defined parameters. The process of developing these models or more specific of defining the problems is captured in various problem development procedures referred to here as Operational Research Frameworks.

20.4.2. Financial and Economic Frameworks

Accounting, financial and economic analysis approaches are basically input/output models. Their use has become ubiquitous in all of commerce and almost all

administration (whether public, private or organizational) situations. Monitoring and control of funds are always viewed as essential. These approaches are analytical with a similar framework focusing on the development of appropriate models.

20.4.3. Quality Frameworks

Quality approaches, including, Total Quality Management (TQM), Quality Function Deployment (QFD) and Six Sigma Methods, consist of combinations and elements of different types of frameworks including Analytical. While all of these are process and operationally oriented, they also tend to be highly Analytical resting on statistical methods to construct underlying causal models.

20.5. The Limits of “Rationality”¹⁸⁰

It might sound somewhat ironic to start an introduction to frameworks focusing on rational decision making to discuss the limits of analytical thought. But, it is important to view this framework in the context of uncertainty. The term "Rationality" is used almost interchangeably with measurement and analytical methods within this framework. Accordingly, if you can't measure it, it isn't important. This is the basis of the "scientific method." It has become the basis of the idealized modern methods of management. As previously noted, we feel that we can measure everything, we model everything, then we can forecast everything, and eliminate risk. Unfortunately, risk and uncertainty always remains. This is covered in the earlier section on Risk, Uncertainty and Intelligence but applies here specifically.

¹⁸⁰ This section and the next were drafted from a set of notes on Advanced Marketing and Business Research Methods, Introduction by Gene Lieb at <http://www.lieb.com/Documents/INTRO1.pdf>

21. Portfolio Approaches

The Portfolio Framework is a subset of the Analytical Frameworks where the focus is on the selection of potential outcomes. The concept of the strategic portfolio rests on the ability to identify a set of options that would lead to satisfying the strategic aims. The strategic aims for typically undertaken by portfolio approaches are to reduce the risk and increase the robustness of the long-range goals. The classical example is financial strategies based on portfolios of equities (stocks) and bonds. The aim, here, is to maximize return at a given degree of risk or alternatively to minimize the risk associated with achieving some desired return.

The ability to tightly structure these types of strategic problems has given rise to a powerful family of analytical tools referred to as *Mathematical Programming*, which includes *Linear Programming* as well as the more general techniques of "*Multiple Criteria Decision-Making*". The portfolio approach to strategy coupled with these analytical tools provides a general insight into strategy formulation.

21.1. Characteristics and Scope

The core concept of the Portfolio Frameworks rest on the idea that the strategic problem can be reduced to the selection a combinations of elements or quantity of elements, which meets a set of constraints and optimizes some objective.

21.1.1. The Portfolio

We start by considering the whole collection of items that could be selected. The solutions of the problem consist of selection of a subset of these items. Each of these possible solutions or sets is referred to as a portfolio. As previously noted the existence of these items and the associated portfolios are a precondition for considering this strategic framework.

21.1.2. The Ensemble of Portfolios

In reality the selection is far more complex since there are potentially a large number of possible portfolios. The collection of all possibilities is referred to as the "Ensemble."

21.1.3. Defined Objectives

Similar to all Analytical Frameworks, Portfolio Frameworks require well-defined analytical objectives or goals. These are usually defined in terms of the characteristics of the items within the portfolios.

21.1.4. Multiple Constraints

Finally, the selected portfolios are typically constrained. That is there are usually a large number of these constraints which allows for only a limited number of feasible selections.

21.2. Abstracted Strategic Learnings

Portfolio Frameworks and its accompanying analytical techniques, "Mathematical programming", provides structures for seeking optimum selection of portfolios out of possible ensembles. The development these multiple dimensional (linear) structure has been the basis of several important general observations regarding the formulation of strategy including:

- *Constraints are critical for the formulation of any strategy.*
- *Constraints and Objectives (or Aims) can be considered interchangeable. From a constructional basis, the choice of what conditions will be aims and what are set as constraints is arbitrary.*
- *Relaxing constraints provides measurable improvements in the ability to meet aims. This measure is referred to as a shadow price. From this perspective, imposition of constraints acts as a means of guiding the strategy formulation process irrespective of whether they will eventually be relaxed.*
- *The concept of dominate strategies, those strategies or portfolios that are better in all respects or not inferior in any to other strategies, is a powerful tools that is independent of aims.*
- *The selection of aims may be driven by the availability of options (portfolios) in the form of the structure of the ensemble of possibilities.*

21.3. Real Portfolio "Problems"

As previously mentioned all portfolio problems consist of multiple options, a set of constraints and some analytical objective (function). However, the true complexity of real portfolio problems lies in the commonality of the situation. This involves considering the interaction among factors and items. In the simplest cases, we consider the items to be "independent." That is the impact of the selection of each item on the objective function is independent of the presence of the other items. This is a simple and traditional assumption. However, in most real problems it is at best a crude view of the situation. These complexities are often handled by design of the imposed constraints.

21.3.1. Common Resources

The simplest complexity, which is usually inherent in all real problems, is employment of common resources. In most cases only a limited set of resources are available. This is typical in both identifying optimum financial investment portfolios as well as with strategic business portfolio planning. The latter involves selecting the levels of corporate support for business units. As previously mentioned this is handled by constraints.

21.3.2. Correlation of Likely Results

A common and more complicated situation arises when there is a correlation in results due to the selection of items. That is the likelihood of results change depending on the presence of other items in the portfolio. This is typical with financial investment portfolios where the likelihood of returns from the items are correlated. The selection of the portfolio is not then merely the combination of the expected returns from the instruments in the portfolio but a weighed combination.

21.3.3. Common Results

In the design of portfolio of "parallel" development program elements we get into a further complication. Several elements are expected to have the same result. This is an extreme case of the correlation of likely results, where the success of one, is the failure of others. For example, several parallel risky development approaches may be undertaken to assure a common successful result. This is typical in exploratory project development such as within R&D organizations. It is also typical in risky operations or where success must be assured. This has been the case with some robust military strategy. The military example might be during World War II two routes were pursued simultaneously and in parallel across the Pacific, southern route under the Army (General McArthur) and central route under the Navy (under Admiral Nimitz).

21.4. Implementation and Potential Solutions

For many of the traditional portfolio problems implementation is implicit in their nature. The existence of effective financial markets with minimum transaction costs makes the implementation of financial portfolios straightforward. Similarly, inventory portfolio problems generally are also easily implemented as long as vendors and space are available. However, this is not always the case. Portfolios of existing permanent investments such as businesses or R&D projects are not easily adjusted. Under these conditions, implementation may be problematic.

It is important to note, that setting up the problem or at least exploring the problem from a portfolio perspective can be valuable. The process of structuring the problem often reveals sufficient information for identifying routes and adequate solutions without the need for full implementation. This is particularly the case in strategic business planning where there is little interest in removing existing businesses but the process is useful for setting goals and objectives and potentially balancing resources.

21.5. Portfolio Analysis - A Mathematical Programming Perspective

The power and attractiveness of the portfolio formulation of strategic problems is the availability of analytical tools for their structuring and solution. As previously noted, the Portfolio Framework is a sub-set of Analytical Frameworks, which assumes the existence of feasible solutions. As is the case with all analytical formulations, the resulting models are always an approximation of reality.

21.5.1. Formulating Analytical Portfolio Problems

Portfolio problems are formulated based on the selection of a number of objects, explicit objective functions and under a number of constraints. It is an optimization process whereby the values of the collection of objects are selected that will maximize or minimize the objective. The objects may be financial instruments (stocks and bonds), products in inventory or for a flexible manufacturing process, or possibly sites for the sale and distribution of products and services.

21.5.1.1. The Ensemble of Solutions

The solution consists of either the values of objects (usually how many) or the existence of them. It is useful to think of the possible solutions as consisting of an ensemble. The process of seeking out the best solution thereby consists of moving around within this ensemble of possible solutions.

21.5.1.2. The Objective Functions

Which solution is "best" depends on the objective of the problem. Maximize or minimize something! The objective or more meaningfully, objective function is described in terms of the objects of the problem. In the case of financial instruments, the objective may be based on the potential earnings or risk associated with combinations of holdings of those stocks and bonds. However, the objectives may focus on any attribute associated with the objects and that captures either the strategic goals or local objectives. For a traditional well-formed portfolio problems there is usually only one objective function. Later we will mention the Multi-Criteria problem formulation where multiple objectives are introduced.

21.5.1.3. Constraints

The major additional characteristics to portfolio problems are the constraints. These problems may have a large number of constraints. For example, with an inventory problem there may be constraints on the maximum and maximum number of any product, minimum required order sizes, constraints on sales agreements with vendors and the actual total volume that needs to be ordered. All of these would conditions constrain the acceptable solution. Note that the number of constraints often far exceed the number of objects. There may be more than five times as many constraints as objects.

21.5.1.4. Feasible Solutions

On occasion there are no feasible solutions that meet the constraints. There is no guarantee that any solution will exist irrespective of the objective function. Problems can easily be over constrained so that no solution is possible.

21.5.2. Linear and Discrete Forms

As previously noted, portfolio formations are also referred to as "Mathematical Programming" problems. The classification of the problems depends on the nature of the

objective functions and the constraints. The most widely used and analyzed are the linear and discrete types. Linear Programming problems consist of formulations with linear (straight-line) objective functions and constraints. Discrete models are linear problems but the objects take only zero and one values. While this condition makes solutions much more difficult to obtain, for the purposes of this discussion, we will consider their structures and implications to be the same.

