UNITED STATES MARINE CORPS
THE BASIC SCHOOL
MARINE CORPS TRAINING COMMAND
CAMP BARRETT, VIRGINIA 22134-5019

DECISION MAKING
B2B0237XQ
STUDENT HANDOUT

Decision making

Introduction and Importance

Marine Corps Officers are decision makers. The unit we command is our weapon. We decide and clearly communicate a course of action. Our Marines translate it into action. As a future leader, you will be required to make decisions in combat. Your cognitive framework – how you make decisions - governs the quality of your decisions. You must understand how you make decisions in order to make better and faster ones, especially in a time-competitive environment filled with violence, disorder, risk, and uncertainty. What do you know, what do you think, and what are you going to do about it?

Prerequisites

MCDP 1 Warfighting, introduced you to the violent and chaotic nature of war and our theory of maneuver warfare: seeking out the enemy's weakness and pitting your strength against it.

In This Lesson

This lesson gives you a detailed study of human decision making and how its understanding will allow you to better employ your Marines in war.

This lesson covers the following topics:

Decision making

Learning Objectives

Terminal Learning Objective(s)

TBS-CORE-2104 While serving as a leader of Marines, demonstrate the leadership principle "make sound and timely decisions," to support the mission of the Marine Corps and maintain combat readiness.

ENABLING LEARNING OBJECTIVE(S)

TBS-CORE-2104a While serving as a leader of Marines, demonstrate the ability to "decide, communicate and act in the fog of war," to support the mission of the Marine Corps and maintain combat readiness.

TBS-OFF-2102m Given an evaluation, define the two types of decision making without omission.

TBS-OFF-2102n Given an evaluation, define the steps of the OODA Cycle without omission.

TBS-OFF-2102o Given an evaluation, define small unit leader decision making competencies without omission.

Two Methods of Decision making

Decision making must be understood as a continuous cycle of analysis and intuition. Analysis is fundamental to decision making that involves scheduling, coordination, logic, organization, translation, interpretation, calculation, or prediction. However, our analytical capabilities are limited, costly, and relatively slow. We need intuition (informed by past experience) to make decisions that are faster, easier, and less taxing. These processes of analysis and intuition are not mutually exclusive; they inform and strengthen one another, often simultaneously. Together they point towards two methods of decision making: recognition-primed and analytical decision making. Understanding the strengths and weaknesses of these methods helps us to make better decisions.

Method	Strengths	Weaknesses
Recognition-primed	• Increased speed of decision • Lower cognitive demand • Lower information requirements • Lower willpower requirements • Increased tempo and adaptive capabilities • Increased initiative	• Requires trust to justify decision making and achieve buy-in • Unable to manage unfamiliar complexity or large amounts of information • Requires experience via long periods of exposure to given phenomena or participation in a high intensity event that ingrains learning • Increases risk and decision maker discomfort
Analytical	• Logically justifies solutions to known problems • Required to manage unfamiliar complexity or large amounts of information • Based upon technical expertise and logic • Rationalizes decisions and boosts decision-maker comfort and confidence	• Time consuming • High cognitive demand • Requires large amount of information inputs • Increased willpower requirements • Relies on accurate information and heuristics • Vulnerable to human factors

Recognition-Primed Decision Making

Recognition-primed decision making is most important in dynamic, complex situations where time is limited. This kind of decision making frequently occurs subconsciously. It is informed by experience and intuition. Recognition-primed decision making inherently assumes some risk, as imperfect information is rapidly processed and acted upon. How do we mitigate this risk? Training, rehearsals, and high intensity experiences allow for faster and more accurate recognition of key decision making factors. The foundation of recognition-primed decision making is pattern recognition. Pattern recognition improves in speed and accuracy as we gain relevant experience. Training is our primary method of building this experience base.

Analytical Decision Making

Analytical decision making can be more comprehensive and accurate than recognition-primed decision making, especially in unfamiliar or complex situations. A detailed analysis of the situation typically leads to more informed decisions and actions. Unfortunately, the time and information our deliberate analysis requires are often severely limited in human warfare. In addition, the human brain is lazy, and decision makers must possess willpower to overcome human factors and perform deliberate analysis. How do we perform analytical decision making as Marine officers with limited time and information? Instruction in tactical planning is designed to equip you with the mental tools of analytical decision making in a military context. The objective is to improve the efficiency, speed, and quality of your analysis. The end state is functional military judgment and analytical decision making even in the fog of war, when time and information are limited.

Decision Making Variables

When faced with a sea of uncertain, vague, and contradictory information as well as a likely prospect of failure, most people hesitate to make decisions. Human beings are psychologically predisposed to loss aversion and risk aversion - we discard easy wins to avoid the possibility of loss, and refuse decisive gambles even when the odds are in our favor. We never have enough information or time to complete our analysis. We forget that the enemy is also facing a similar shortfall. We must guard against waiting for a perfect sight picture, which may never come, leading to inaction. We must learn to accept uncertainty and execute quickly with an imperfect plan. We are competing *in time* with the enemy. This is "The 70% Solution." Marine officers will make better decisions in combat if they understand the factors that degrade decision making ability and consciously resist them.

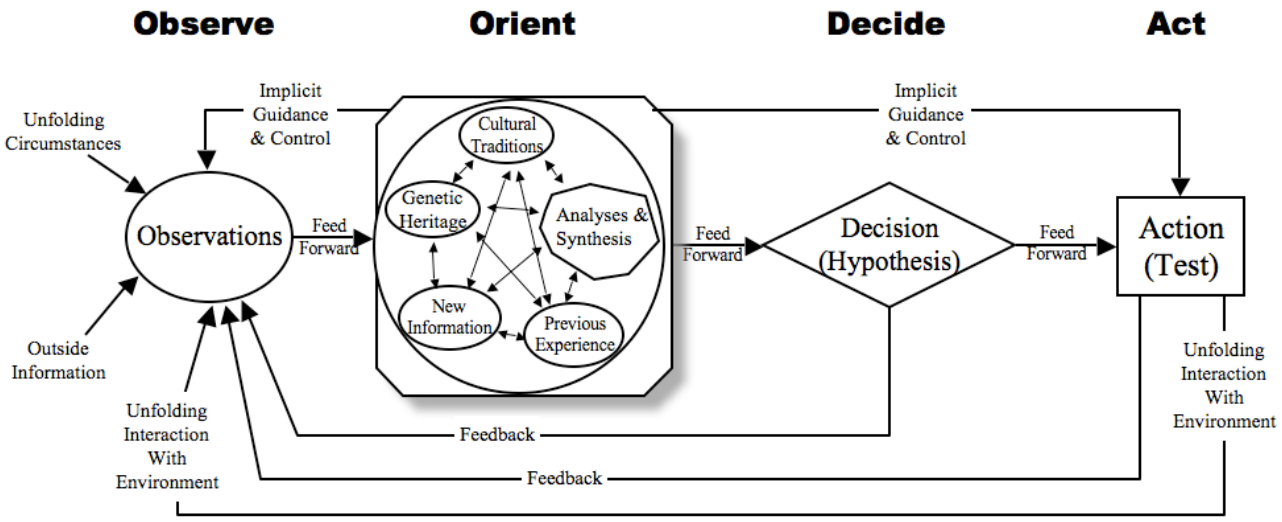
Chance	No other human activity is more subject to chance than combat. Causes and events often cannot be predicted or controlled. This increases uncertainty and risk.
Risk	This is the expectation of uncertainty. The future always holds the possibility of more than one result. Risk is inherent in every decision and every indecision.
Information	This is the sum of all the data, often from multiple sources, available in a given situation. We must identify how much information we need to make an effective decision. Waiting for too much information slows decision making. Executing with insufficient information creates unnecessary risk.
Time	This constraint is imposed either by the mission or the enemy, requiring action to occur at a certain instant. Time will often drive information accumulation and risk thresholds.
Experience	This is knowledge gained through exposure to an event or idea that has been stored in your memory. Experience drives information comparison and analysis via pattern recognition. The larger your experience database, the more you reduce the risk, uncertainty, and amount of information necessary to make a decision.
Human Factors	Human factors influence decision making, often subconsciously. Lack of food, sleep, water, heat, or cooling can make clear thinking very difficult. In addition, human biases and fallacies can hamstring our effectiveness.

The Boyd Cycle: Observe, Orient, Decide, Act

The Boyd Cycle (also known as "the OODA loop") is a concept of time-based decision making developed by USAF Colonel John Boyd. The OODA loop describes the process by which one receives information and sensory data from the surrounding environment (Observe), processes or filters that information (Orient), achieves a decision based on that analysis (Decide), and translates the decision into action (Act). The OODA loop is not a simple, linear process or circular sequence. Feedback runs between multiple elements of the cycle, often simultaneously. Observations and experience will update or alter one's orientation, and decisions and actions produce changes in the environment and in the enemy which in turn trigger new observations, etc. The four elements of the loop are described below:

Observe	Observation is the sum of all the raw sensory inputs and data from the environment that flow to the decision maker. Decision makers can only observe their environment effectively through constant awareness of their surroundings. The quality and focus of a decision maker's observations are largely determined by the quality of their orientation. A better orientation acts as a lens to guide the decision maker's focus and ensure that key observations are not ignored.
Orient	While second in the Boyd Cycle, "Orient" is the most decisive step of the OODA Loop for achieving speed and quality in decision making. Orientation gives meaning to observations via simultaneous employment of analytical and recognition-primed decision making. Analysis/synthesis" and "new information" represent analytical decision making. "Cultural traditions," "genetic heritage," and "previous experiences" represent recognition-primed decision making. Orientation represents both an action and a perspective, neither in isolation from the other. The perspective of a decision-maker is informed by a lifetime of experience and study that shapes biases, points of focus, and capacities for insight and intuition. One goal of military training and education is instilling a decision-making orientation that generates an advantage in time against the enemy.
Decide	A course of action is determined after observations are filtered through the decision maker's orientation and understanding of the situation. Observations and orientation change constantly in a complex environment, therefore making the "perfect" decision impossible. Decisiveness requires the ability to quickly arrive at a decision in the absence of perfect or complete information.
Act	After achieving a decision, the leader must translate it into action. Observations are useless without orientation; decisions are meaningless without action.