21.5.2.1. Structure

The structure of linear problems can be considered in terms of a table consisting of objects as columns and the rows as constraints and objectives. The coefficients in the table define the objective and the constraints.

21.5.2.1.1. The Linear Objective

The objective is a single simple relationship consisting of the weighed average of the object values with an indication of whether or not it is to be maximized or minimized in the process. For example, if the objective is to maximize the earnings, the coefficients on the objects in the objective function represent the partial profits obtained by an incremental amount of each object.

21.5.2.1.2. Dominated by Linear Constraints

As previously noted, the constraints tend dominate the problems. The vast majority of the rows in the table describe the constraints. These are listed as coefficients with the introduction of a new artificial "slack" variable for each constraint. These make each constraint into equalities. Positive slack variable represent "greater than" constraints, and negative ones "less than" constraints.

21.5.2.1.3. Variables

In the formulation of the linear portfolio problem therefore, there are two types of variables. The objects that are referred to as "non-slack variables" and the artificial "slack variables" which relate to the constraints.

21.5.2.1.4. The Solution

There is a huge theoretical and applied mathematical literature devoted to methods of solving the linear and the discrete programming problems. Problems with many thousands of constraints are not uncommon. The resulting solutions consist generally of the best "corner" solution. It should be noted, that while the resulting "optimum" solution will be found if a solution is feasible, it does not have to be unique.

21.5.2.2. The Primal and Dual Formulations

As we had just mentioned, all linear programming problems that have feasible solutions can be "solved" as they is formulated. This formulation is an algebraic structure. As is the case for all such structures, there is an alternative way formulating the problem. In

this case, it is referred to as the "dual" formulation¹⁸¹. While the solution of this "Dual" problem is the same as that of the original "Primal" formulation there are some important strategic concepts that arise with this form.

21.5.2.2.1. The Duality of Objective & Constraints

In formulating the Dual problem, there is a reversal of the objective and the constraint elements. The terms in the old constraints form a new objective function while the terms in the old objective function becomes the new constraints. The structure of the objective and the constraints are therefore interchangeable. This is an important finding in that there is no distinction between objectives and constraints. Both are necessary to obtain a solution.

In traditional strategic planning, while there is an acceptance of objectives, constraints are viewed with disdain. However, this duality principle illuminates the lack of distinction between the two.

21.5.2.2.2. Shadow Prices

This duality principle is further highlighted by the concept of "Shadow Prices." These represent the impact on the objective by removing constraints at the optimum. Formally they are the values of the "slack" variables of the Dual problem. The fact that they can be solved reflects the soft nature of the constraints. Constraints are an integral part of the formulation of the problem, but they do not limit the final result.

21.5.3. General Objectives

So far we have only dealt with the linear formulation of objectives. In real strategic problems, this is a very simplistic approach, though one that is frequently taken.

21.5.3.1. Partial Value Objectives

The linear objectives are derived from the concept of partial or object value. That is that the objective is the simple combination of the value of the objectives that form the solution. The value of the objects is therefore viewed as being independent of each other. This is referred to as the primary value objective in that it is assumed that any interaction will be smaller than those attributable to the specific objects.

There is of course no reason why these objective functions need be simple weighed averages. The values could go with some function of the object values. A common and well-analyzed non-linear objective form is using squared values of the objects. This arises with spatial objective problems such as minimizing travel distances. This is referred to as "Quadratic Programming"

¹⁸¹ The "Dual" from a geometric perspective is the orthogonal projection of the original or primal problem.

21.5.3.2. Group Value Objectives

However, the value of a group of objects is unlikely to be equal to the sum of their individual values. There may be strong interactions. This is particularly the case with portfolios of business with common markets and products. It is unlikely that the potential value of the portfolio of businesses would then be simply the sum of the value of the individual enterprises.

There is any number of forms that these interdependencies can take. The simple method is to introduce a new term for the interaction between pairs of objects. This can be, of course, generalized to include all combinations. Fortunately, for most problems, the potential interaction can usually be foreseen and modeled¹⁸².

21.5.3.3. Ensemble or Options Objectives

So far we have dealt with objectives that are defined solely in terms of the objects. The effect of alternative options or possibilities may also need to be considered. We are here interested in the potential impact of changes in the objective functions on the solutions. Consider two situations, one where the existing solution is an isolated portfolio and the other where it is imbedded into a number of other solutions which are marginally poorer than the optimum solution. In the former case, the solution would be stable irrespective of the minor and some times major, changes in the objective function. But it is also trapped making the solution very rigid. There is little or no ability to adjust. On the other hand, the other solution will be more flexible, but open to alternative solutions with even the smallest changes in the objective function.

This illustrates the situation where the geometry of the ensemble of feasible solution may provide additional objectives. This is a particularly useful concept for the general strategic problem in that the "best" solution may be dictated as much by the ease of movement to other solutions as it is maximizing some internal criteria.

21.5.4. Multi-Criteria Problems

With the exception of the last discussion on ensemble objectives, we have been dealing with having single well-formed objective functions. However, in many cases we need to deal with several objectives or none at all. The mathematical study of these situations is often referred to the misnomer as "Multi-Criteria Decision Making". While it is mainly a topic of academic study, it is also a good descriptor of real world portfolio problems. Clearly relaxing the restriction of a well-defined single objective results in great complexity in the potential solutions. Here again, the value of pursuing this line of strategic thought is often in the clarification of the issues rather than the resulting solutions.

¹⁸² Quadratic and interactive terms can greatly increase the complexity of the problem and the difficulty of solution. However, if the objective functions is either always downward curved (convex) or always upward curved (concave) then there is a number of methods to seek solutions (Convex Programming).

21.5.4.1. Goal and Stochastic Programming

There are two general approaches to working with multiple criteria. First comes out of having a number of well-defined objectives. These objectives are then considered to be goals, which may or may not be optimized. The trick is then to balance these goals and which produces a number of potential solutions. This approach is referred to as Goal Programming.

In the second case, we consider the objective to be "uncertain". There is, therefore, an infinite number of possible objectives defined by a set of distributions over its parameters. This referred to as Stochastic Programming and results in the measures of the likelihood of specific solutions.

21.5.4.2. The Non-Dominated Sets

A concept coming out of the study of the general problem is the idea of non-dominated portfolios. These are feasible solutions whose values (computed by any means) are not exceeded by any others. Since there are any number of ways of computing value, there is any number of these non-dominated sets. However, there are a much smaller number of these than the total ensemble of feasible solutions.

21.5.4.3. The Efficient Frontier

The concept of an "Efficient Frontier" comes out of dealing with potential financial portfolios. The "Efficient Frontier" is constructed by ordering the ensemble of all possible financial portfolios by the risk and return that each provides. The upper boundary of returns at each level of risk is then defined as the "Efficient Frontier". It represents the maximum return given a specific level of risk, however risk is defined. Alternatively, the portfolios on this "Efficient Frontier" represent the non-dominated set of financial portfolios.

PART 5 STRATEGIC FRAMEWORKS

In this final section of these notes we will discuss at specific strategic frameworks. The purpose of this discussion is to illustrate the fundamental issues discussed in the earlier portion of these notes. The frameworks will be given as summaries.

These summaries are intended to show the general principles underlying the frameworks. For the most part the summaries reflect what I believe to be the currently generally accepted principles and structures. However, in some cases I've taken the liberty to propose refinements in those concepts to make them consistent with our overall general principles. It must be noted however, that the following frameworks should be considered only as rough general approximations of the learnings that in some cases requires years of training and education. We will not cover nearly all of the knowledge or accepted rules. Only those that are critical for defining the framework.

We will only deal with a small set of fairly classic strategic frameworks. However, even here, I can not claim either expertise or foresight. As such, I expect that all of these summaries will be open for additions and corrections by people far more knowledgeable than I.

22. Strategic Frameworks

All major repeated problems tend to form some type of framework that is used to assist in strategy formulation. The purpose of the framework is to simplify the process, to provide a common language and concepts for their development. In this section we deal with outlines of some of the major strategic frameworks. These frameworks capture the knowledge insight and experiences glean by academics and practitioners as well as generally accepted standards. These Strategic Frameworks, to an even greater extent than the planning approaches, have a profound impact in determining strategy. They are incorporated into the professional and organizational paradigms to such an extent that they are viewed as the "real" world. If one wishes to develop practical structures, it is done within these frameworks. If one wishes to radically change what is done and how strategy is formulated, that requires changing underlying frameworks that governs the planning process. Frameworks are the fundamental strategic learnings.

22.1. Constrained Applications

Strategic frameworks are designed to assist in formulating plans for constrained applications. Unlike the earlier sections of these notes, they are not universal in the sense that they are not designed to solve all strategic issues but only within a specific arena. This makes them applicable only within well structured conditions. For example military strategic frameworks are ill-suited to be applied to marketing problems though some authors have advocated it. Such applications quickly become infeasible. You just can't shoot the competition. The nature of the strategic framework requires these limitations. The limitations and constraints are the basis for developing effective and meaningful principles.