The Boyd Cycle



Adaptive Decision Making and The Boyd Cycle

According to MCDP 1, Warfighting: "The military profession is a thinking profession…Since war is a fluid phenomenon, its conduct requires flexibility of thought."

Maneuver warfare is our warfighting philosophy. Maneuver can be achieved in time by building an ever increasing tempo so as to gain an advantage, act faster, and steal the initiative from the enemy. This concept of "temporal maneuver" requires the ability to adapt to the ever changing environment quickly, allowing us to observe changes, orient on opportunities, decide on a plan to exploit those opportunities, and act quickly to finish the enemy. Adaptability allows us to achieve a decision, gain an advantage, and be faster. The Boyd Cycle demonstrates the importance of this adaptability in its depicted feedback loops, where implicit guidance and control filters into every subsequent decision making cycle. This adaptive decision making will require both analytical and recognition-primed decision making to occur, often simultaneously, during every phase of our operations.

The goal of decision making in the Marine Corps is to be able to make time-competitive decisions based on a keen awareness of the situation, and then to turn those decisions into action faster than your enemy. Adaptive leaders often display the following characteristics:

Personality Related Characteristics	• Self-sufficient • Resilient • Open to Change • Motivated by Achievement • Tolerant of Ambiguity • Willing to Learn
Cognitive Characteristics	• Cognitive Ability • Problem Solver
Interpersonal Characteristics	• Communicates Well • Awareness of Self and Others
Domain Specific Experience	• Knowledge of Material • Experience with Material

These characteristics are important to develop in order to become an adaptive leader. For example, imagine a leader who is intolerant of ambiguity, who will wait for a "perfect sight picture," and squander an opportunity to adapt to a situation faster than the enemy. This leader would fail to orient and decide fast enough to take meaningful action. A leader who is unwilling to make mistakes or has an unhealthy fear of failure will often fail to learn from their mistakes, or will adopt a zero-defect mentality, and therefore will not take the "chance" of adapting due to the fear of failure. A leader that cannot communicate well will fail to adapt because their communication to subordinates will not facilitate action.

Decision Making Concept: Wargaming

Returning to the concept of analytical decision making, when time is available we often utilize a concept of wargaming. Wargaming is a technique in which we analyze a plan that we have developed and identify possible friction points that may cause the plan to fail. In other words, we assess what could go wrong with our plan. These reasons could be based on enemy activity, friendly activity, or the effects of terrain and weather. Through wargaming, we can identify shortfalls in our plan and likely friction points. We can either change our plan to mitigate those friction points, or we can build contingency plans allowing us to be more adaptable on the battlefield. One can avoid "wargaming to death" by focusing only on the most likely friction points.

Failure to wargame is usually the result of a commander "falling in love with their plan" – the opposite of adaptive decision making. In 1993, the Battle of Mogadishu provided an example of failed wargaming which resulted in a near-disastrous US Special Forces mission in Somalia (popularized in the movie *Blackhawk Down*). During the operation, US military personnel lost the initiative on the ground because no real analysis was conducted ahead of time to identify likely friction points. The severely limited routes to and from the objective were not analyzed. As a result, vehicles were canalized or blocked by insurgent forces. The need for reinforcement was not considered, and as a result was unavailable when needed. Had recent tactics employed by mujahidin against the Soviets in Afghanistan (utilizing RPGs in a ground to air capacity) been considered, the plan for the use of helicopters may have been changed. At the individual level, wargaming may have identified the risks of a delayed operation, requiring night vision devices that were unfortunately left behind.

The value of wargaming is significant, assuming that it focuses on the most likely scenarios. When done properly, it adds depth and adaptability to our plans and increases our tempo in execution.

Summary

What You Have Learned: Marine Corps leaders are expected to make reasonably correct decisions *quickly* in an environment characterized by violence, uncertainty, and disorder. Making good decisions quickly requires continual awareness of the complex and ever-changing environment of combat. Recognition-primed and analytical decision making is improved by building the base of our experience and the sharpness of our analytical abilities through training and study. We must have the moral courage to make a decision with an acceptable degree of risk in a time-competitive environment. This "70% Solution" allows us to gain and maintain the initiative over our enemy. Ultimately, the lives of your Marines will depend on the quality of your analysis and intuition, and your ability to turn decision into action quicker than your enemy.

Where You Are Going Next: In Tactical Planning I, you will learn the tools and techniques we utilize to perform analytical decision making. Ultimately, you will learn how to take an order from your commander, analyze the mission, decide on an action, communicate that action, and act while maintaining continuous awareness of an ever-changing situation.

References

Reference Number or Author	Reference Title
MCDP 1	Warfighting
MCDP 1-3	Tactics
MCRP 6-11B	Discussion Guide for Marine Corps Values
MCWP 3-11.1	Marine Rifle Company/Platoon

Glossary of Terms and Acronyms

Term or Acronym	Definition or Identification
USAF	United States Air Force
OODA	Boyd Cycle (Observe, Orient, Decide, Act)

Notes