22.1.1. Multiple Application Spheres

While the strategic frameworks apply to constrained situations, it does not mean that they are restricted in their applications. For example, marketing strategic frameworks are applicable to any number of other arenas beyond commercial ventures. Marketing strategic frameworks tend to be readily applicable to various political arenas. In this context the frameworks definition translates well into other problem areas. Note, however, when frameworks are applied across arenas, usually significant changes are required to make them useful. These changes are often both in regard to semantics and to fundamental principles.

It might be useful to adopt the language of Object Oriented Programming in regards to this concept. Strategic frameworks form a family with inheritances. Strategic frameworks may exist for different arenas that carry with the many common characteristics. This makes it easy to transfer knowledge between problems that are structurally similar but may appear to be strikingly different.

Unfortunately the reverse is also true. That is conditions that appear similar may have very little in common strategically and may require strikingly different strategic frameworks. One of these pairs is the Sales and Marketing strategic frameworks. While the language

of these problems is similar the underlying assumptions and principles are so strikingly different that they require very different approaches and frameworks.

22.1.2. Within a Hierarchy and in a Network

Strategic frameworks work by necessity within hierarchies and in a network of other frameworks. By the limitations imposed by the specific applications, strategic frameworks require external information and decisions. Many of these are the result of other decision making processes; some conjoined and some disjoined. That is some of these other strategic frameworks work with each other and some operate at arms distance. The choice is usually not inherent but organizational. For example, Marketing strategic frameworks rarely deal with the manufacturing process decisions. These are usually handled separately but sometime conjoined in that potential marketing strategies may influence the manufacturing process strategies but not always. Corporate decisions (obtained using a corporate strategic framework) dictate financial metrics which then influences both the manufacturing and marketing decisions.

The hierarchy of action is traditionally viewed as going from the most broad or strategic level through the tactical level and finally into operations. From a strategic framework perspective the lower level actions are the outcomes of strategy. Since failure of a process can take place at any point in this hierarchy each level is critically important. However, the structure of the frameworks at each level is specific. There may or may not be an inheritance between them. They are inherently joined together, but once again the form the connection will vary by organization. For example, in the military such connection is normatively unidirectional; strategy leads to tactics leads to operations. In the military environment the reverse direction of planning is rare and may be viewed as insubordination. On the other hand, in new business development it is not unusual for the process to go in the reverse direction.

22.2. Effectiveness of Frameworks

Not all frameworks are effective. Some frameworks become so constrained that no feasible or successful solutions will exist. These are over constrained frameworks. Present corporate strategic frameworks of public firms (with publicly traded stock ownership) may be such a situation. These frameworks have timeframes for success that are much shorter than the reaction time of feasible levers of action. That is the measures of success for public firms today is usually within a single financial reporting quarter which is much shorter than the feasible reaction of any meaningful action. As such, there is likely to be no feasible solution and therefore the framework is ineffective.

Once again, it is possible to have frameworks that are overly constrained. Another alternative is that case where the framework is critically constrained producing a single acceptable solution. While this would seem to be an extreme and unusually case, it really is not. While one would expect that overly constrained frameworks would be eventually discarded simply because they can not work, critically constrained frameworks can exist indefinitely as long as the one solution is acceptable. Furthermore, successful

frameworks tend to become critically constrained over time. Success breeds contempt for alternatives. Here we can say that “present success is the basis of future failure”.

While examining the strategic framework summaries, it is important to recognize the potential for constraining solutions. The function of frameworks is to provide a means of developing plans. This requires a balance between providing flexibility with alternatives and the efficiency of the process. Constraints simplifies and directs the process but at the loss of alternatives.

22.3. Normative Tools

Strategic frameworks form a “normative” structure; that is they represent methods and preferred ways that decisions and plans should be developed. This is a critical perspective. They may not be the way decisions are actual made, but they represent the method that should be taken. Alternatively, they provide a means of developing the rationale for the decision. In this context, the specific strategic frameworks capture the conventional wisdom. The strategic frameworks in this section take on these characteristics. To some extent these purely normative frameworks consist of general principles, but do not focus on specific cases. Additional information is missing due to the hierarchical and networked nature of the framework. As previously, noted strategic frameworks do not work totally in isolation. Information and constraints are imposed by other issues that are external to the strategy.

22.4. The Prescriptive Framework

As previously noted there are additional information, constraints and rules that are imposed on the framework by organizations. Early in these notes, the concept of the “grand strategy” was discussed. The output of the grand strategy includes sets of aims, conditions and rules that are then passed to the strategic frameworks tasked to make the plan work. It is useful to refer to these constraints and rules as prescribing action. Combined with the normative structure, this information forms the prescriptive strategic framework. All real frameworks contain prescriptive elements. Prescriptive elements may be explicit as rules and doctrine or implicit carried through as tradition or through conjoined decisions.

22.4.1. Explicit

Explicit prescriptions are those that are clearly understood. These may be clarified in the form of acceptable goals and limitations in the types of allowable actions and situations. They are codified into doctrine and are made dominant by the reward, punishment and compensation policies. Bad outcomes of acceptable actions are usually not severely punished but those that are not acceptable tend to be. As such, prescriptions dominate the range of alternatives if well known. Other explicit prescriptions may be somewhat more subtle. Strategic doctrines and mission statements may contain fairly explicit directions and intentions. While they do not clearly exclude creative actions, they clearly indicate those that are favored.

22.4.2. Implicit

Many organizations do not explicitly indicate strategic directions; in fact they may actual deny such limitations. They may pride themselves on the “openness” of their strategic planning process to creativity in all actions and directions. However, organizations are inherently constrained by structure, history and the common decision making process. For example, the financial decisions of “manufacturing” organizations tend to be dominated by existing asset evaluation. This structures decisions around the return on those assets. This greatly affects the decision process in all other areas. In new product development in such a firm will be dominated by asset evaluation in areas where previous manufacturing capacity exists.

History likewise affects action. The old adage is basically correct that we tend to “plan to fight our last war”. The product development programs tend to follow those of the last major success product launch. Weapons and military strategy are greatly influenced by previous “experience”. Sometimes this can have catastrophic consequences such as the use of frontal attacks during the First World War being the normative practice from previous land wars. Similarly firms that have engaged in one business model will tend to favor the same model irrespective of new conditions. It is a natural and implicit structure within the prescriptive strategic framework.

22.4.3. Organizational Change

A corollary to this concept of the prescriptive framework is that true strategic change may be extremely difficult to implement. Certainly, some strategic change, that is change of the types of actions and directions that an organization wishes, can be produced by application of the existing prescriptive frameworks. However, radical change is usually infeasible within the context of the present prescriptive frameworks. This is often a difficult concept to capture. Organizations, particularly those in trouble, wish to “bootstrap” themselves into major changes. Unless they are willing to change the fundamentals of their strategic frameworks and root out their prescriptive nature, they will inevitably fail.

For the remaining portion of this section we will be dealing however with only normative frameworks. These contain elements that direct solutions. However, they are both widely accepted but also opened to criticism. Unlike much of the prescriptive elements, these are open to general testing and argument.

22.5. The Structure Strategic Frameworks

Early in these notes, an outline of what is in a strategic framework was presented. That outline will be followed in the subsequent discussions in this section. According to our outline, frameworks first center on properly defining the problem in a specific language and with unique concepts. This includes defining the acceptable goals, objectives and actions. The underlying strategic principles are then identified to help in the selection and design of actions. Finally, a structure is development that indicates how the strategy is to be ordered and implemented.

22.5.1. Defining the Problem

As previously noted each strategic framework is specifically directed at the solution of a class of problems and situations. The class of problems may be fairly general or specific. In either case no framework should be considered universal for all problems. They are designed to address specific families of problems. Differences among these families may be very subtle. For example marketing and sales frameworks are quite different though the both deal with similar situations and use common constructs. Defining the problem and establishing its scope amounts to identifying the nature of the problem's components. Those components are definition of territory, criteria, time, assets and participants.

22.5.2. Establishing Constructs and a Language

It is important to note that each framework has its own language, constructs and concepts. Therefore each framework will have its own glossary of terms. For example, marketing deals with market segments, brands and positions. These are abstractions which have strong specific meaning within its strategic framework. In traditional land war, one deals with a front, order of battle, and the center of gravity. All of which only have meaning within the framework. Understanding the concept and language is critical for the formulation of actions, goals and objectives.

22.5.3. Identifying Actions

Effective strategy must result in some type of action. There are two sets of actions that are considered: (1) those that must be taken, and (2) those that can be taken. The strategic framework defines both sets. It establishes what category of actions must be taken irrespective of the strategy. Those actions that must be done are fundamentals and, once again, deal as much with language as with concepts. The second set of actions consists of potential things that may or may not be done. Their description (or lack thereof) is the basis of orthodoxy and creativity in strategy.

22.5.4. Acceptable Goals and Objectives

The goals and objectives are defined within the scope of the framework. As previously noted, these may be within the prescriptive nature of the framework. From a normative perspective however, the definitional of the problem and acceptable goals are interlocked. It should be noted here that the formulation of the local objectives are an inherent to the strategic process. Here we separate out goals from local objectives. Goals are set for the strategic process. Objectives on the other hand are set by the strategic process.

22.5.5. Recognized Principles

The power or the effectiveness of the framework depends on the principles that can be applied that will allow for the formulation of a successful strategy. These incorporated principles and "laws" that are "accepted" as true and govern the situation. They may be incorporated as prescriptive doctrine. However, usually there are a broad range of accepted principles that are considered general and normative. The revolutions in

strategic frameworks surround changes in these principles. Principles by their nature are held to be universal within each framework. They should nearly always apply.

22.5.6. Structuring Strategies

Finally, the framework must lead to action. Strategic frameworks structure strategies and provide the language by which they can be described and implemented. This is not a simple function. Here there is a need both to describe the strategy and move them into action plans.

23. The Marketing Framework

There are two sets of strategic frameworks that have been classically well developed. That is, they have been derived from extensive study, much of which has been academic. These are the classic military battlefield strategy and that of marketing. Because these frameworks have been well studied, we can summarize them in detail as we do in this section on the Marketing Framework. Other frameworks are less well defined and can be considered far more controversial.

There has been some confusion regarding the role of competitive forces in Business Strategic Frameworks. Michael E. Porter, in his classic book on "*Competitive Strategies*" discusses the marketing strategic frameworks within competitive markets. The title implies a focus on the competitive situation. However, the actual focus is on the market and achieving market goals but not specifically on "defeating" the competitor. In a number of books including "*Marketing Warfare*," Ries and Trout promote the use of military competitive metaphors if not the competitive framework for the marketing arena. As we will see, this is somewhat inconsistent. For example, in most commercial cases, it is infeasible and usually not desirable to "close-in and destroy the enemy." The FTC (Federal Trade Commission) looks dimly on such actions and is expected not to allow.

In this section we will be using the "Marketing Framework" is the archetype of all of the Business Strategic Frameworks. While it is specifically designed for the commercial situation, it is widely applied to non-profit organizations and universities and even in the political environment. However, some of those are different enough to be covered in separate frameworks.

It is important to note here the relationship between marketing and sales strategic frameworks. Both are intended to drive sales of products, however, they have very different scopes and perspectives on what drives sales. Underlying the marketing framework is the concept of a distribution of potential customers referred to as "the market". While each customer may be distinct, from a marketing perspective they belong to the ensemble of potential purchasers. From a sales perspective and framework, each targeted customer is the focus of action. Sales frameworks, therefore, focus on the deal. Each transaction is critical. In reality both concepts are useful and, in fact, they are tied together.

23.1. Linking Frameworks in Business

The business or commercial strategy inevitably requires the integration of a number of different perspectives and strategic frameworks. Business component strategies are linked and must provide guidance to each other. Each of these frameworks need be development separately; but at this point we need at least to recognize the interrelationship among them.

23.1.1.1. Corporate (or Business) Framework

What is demanded of a business forms its goals and the path forward. To a great extent the corporate or firm can be viewed as a portfolio of businesses with common assets and needs. The Corporate Strategy Framework encompasses the formulation of grand business strategy, organizational and financial structure. Much of the fundamental assumptions and limitations of potential actions are dictated by the corporate strategy. This is a critical concept in exploring business strategies in that they are dependent on the corporate oversight and history. To a great extent the corporate strategic framework defines the specific business model.

23.1.1.2. Business Framework

The functional strategies (marketing, sales, and manufacturing) are subordinated to the overall strategic structure of the business. Much of the fundamental assumptions and limitations imposed on the functional strategies come from the overall business strategy. This strategy is focused on the products, markets and technologies that define the business.

23.1.1.3. Manufacturing Framework

Manufacturing or process strategy is a bit of a misnomer in that it focuses on the means of obtaining products. That may not involve the actual production of the products but their acquisition. The choice of approach greatly affects the alternatives for business development and it limits both the marketing and sales strategies.

23.1.1.4. Marketing Framework

Marketing and Sales are complementary functions. Both focus on the purchase process in order to secure revenues for the business. However, each of these strategic frameworks has distinctly different perspectives and functions. Though it has a long term effect, as a planning activity, marketing is mainly tactical and operational. It focuses on the method by which products and services are sold to groups of potential buyers. This is a statistical view. It rests on the concept of policy and image.

23.1.1.5. Sales Framework

Sales looks at the purchase process as the “Art of the Deal”. Each transaction is a complete action. Both marketing and sales always exist but it is the importance of each sale that tends to give relative importance to the two functions. Marketing may either dominate sales whereby Sales is viewed as a part of the marketing function; or marketing may be subordinated by sales when the individual sale is critical.

23.2. Defining the Situation and the Scope

The marketing strategic framework is intended to provide the actions for marketplace success. That is, the purpose of the framework is to assure business success in the sale of products into a specific market. This is defined by the situation and its limitations.

23.2.1. Defining Territory

The territory for this framework is the “market”. Marketing as previously noted takes a stochastic or statistical view of the buying process. In its most classical incarnation, mass merchandizing, customers are viewed as a “great” potential with varying propensity to purchase. It is this stochastic structure that forms the marketing “territory”. As we will see in the section, Marketing focuses on the key tactical actions necessary to secure adequate or optimum sales.

23.2.1.1. The Market

The market is an appropriate collection of potential buyers, users and sellers of specific product categories. It is limited in that scope to those individuals that could be interested. Note that this may imply an extended number of sub-groups who may buy, transfer, or use the products and services. These can form a value or supply chain. The key here is the identity of the individuals and organizations that are necessary in the extended purchase process.

Market space can be defined in terms of the product category, application, industry and geography. In this regard it is both a physical entity and a construct. A specific marketing framework needs first to define the specifics of the market for which the strategy is intended. In this regard, the market forms both the territory but also the scope and limitations.

23.2.1.2. The Criteria

Success is measured by the sale of a product and an optimum price. This can be measured as a market share or derived earnings. It represents the success in the capture of the market.

23.2.2. Timeframe

Marketing per se has a nearly continuous time frame. It is a function of the business and as such must be dealt with on a continuous basis. However, strategic marketing processes and campaigns generated by those processes tend to be episodic. That is, the campaigns are restricted into a fairly narrow time horizon, usually within a year. Results from those activities are expected to be seen at no more than twice that timeframe. This limits marketing programs to within a fairly narrow time slot even though its influence may extend over a long timeframe of decades.

23.2.3. Assets and Resources

Assets are those things that we can apply to produce marketing actions. Assets are the basis of all competitive advantage of firms and drive the selection of optimum marketing strategy. Rarely are assets solely available to one business or marketing strategy. Typically the asset strengths are associated with the firm and a range of products and market opportunities. As such, their availability and the duration of their use are always limited.

23.2.3.1. Tangible Assets

We use the term tangible assets to include both physical and financial items. For these assets, ownership is inherent.

23.2.3.1.1. Funds

Funds are almost always required. Even in the most basic form of working capital for ventures. Funds are required and the restrictions on its available will affect marketing strategy. However, the importance of this resource can be overestimated. While “out-of-pocket” funds are always critical, particularly for promotional and market intelligence purposes, funds are not the sole required resource.

23.2.3.1.2. Facilities

Facilities imply capabilities incorporated into physical structures and equipment. These include all facilities which the business has relatively free access to. These clearly include those facilities that are owned. However, ownership is not critical as long as unfettered use is allowed. As such, rented, leased, or contracted facilities are included. More questionable are those facilities with limited or joint access.

23.2.3.1.1. Manpower

Similarly, manpower assigned to a project or that which can be called upon are marketing assets. Note here that manpower is not interchangeable. The skills, abilities and motivation as well as time of these people are the assets. Here again, it is access to these resources that is critical. Corporate resources that are not available to the business are not a part of the marketing assets. Only those that can be call upon are valuable.

23.2.3.1.2. Materials (Inventory)

Finally, materials and material inventories are potential assets. Here we need to be careful in that the existence of finished inventory has been known to be a liability in that it can overly direct the marketing effort.

23.2.3.2. Intangible Assets

While all tangible assets are inherently proprietary in that they are owned or controlled by the firm, intangible assets are more complex. As a general rule, appropriate intellectual

properties that are controlled either through ownership or through agreements constitute marketing assets. The proprietary nature of these assets is more difficult to establish. The question is the degree of control.

23.2.3.2.1. The Product Concept

The product or offering concept may or may not be unique. But if it is, or if unique characteristics can be associated with product, it represents a major asset. For example, the iPod® may not be fundamentally a unique product, but it provides sufficient unique characteristics to be a valuable offering.

23.2.3.2.2. Names (Brands)

Proprietary names both of brands and products are assets. Often they can carry far more competitive value than the products themselves.

23.2.3.2.3. Market Access

The ability to bring products and information to the market is an almost irreplaceable asset. This is clearly the case in the distribution of products. If the distribution can be limited and control, than that control is an asset. Alternatively, without a means of going to the market, a marketing strategy is meaningless. Similarly being able to communicate with the market is a key asset. If that access is unique it can represent an overwhelming competitive advantage.

23.2.3.2.4. Technology

Proprietary technology can be secured by patents, trade secrets, conditions or simply by complexity. To be of value, however, the technology must provide competitive advantage. It must do something of value! This value may be in the manufacture of products, in the delivery of services, or in the application of products.

23.2.3.3. *On Strategic Reserves*

As previously mentioned marketing strategies can be expected to extend over a significant time period. As such, the asset and resource requirements must be expected to cover these extended activities. In this mindset, a sufficient reserve must always be considered in the evaluation of the effective of assets.

23.2.4. *Participants*

People and their actions are the key components of marketing strategies. Therefore the identification of the participants is critical for the strategic formulation. The marketing frameworks focus on changing the behavior of people that form a "third party" of customers and influencers. They are neither enemies nor allies in the conventional context. They are part and parcel of the strategic situation. This is the basis of the "marketing" and "political" strategies, where the objectives are to convince some group to

do something. While all strategies ultimately focus on the effort to get human beings to do something, the marketing framework is almost solely related to that action.

There are at least four groups of participants in the formal marketing strategic framework that need to be considered:

23.2.4.1. Customers

Customers are the drivers of the business and are centric to all marketing strategies. The identity of customers is more complex in that there may be any number of them within the marketing process. The term customer, in marketing, typically refers to the most powerful factor in the purchase process. For packaged goods, that is usually considered to be the ultimate customers. However, for industrial products, it may be any number of users or resellers of the product.

Customers are those individuals who purchase or might purchase the products of interest. Here it is useful to distinguish the level of use. In many cases the purchase process requires dealing with a value or supply chain which consists of a number of people who are considered customers in various functions.

23.2.4.1.1. Direct Customers

The *Direct Customer* is the person or organization that buys products directly from the business. This may be the consumer when dealing with retail businesses or it may be processors with industrial products. Typically for major OEM businesses the direct customers are distributors and resellers rather than users.

23.2.4.1.2. Users (Ultimate Customer)

The end points in any supply channel are the people who use the product. For industrial products, this is the point where the product loses its identity. While theoretically, the identity of the ultimate customer may be considered arbitrary, in practice it is not. For consumer or packaged products the ultimate customer is the consumer. For industrial products, such as agricultural pesticides, it would be the farmer or grower who applies it and obtains its direct value.

23.2.4.1.3. Downstream Customer

Between the direct customers and the ultimate users can be a long range of purchasers, particularly for industrial inputs. The supply or value chain between the beginning source of materials and the ultimate customer may be ten or more steps. Each of these steps may involve independent or linked purchases. The marketing strategy needs to consider many if not all of these.

23.2.4.2. Competitors

While in-kind and direct alternative products are always considered competitors, markets are usually more complex requiring the consideration of a broad range of possible

substitutes. The range of effective competitors can include in-house sources as well as in-kind and in-function competitors. The world has become a far more competitive environment and that competition must be considered.

While competitors may be portrayed in the role of the “enemy,” in the reality of marketing strategy, that is far from a universal truth. Strategies can exist to “co-op” the competitors and to strive to produce a stable “orderly” market where competitors can successfully coexist and even thrive.

23.2.4.3. Collaborators (Influencers)

Fortunately, we are not alone. There are people that help and influence the purchase process. These are usually the resellers, consultants, collaborating firms, and other participants in the purchase process. All can be critical and none should be unexamined.

23.2.4.4. Company (Ourselves)

The identification of the company is the basis for all marketing strategy. Here the firm is synonymous with the organization responsible for the offering. This may be fairly complicated when several firms are involved in delivering the offering. Marketing, by its nature, is oriented to the movement of products from the firm to its customers.

23.3. Aims and Goals¹⁸³

The acceptable aims and goals of marketing strategies read on the assumed situation. The general goal is to obtain earnings through the sales and delivery of products. However, the specific goals reflect the needs of the organization. The range of acceptable aims and goals reflect the centralized influence by the firm on the business.

23.3.1. Organizational Imperatives

But what defines “good” decisions? Ultimately it must rest on meeting some underlying benefits. This is something a kin to a business “Hierarchy of Needs”¹⁸⁴. Success along these measures not only affects the business, but career prospects of the decision-makers and the prognosis for the health of the firm. Included in ascending order are these organizational imperatives:

23.3.1.1. Survival

Critical for all organizations is simple survival. The importance of this imperative depends on the perceived threat to the organization.

¹⁸³ Note that aims and goals are set for the strategy. In this case, they are set by the corporate or business strategy. Objectives and milestones, however, are set by the strategy and are part of the strategy itself.

¹⁸⁴ This is a concept derived from Maslow’s Hierarchy of Needs. See: Abraham Harold Maslow, “*Toward a Psychology of Being*” 3rd Edition, John Wiley (1999)

23.3.1.2. Growth

“If a business does not grow, it will eventually die.” This is the fundamental growth imperative. It is critical for public corporations where the stock price depends not only on the present performance, but on the expected growth. Here we are interested not only in the growth of the existing businesses (organic growth), but in new businesses and new products as well.

23.3.1.3. Cost Control

Earnings are determined by both revenue and costs. However, costs most often are related to the size or volume of business. Increasing volume and simplifying the business operations result in reduced costs and contributes to earnings and the strength of the business. It has now become almost a universal imperative to reduce costs (almost “at any cost”).

23.3.1.4. Do No Harm

The firm is required to operate within the law and within the society’s moral codes. What is legal and what is ethical is unfortunately open for interpretation. However, it is recognized that skirting the law and morality can be deleterious to the firm.

23.3.2. Strategic Success

These inherent organizational imperatives, identified above, are usually summarized into the metrics of performance. Increases in earnings, sales and revenue are the typical measures of performance. They are the yardsticks for measuring business success as well as all marketing actions. These metrics are often set as targeted performance points or “hurdle” rates, usually in the form of financial goal (i.e. return on investment, etc.). There may be a number of measures of success beyond simple financial returns focusing on leadership or brand growth. In any event the specific goals exist. These are generally set by the firm and how they are applied will depend on the corporate policy. These aims and goals generally focus on the organizations orientation toward financial return, timing and their willingness to absorb risk. Note that these aims are often asserted in combination. However, it is critical to understand the hierarchy of the aims to appreciate the nature of the operational goal of the strategic marketing program.

23.3.2.1. Satisfactory Return

The simplest marketing goal surrounds the issue of return-on-investment. While this seems simple enough, it may contain any number of hidden issues. This tends to focus on obtaining adequate short-term earnings. It is the traditional hurdle condition, the specified return on investment.

23.3.2.2. Desired Long Term Earnings

For most marketing programs, it is recognized that there are long-term issues involved, particularly when new businesses are being developed. Here the long-term earnings

usually is expressed as the expected average return on investments or the internal-rate-of-return. To some extent the desired long-term goals is balanced by the shorter term optimum earnings that the program could deliver.

23.3.2.3. Minimum Risk

While it is not feasible to totally eliminate risk, its reduction is often a key aim of the strategic marketing process. The risk here is often associated with the potential “exposure” and marketing expenses involved. Reducing or minimizing expenses, in fact, is the major factor in controlling this form of risk. Note that this is only one of the sources of risk, but it is often the one that is under greatest control.

23.3.2.4. Shortest Time to Success

Aims may focus on the timing of the program. While this can be viewed as tactical, it may have major consequences. Timing in some cases is everything.

23.3.2.5. Filling Manufacturing Capacity

There may be other tactical aims surrounding existing facilities, programs and capacity. In many cases, these may be “hidden” aims, but are bonafide and acceptable goals.

23.3.3. Taking Action

Timing and action can also be strategic marketing aims. That is, edicts to produce new products or to undertake new actions are in themselves goals. They can be as critical as achieving a specified return.

23.4. Strategic Concepts

Many of the following concepts have been introduced as part of the description of the strategic situation. Here we discuss the special marketing concepts necessary in describing principles and strategies.

23.4.1. The Offering

From a marketing perspective, the concept of a product extends well beyond the physical product to include all of the qualitative and service aspects of the *Offering*. These aspects cover both the intrinsic nature of the product, and the benefits that can be derived from it.

23.4.2. The Brand

The idea of a *Brand* is synonymous with the concept of a *Customer Franchise*. It represents the identification of a specific product or offering with its source. Though trademarks, brand names, and taglines reinforce the brand, the fundamental concept is more basic. The produce sold in a specific grocery store will carry with it the characteristics of freshness and quality unique from its source. Those qualities generate a

customer franchise and therefore, a “branding” of the products even though they may not carry any label. Branding is the fundamental association of a product with its unique source. The brand is an essential element in the definition of the offering. Brands have five key attributes.

23.4.2.1. Brand Identity

The *Brand* identifies the offering and the source. It is a means of distinguishing among competitive products and competitive sources. Here we refer to both product and supplier or company brands. In this regard the company name and its identity are expressed as its brand. Following this description a product may carry a number of brands. For example, Ford Mustang® carries both the supplier brand “Ford” and the product brand Mustang. Depending on how “strong” the various brands are, the product may be identified by either or both.

23.4.2.2. Brand Equity and Proprietary

The brand is owned by the firm. This may be protected by registration, by trade-mark or simply by use. This concept of ownership implies the idea of the *Franchise* or right to sell or engage in the sales of an offering. Branding implies this franchise.

Brands have value. They can positively affect the price sensitivity, the resulting share and price premium that that products can command. Furthermore, brand power can greatly influence the likelihood of success of new business entries. This value is referred to as *Brand Equity* in that it represents both a value and an investment. Brands, in this perspective, are assets of the firm.

23.4.2.3. Association

Though the brand exists only in the mind of the customer, it is associated with an ensemble of properties and values. In a simple form, this is the *Brand’s Value Proposition*. These properties may be positive or negative depending on its position based on promotion and on the individual experiences of the potential customers. This concept is strongly supported by the old marketing adage that “perception is reality”. In the case of brand position, all things are perceptions.

23.4.2.4. Access

Since the brand provides awareness through its identity, it provides access to the market. This is sometimes referred to as *Mind Share* as if there is a limited *Shelf Space* of brands and choices. Customers eventually tend to narrow choices into a *consideration set*. The brand may impose itself into that consideration set and thereby influence the choice.

23.4.2.5. Transcendence

As previously noted the brand transcends the product offering and the firm’s current structure. It is a creation that exists in the minds of the customers, though as previously noted with proprietary rights. Brands therefore become the basis for business and

product extensions. The brand exceeds the boundaries imposed by the existing business activities. Therefore, it provides value in areas not presently being undertaken.

23.4.3. Customer Value

A central concept of marketing is the attention to customer value. As is discussed in the strategic principles, the ability to identify, enhance, and utilize customer value is critical in the formulation of effective marketing strategy.

23.4.3.1. Value-in-Use

The calculable and identifiable comparative customer value is referred to as *Value-in-Use*. It is an operational view of customer value in that it is based on the measurable benefits that can be derived from the utilization of a product compared to its competition. It therefore represents the maximum premium that a customer should be willing to pay for a product as it is used compared to competitive products.

23.4.3.2. Ultimate Value

While the concept of *Value-in-Use* is relative, the idea of *Ultimate Customer Value* is absolute. Ultimate value is derived from the benefits or outcomes that are associated with the use of the product. It is an absolute and extensive property. To a great extent it is both abstract and hypothetical. Rarely can all possible benefits be identified let alone have their value quantified. However, it is a concept that can have strong strategic implications.

23.4.3.3. Product Position

The image of the product in the customer's mind is referred to as the product or competitive position. It represents the cognitive and the subconscious values associated with the products or more precisely a brand. This image may be quantified in terms of the relative performance of the product in terms of characteristics and benefit derived for it. However, it may also be viewed as a basically a mental "feeling" describing competitive products. To some extent this concept of position can be seen as the coordinates in the formulation of marketing strategy.

23.4.3.4. Value Propositions

The *Value Proposition* or *Position Statement* is a description of the salient and potentially unique benefits that are believed to be delivered to the customer by the product. To a great extent the value proposition is the desired product position from the perspective of the marketer.

23.4.4. The Market

The territory of marketing is the *Market*, the collection of potential buyers and sellers of a category of offerings. As previously mentioned it is somewhat of an abstract concept

which can have various definitions depending on the perceived identity of the potential buyers and competitors.

23.4.4.1. Value Chain

The *Value* or *Supply Chain* is the extended market covering the resell of products and services from its originator to the ultimate users. The term supply chain focuses on the physical transferring of products while value chain focuses on the extracted and transferred value associated with the products. Note that while supply and value chains normally coincide, it is not necessarily the case. Value may be transferred without physical ownership of products.

23.4.4.2. Segments

Customers are people buying products under different contexts. Each is different and has characteristics that are distributed. However, it is useful to think of groups of customers that have common characteristics and acting in a similar fashion in the marketplace. These groups are referred to as *Market Segments* or sub-segments. They provide more detail into differences in characteristics than considering the market based solely on average values. But these segments are inventions of the marketing strategic process. They may not be natural to the market. There are usually a number of ways of defining these segments based on demographics, valued benefits, or attitudes and opinions. Whatever method is used, effective segments have three characteristics:

23.4.4.2.1. Strategically Useful (able to make effects)

Segments are an integral part of the formulation of marketing strategy and actions. They represent the targeted groups of customers for the strategy. As such, segments must be amendable to strategic action. If not they are less than interesting, in that they distract from the formulation effective actions.

23.4.4.2.2. Homogeneous (on some characteristics)

Segments are thought to be homogeneous, at least in their expected common response to marketing actions. Typically characteristics or preferences are predictors of responses and therefore the homogeneity of these properties are used to identify strategic market segments.

23.4.4.2.3. Identifiable

To be effective, segments must be identifiable either explicitly or my self recognition. The strategy based segments is only effective if those members of the segments can be connected with actions.

23.4.5. Channels

Channels characterize the means by which things are transferred. They are descriptions of the network that connects the players in the marketplace.

23.4.5.1. Distribution

Modes of the physical distribution of offerings are viewed as a collection of *Channels*. This implies a potential network of alternative physical routes to the market. Any degree of complexity is possible but basically these routes are usually viewed as parallel means of accessing potential customers. The three traditional routes usually considered are distributors, “national accounts”, and direct sales. However, these have been greatly supplemented by modern mass merchandizing possibilities including E-commerce.

23.4.5.2. Communications

The major use of the term *Channel* is applied to the various forms and modes of communications. These two have expended widely to include formal mass, targeted, and direct communications methods.

23.4.5.3. Funds

Typically funds or *Payment Channels* are often not considered alternative approaches. However, with the advent of creative business models, the alternative means of payment can be critical to business success and is considered in the channel design.

23.4.6. The Marketing Mix

The term *Marketing Mix* captures the nature of the combination of tools and approaches undertaken in the overall marketing action. Here we consider not only the four basic marketing actions (product design, pricing, promotion and distribution) that are necessary and interactive, but also the various channel modes for carrying out those actions. The underlying principle of the marketing mix is the synergy produced by an optimum balance.

23.4.7. The Competition

Unfortunately, *competition* is sometimes viewed through the eye of the beholder. What is the competition, is how it influences the customer. The set of competitive products that customers make choices from is referred to as *The Consideration Set*. Unfortunately this often neglects the potential competition. Typically we consider three types of competitors based on the similarity of the offerings from the perception of potential customers.

23.4.7.1. In-Kind

In-Kind Competition is a simple direct “drop-in” substitute. These competitors are viewed by the customer as the same. Note that this does not mean that the products are the same; only that the customers use the products similarly and that they perform in such a way that the user is unaware of the difference. For example, two different textile fibers may be chemically extremely different, but form fabrics that are viewed as similar. However, the reverse may also be true, in that two products that are physically the same may be viewed as extremely different. For example, baking soda (sodium bicarbonate)

may be sold both as a cooking aid and as a pharmaceutical without being competitors in the same outlet.

23.4.7.2. In-Type

In-Type Competitors are those that while not being drop-in substitutes do serve the same function in the same way. Up-scaled products are examples where there is a line of premium products competing against economic versions. These are direct substitutes in that each can replace the other but not without major changes in how they are used.

23.4.7.3. In-Function

In-Function Competitors are the most complex in that they deliver the same benefits but through other means. This is a very broad classification, which runs from technologies that substitute the mode by which the benefits are obtained to those where the benefits themselves are changed.

23.5. Actions

From a marketing perspective, there are four types of tactical or operational actions that always need to be taken. They are summarized in the now classic 4P's. They represent the action or decision elements that need to be included in the marketing plan and strategy. But more important, they represent the levers and tools that are available to marketers. They always need attention.

23.5.1.1. Product (Offering)

The products and services are the central elements of exchange. The design of the products and quality of the product is the major determinate of its value to the customer. The product in this regard includes the concept of "Brand" value as well as the specific features of the product.

23.5.1.2. Price (Customer Cost)

Price is always more complex than it first appears. Usually, manufacturers (OEM'S) do not have the control over the eventual price that the ultimate customers see than they think they have. Furthermore, customer costs often include things not included in the simple price. However, it is price, at least, the price to the next level in the distribution channel that needs to be set. It is always an issue.

23.5.1.3. Place (Distribution Channel)

In the structure of the four P's, "Place" refers to the distribution channel. This is somewhat awkward in that the modern distribution channel may be virtual and not have physical place at all. However, it is the traditional description. "Place" indicates how the offering gets to the final or ultimate customer. Typically, this is an option of the manufacturer. Several channels may be functional at the same time with different sets of influencers.

23.5.1.4. Promotion

Promotion, of course, includes advertising but goes far beyond that to include the salesforce and all other forms of action to encourage and promote sales. This is often a creative and very uncertain set of activities. Much of what is typically considered sales and marketing activities are held within this category. It should be noted that in some industries such as pharmaceuticals over 50% of the total cost of sales come from the marketing effort and is covered by the term “Promotion”.

23.6. Strategic Principles

The marketing is a collective effort and therefore strategic principles representing the accepted rules and assumptions are captured from a number of sources. They are generally accepted to be true. However, their application and definition are contextual as is the case with all strategic frameworks. These principles can be viewed as functional imperatives to indicate that they are expected to drive the marketplace results.

23.6.1. The Psychological Principles

The battlefield of marketing is in the mind of the customer. All actions are driven from the mind. This is already been presented as a form of strategic territory. However it is also a key principle for understanding the marketing world.

23.6.1.1. Perception is Everything

All things are perception. It is how it is presented that counts. While this sounds cynical, it is really a world-view. That is not to say that all things are ethereal. Substance is a key input in forming perceptions. Perceptions are not inherently disjointed from the physical world. However, it is the perceptions that drive decision making. It is the world as it is known to the market.

23.6.1.2. “Reality” as a form of Perception

The “Reality” of the marketer is only another perception. Key issue here is what these perceptions produce. The distinction between real and perceived is only based on actions and semantics.

23.6.1.3. Actions Follow Perceptions

Following this line of thought all actions (purchases) follow the perceptions of the market. First, the perceptions must be established then the actions can follow.

23.6.2. The Value Principles

Seeking, developing, delivering and exploiting marketplace value is the key imperative in the formation of marketing strategy and tactics. The underlying principle is that “value drives all actions”. It is in the understanding of customer value that dictates effective marketing strategy.

23.6.2.1. Value is what Value Does

The principle of the *Value Imperative* is that purchases and customer actions are driven to improve customer value. It is that simple. However, it is also a truism. Value is so defined to be the driver of action. To this extent, *Value* is the “potential” that drives action. If we have a market action there needs to be value differential to drive it.¹⁸⁵ No market action takes place without a reason and that reason is an improvement in value.

23.6.2.1.1. Cognitive Dissidence

Value is only positive. However, value is obtained by avoidance of negative issues. In this context cognitive dissidence, the avoidance of perceived ills, is a positive value. As such, selling products that cure previously undetected personal shortcomings has value.

23.6.2.1.2. Latent (Unknown) Values

Some values are unknown to the market. These are referred to as unmet needs or latent values. The term latent here refers is a synonym for unknown rather than more basic. A key tool of marketing is to arouse these latent values as they might apply to the desired action.

23.6.2.2. The Diversity Principle

While diversity may be tolerated in other arenas, it is the driver of marketing and is centric to marketing strategy. The ability of multiple products to successfully compete implies a distribution of value. There is, by definition, no universally “best” product as long as several products can all compete successfully¹⁸⁶.

23.6.2.2.1. Niches

All products exist within their own niche or a group of customers for which it is uniquely suited and for which it delivers the greatest value compared to its competitors. This is true whether or not the marketers can identify it.

23.6.2.2.2. On Segmentation

Forced segmentation happens when a new product produces its own unique niche. This is a perceptual shift and the recognition of new latent values.

23.6.3. The Purchase Imperative

Marketing is purchase process centric. It focuses on the modes and causes that create desired purchases. In this context, marketing strategy is a purchase intervention process.

¹⁸⁵ This is analogous to the First Law of Thermodynamics, the conservation of energy, in that if energy seems to be disappearing, it requires a new form of energy since energy can not be destroyed.

¹⁸⁶ This is a very fundamental concept that is at the core of modern market (Capitalist) economies.

23.6.3.1. Awareness Driven

Awareness of products is the only basis for their purchase. Those products that the customer is not aware of, by definition, are unknown and can not be purchased.

23.6.3.1.1. Immediacy

The purchase process is one of immediacy. It takes place in a specific place and time. Awareness accumulates to that point. Any effort to influence the purchase decision after the event is ineffective.

23.6.3.1.2. The Power of “Shelf Space”

Being there counts! The higher the marketplace presence implies the higher the likelihood of purchase. The old marketing adage that “Shelf Space share is proportional to revenue share” is true with whatever measures of marketplace (shelf space) is used. However not all shelf space is created equal. That which gives the greatest “traffic” is best.

23.6.3.2. Two Phase Purchase Process

Purchases can always be considered a two part process. The first step sets the stage for the final decision. Intervening in the purchase process requires influencing both stages.

23.6.3.2.1. Qualification and Purchase

Typically the first stage of the purchase is honing down the list of possible choices. This is a qualification process. It may consist of first the choice of the outlet or distributor which restricts the options to those carried by the outlet. Or it may be a choice by price point or by awareness. For “serious” buyers, it may involve a qualification process where there is a separation between the “engineers” that qualify products and the agents that actually buy them.

23.6.3.2.2. Purchase and Repurchase

For repeat purchase products, the two phases can be considered the initial purchase and the repurchase. In the same regard, the initial purchase is the qualification phase; the repurchase is the actual purchase. This is behind the process of introductory offers and coupons. That is to get the product out.

23.6.3.2.3. The Consideration Set

Consumers always consider a smaller set of potential competitors in their final decision than are available. This is their consideration set. If the product is not considered, it will not be purchased. .

23.6.3.3. The Power Influence

There are always multiple influences on the purchase. Their power, however, varies and is often subtle. These are leverage points in the purchase process that can be affected.

23.6.3.4. Customer Loyalty

It is always easier to sell new products to an existing satisfied customer, than to find a new one. “Ninety percent” of new product purchases typically come from old satisfied customers. In addition, loyal customers may grant a premium due to their higher perceived value.

23.6.4. Competitive Imperative

There is always competition. This is a fundamental. Rarely if ever, does a product exist that is void of any form of competition. The problem is to properly identify the true competitors. This is not always straight forward, since it is in the mind of the potential customers.

23.6.4.1. Need for Competitive Advantage

Competitive advantage drives the market. From a marketing perspective this focuses on the relative value of the competing offerings. However, that value may be derived from any number of other factors. These include issues of scale and of course branding. The principle is that *Advantage Share drives Market Share*.

23.6.4.2. Avoiding Direct Competition

A truly differentiated product has few direct competitors. Competing directly against other competitors is always uncomfortable and costly but competing directly against a truly strong competitor can be disastrous. Finding a market segment that will prefer a differentiated product is always desirable approach.

23.6.4.3. Building from Strength

Success grows from strength. It is the competitive advantage that drives success. These strengths may come from the product or from the marketing approach. Success is built on exploiting and building competitive strengths.

23.6.4.4. The Vulnerability of the Market Leader

The Market Leader has the Most to Lose and the Least to Gain. The market competitive leader has by definition the largest market share. Due to the large market share the leader will feel a greater loss from price declines. Market share leaders are not necessarily the cost leaders and therefore may not be able to afford the losses. Furthermore, the sales of entering new products can be expected to disproportionately come from the leaders’ position.

23.6.4.5. Can Not Stop a Determined Competitor

A determined competitor can not be deterred (at least legally). Furthermore, if the competitor has a dedicated production facility, that capacity will be seen somewhere. His presence will be noted.

23.6.5. The Market Principle

The concept of the structured market is an inherent principle in the formulation of marketing strategy. The market principle assumes the existence of market segments and the ability to target offerings to them.

23.6.5.1. Segmenting Customers

New products can create new markets. This is a principle of market power. Truly new “targeted” offerings generate new value in selected groups of customers. That new value provides a competitive advantage to the new products.

23.6.5.2. Exclusive Niches

No two offerings can successfully compete in the same “niche” catering to the same group of customers (segment) in the same manner for long. This is the ecological principle applied to markets. Products must have unique and differential advantages to survive in the competitive marketplace. A corollary to this principle is that in a competitive market there is never a universally best offering. The very existence of competitors presupposes the existence of differential advantages.

23.6.5.3. The Quantized Market

Markets tend toward equilibrium, where shares are dependent only on the number of competitors and position. Near equilibrium a significant amount resources are needed to change position within the competitive set. While this is not a universally accepted principle and is counter to the sales strategic principle of incremental improvement, it does provide insight into the stability of market structures.

23.6.5.4. The Power of the Second Source

The number two share position usually is less sensitive to price changes and to new entries than the leader or lower share competitors. This can be viewed as a corollary to the Quantized Market Principle and indicates stability of the second position. Its share varies little with the number of competitors and is therefore very stable.

23.6.5.5. Maintaining an Orderly Market

An Orderly Market is one where “good” competitors do not aggressively compete on price. That is an orderly market is one that endeavors to maintain a profitable price structure and thereby avoid unprofitable “price wars”. It is the concept around maintaining stability by resisting price competition. Under this concept competitors that

act to maintain the orderly market are considered “good”. That is not to say, that these are non-competing markets, only that the competition is focused on elements that are not viewed as disruptive.

23.6.6. Pricing Imperative

Money and success comes from earnings that are driven by price. This is a fundamental that should never be lost in forming the marketing strategy. Marketing strategy needs to be earnings centric. It is the ultimate basis of the business.

23.6.6.1. Price Feature

Price is a product feature. It is a key feature defining the nature and character of the product.

23.6.6.1.1. Price and Quality

Relative price conveys quality. Perceived very low “cheap” prices imply poor quality. Converse, high prices convey high quality. Note that price may be the only measure of quality available to the market.

23.6.6.1.2. Price Position

Price sets the target market for the product. There is a perceived (and real) price-volume relationship. *Higher price points convey exclusivity* and with it exclusion of mass markets. Here we see a separation of economic, average and premium price points. Note that higher prices may not result truly lower volume.

23.6.6.2. The Long Run Never Comes

*Leading the cost curve*¹⁸⁷ *is usually disastrous.* This is the concept of “buying” share. This involves discounting price for long run market share growth. Unfortunately this strategy has been found to usually fail and is almost never “worth the trip”.

23.6.6.3. Diversity of Value

As noted earlier, value is diverse. *The choice of the “optimum” price should maximize earnings* if only one price were offered. This balances the gain in margin against the loss in volume.

23.6.6.3.1. Value Pricing

To truly maximize earnings one would wish to charge each customer at price just below his maximum value for the product. This is the concept of value pricing. It assumes that

¹⁸⁷ The curve typically referred to here is the “Learning or Experience Curve” which dictates that costs tend to fall with experience as measured by the accumulated sales of product. This is usually an exponential curve as discussed earlier in the notes.

one can price to each individual or at least each application separately. It follows then that *it is always favorable to price to use*.

23.6.6.3.2. Price Differentiation

Price differentiation is used to try to maximize the return from products by charging different prices. When market segments are not isolated, that is segments where independent pricing policies can not be followed; some level of price differentiation is still feasible. This is done through discounts and rebates. Discounts must be viewed and evaluated in this context. *Discounts must be considered tools of price differentiation*.

23.6.6.4. Sweet Price Points

There are distinct price points above which potential customers react strongly. This is the well known discrete pricing effect, the \$9.99 phenomena. Though apparently illogical, it is real. Purchase intent drops sharply after these points. Good pricing strategy acknowledges these constraints.

23.6.7. Communications Imperative

All marketing is through communications. It is part and parcel of the marketing process. Communications generates value by enhancing awareness. In particular communications is the essential element of marketing at a distance.

23.6.7.1. Dominance of Preference

Preferences are always difficult to affect let alone to change. They represent the inclinations of people and without direct intervention they are difficult to access. Because of the inherent difficulty at changing preferences, they are usually the basis identifying functional segments.

23.6.7.2. Changing Perceptions

Perceptions, however, can be influenced by communications. As such, they are the basis for all promotion. The key is to link the features and benefits of the offering with the segments preferences by way of the “value proposition”.

23.6.7.3. Branding

The presentation of products and offering conveys a “Brand” irrespective of the desires of the marketer. Brands are therefore inherent. In this regard, brands transcend the offerings and even the firm. They are entities to some extent on their own with inherent value or detriment.

23.6.8. The Risk Imperative

The marketing endeavors are inherently risky. It is impossible to obtain sufficient knowledge that will exclude all risk in marketing.

23.6.8.1. Being There

As Woody Allan said “80% of winning is showing up”. Unless you enter the market, you can not win. Action is the game. Ultimately you can not know if you could win without playing the game.

23.6.8.2. Victory to the Brave and the Smart

Failure comes inevitable to the brave and foolhardy. Winning requires courage of action but tempered by wisdom.

23.6.8.3. Accepting Losses

Because risk is inherent, there is always a possibility if not a high probability of losing. The trick is to *be prepared to survive losses*.

23.6.8.4. Winning the Second Time Around

There is much to learn and the marketplace is the best teacher. *Success often follows failure*, if the source of the failure can be identified and overcome.

23.6.8.5. Time is your Enemy

Time usually works against success in marketing. Competition grows and favorable conditions change. Usually, the sooner one gets to the market the better.

23.7. The Structure of Strategies

There are various ways of looking at marketing strategy depending on the key issues of concern. Basically these are driven by what is believed to dominate the decision process. Note that these strategies are not mutually exclusive but are in many cases complementary.

23.7.1. Competitive Strategies

Competitive strategies focus on the relative market position. Porter's "Competitive Strategies" focus on the importance of the competition and alternatives in structuring the marketplace. These are based on leveraging "competitive strengths" to provide advantage. As previously mentioned these strategies are not really targeted at the competitors but rather at the market with the aim of maximizing value usually long term earnings and maintaining competitive advantage. There are a large number of possible positions and actions that can be taken within each strategy. The major competitive strategies include:

23.7.1.1. Leadership Position

Being the largest competitor or the firm with the greatest resources tend to provide inherent strength. While being first into a market usually provides this position in terms

of share, it is often difficult to hold. Analysis of some competitive data and theory also indicates that the leadership position may not always be the most profitable. But in general, due partially to economies of scale, it is among the most profitable.

23.7.1.2. Second Source

As previously noted, being the second source provides advantages. Market shares are usually stable and prices may be higher. However, maintaining this position can be difficult¹⁸⁸.

23.7.1.3. Niche Marketing

Niches are sub-markets that a firm can focus on while not competing across all applications and segments. It is a “Focused” strategy, serving a limited set of customers, providing a limited line of products and delivering specific value. By specializing the business, avoids the intensive attention that a direct competitor would generate.

23.7.1.4. Service Delivery

Value or service delivery focuses on the cultivation of favored customers. These strategies are similar to niche marketing but focus on specific segments rather than offerings and applications. Here customization is critical for maintaining a competitive advantage.

23.7.2. Action Strategies

Action strategies focus on the “way to the market”. They are the various means by which offering features and benefits are communicated to the market. Of all the types of marketing strategies or tactics these resemble military operations most. They focus on the specific means of attaining goals.

23.7.2.1. Mass Marketing (Merchandizing)

Mass marketing is a creation of modern communications and distribution technology. The objective is to market to all potential customers by means of mass communications. While it is classically employed for consumer products, the strategy is applicable to industrial and specialty products as well. All that is necessary is a broad diverse potential market with common channels of communications and distribution.

23.7.2.2. Direct (Target) Marketing

The term “direct marketing” has come to be associated with direct mail. However, we are using it in a broader context to mean target marketing. That is honing the marketing approach and message to the specific customer. It is the opposite from the traditional

¹⁸⁸ In the potentially regulated environment in the US economy, the second source position may be aided by the market leader to avoid a monopoly position.

concept of mass marketing. It can be thought of as an extension of the “sales” strategy but using all means. It is among the most ancient of the marketing approaches but with modern technological twists. Here we focus on the influence points of each specific customer. The marketing channels as well as the message are viewed as specific to the customer.

23.7.2.3. Supply and Value Chain Marketing

In both mass and direct marketing strategy, it is assumed that the ultimate buyer, generally the consumer, determines the sale. Selling to the direct consumer in these strategies is assumed to drive the market. However, the value chain leading to the ultimate consumer may be quite long and diverse. Sales may need to exist along this supply chain.

23.7.2.3.1. Pull-through Marketing

Pull-through marketing is based on the concept of generating value down the supply chain so that the product is demanded. It is usually a joint strategy involving a number of cooperating elements along the value chain. This action strategy is particularly important if there are any value pinch points along the value chain which must be overcome.

23.7.2.3.2. Push-through Marketing

The alternative to pull-through is “push-through” which requires “buying off” any resistance in the supply channel. Here the delivered value at a pinch point is increased usually in the form of either forward integration or by providing incentives.

23.7.2.4. Guerrilla Actions and Campaigns

The previous action strategies are all based on traditional methods of marketing focusing on communications and promotion. In these cases, an effort is made to maintain the “orderly” market. Guerrilla marketing and campaign strategies do the opposite. Here we are attempting to disrupt the market by taking actions that are unexpected. These are usually coupled with niche marketing efforts focusing on finely selected target groups of customers to avoid competitive counteraction.

23.7.3. Pricing Strategies¹⁸⁹

Price is always a key problem for business strategy. Strategically, price is incorporated into the desired pricing policies and more specifically in the formulation of the aims of those policies. The pricing strategy may be at odds with the competitive strategies as the firm tries to meet conflicting goals. Furthermore, several pricing strategies may be at work in a business at the same time. Among the major pricing strategies are:

23.7.3.1. Optimum Pricing

From a short-term operational basis it is often desirable to try to optimize price. That is, to select a price that will maximize earnings. Unfortunately, short-term optimum price may not yield long term maximum earnings or satisfy long-term goals. However, it is often a basis to start the process of developing an effective pricing strategy.

23.7.3.2. Price Leadership

The *Leadership* or *Premium* strategy is to develop a position of the product at a relatively high price. This is particularly advantageous when the major measure of product quality is price. High price here delivers both high revenue and high product image. However, this strategy may come at a reduced share.

23.7.3.3. Value Pricing

Value Pricing leverages the ability to differentiate among customers and charge different prices. The objective of these strategies is to maximize prices by providing unique value in the isolated or targeted segments. Prices are then set by the associated value of the products in the segments. Typically this is described in terms of the value of the products as a premium, economy and average positions.

23.7.3.4. Skimming

Creaming or *Skimming* strategies are similar to *Price Leadership* in that prices are held high compared to other strategies but without the advantages of perceived high value. Under these conditions, share is expected to fall. This strategy is particularly useful as market exit strategies or when manufacturing capacity is limited.

23.7.3.5. Penetration

The *Penetration* strategy is based on “buying the market¹⁹⁰.” That is, by keeping prices low, a firm would obtain a share leadership position and hopefully obtaining the low cost

¹⁸⁹ A discussion of the implications of these pricing strategies on profits is available based on the PIMS (Profit Impact through Marketing Strategies) database in the separate document on Business Behavior. <http://www.lieb.com/Documents/BusinessBehavior.pdf>

¹⁹⁰ This strategy had been proposed during the 1970's by the Boston Consultants Group and adopted by HP with catastrophic results in their hand held calculator business.

producer position due to economies of scale. The final result would be a dominant market position with high profitability. As previously noted, and unfortunately, this is not an easy or inexpensive strategy nor has it been historically always successful.

23.7.4. Market Strategies

Market strategies focus on actions in the marketplace. In particular, building and maintaining brands and competitive advantage are usually the goals. These strategies are not always mutually exclusive and are not independent of the competitive and pricing strategies.

23.7.4.1. Segmenting the Market

Creating differences or segments in the market by use of product and service changes is referred to as segmentation. It is the action of creating products that thereby produces the interested groups of customers. By doing so, the resulting segments are particularly well served by the firm that created the unique products and thereby obtaining local competitive advantage.

23.7.4.2. Market Creation and Building

Occasionally it is feasible to create or build markets that did not previously exist. This is similar to segmentation, but goes far further, in that infrastructure of the market may need to be likewise created. However, when a firm creates the market, it also can create huge competitive advantage.

23.7.4.3. Building Brands

As previously noted brands represent a marketing investment. As such, a goal to build the brand, as a bulwark against competition, should be viewed as a long-term strategy.

23.7.4.4. Milking Brands

The flip side of building brands is extracting their value. That is brands represent investments of time, effort and resources. At some time that value can be used to support higher prices with reduced marketing expenses. These policies, however, should be viewed as exit strategies.