Averse to Initiative: Risk Management's Effect on Mission Command

A Monograph

by

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Army doctrine and regulation is compared with decision making theory to determine whether Army risk management produces risk averse and micromanaging behavior. Doctrinal review explores risk management application and interaction with mission command and operations doctrine. Specifically, it explores opportunity and uncertainty to see if inconsistency in application produces micromanaging and risk averse behaviors. Decision making theory heuristics offer baselines for comparison. This comparison provides alternative views to risk management, and explains how inconsistency in Army risk application inhibits mission command.

This analysis shows risk management regulation and doctrine prescribe hierarchical-based decision making inherently counter to disciplined initiative, and utilize a risk-averse approach to decisions. Decision making theory heuristics support these findings.

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Abstract

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Army doctrine and regulation is compared with decision making theory to determine whether Army risk management produces risk averse and micromanaging behavior. Doctrinal review explores risk management application and interaction with mission command and operations doctrine. Specifically, it explores opportunity and uncertainty–concepts associated with risk and common to all publications–to see if inconsistency in application produces micromanaging and risk averse behaviors. Decision making theory heuristics offer baselines to compare Army doctrine and regulation against. This comparison provides alternative views to risk management, and explains how inconsistency in Army risk application inhibits mission command.

This analysis shows risk management regulation and doctrine prescribe hierarchical-based decision making inherently counter to disciplined initiative, and utilize a risk-averse approach to decisions. Decision making theory heuristics support these findings.

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Acronyms

ADP	Army Doctrine Publication
ADRP	Army Doctrine Reference Publication
AR	Army Regulation
ATLDP	Army Training and Leader Development Panel
ATP	Army Techniques Publication
CJCS	Chairman of the Joint Chiefs of Staff
DOD	Department of Defense
FM	Field Manual
FSR	Field Service Regulation
GA	General of the Army
LTG	Lieutenant General
MDMP	Military Decision Making Process
NCO	Noncommissioned Officers
RM	Risk Management
US	United States
WWII	World War II

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Introduction

December, 1950. For Americans fighting in Korea, the 38th Parallel seemed like wishful thinking. Chinese invaders were driving quickly into the heart of southern Korea and the United States Eighth Army was retreating even faster. Morale was low, the weather was cold, the Eighth Army commander had recently been killed in an accident, and Seoul was about to fall to the Communists. For America, the Korean War was on the brink of disaster.

General of the Army (GA) Douglas MacArthur–theater commander and World War II (WWII) hero–remained in Japan, detached from Korea's sinking ship. On one hand, he excelled as proconsul in Japan for post-WWII reconstruction; on the other, his order to send United Nations troops to attack into Northern Korea proved flawed as logistics proved insufficient. He pointed the finger towards Washington; the politicians, he claimed, were preventing victory!

President Truman and the Joint Chiefs were fed up with MacArthur's exaggerated reporting and finger-pointing. The public had faith in MacArthur, further exacerbating the civil-military rift between the President and his commander. The Korean War was . . . complicated.

There was no commander; MacArthur and the President at odds; the unit was in full retreat. These are the conditions Lieutenant General (LTG) Matthew Ridgway assumed on December 23, 1950.

Risk and uncertainty surrounded Ridgway's every move. Were the Chinese over-extended? Should the Allies concede Seoul to buy time for a counter-offensive? Did the troops have any fight left? Were nuclear weapons the right answer? Was MacArthur or Truman right? How should he address a shattered force? If all of Korea fell, would Communism spread? *The time for deliberation and analysis was over; LTG Ridgway had to decide* (emphasis added).[1]

[1] Victor Hansen, *The Savior Generals: How Five Great Commanders Saved Wars That Were Lost – From Ancient Greece To Iraq (*New York, NY: Bloomsbury Press, 2013), 140-190. The vignette is a simplified dramatization of LTG Ridgway's actions in Korea from December, 1950 to April, 1953. Specific

Ridgway's actions as 8th Army Commander in Korea provide valuable lessons for today's United States (US) Army. Facing a dire situation, Ridgway received guidance from his boss, drew from his tactical and operational experience, exercised disciplined initiative, and made rational risk decisions. One could say Ridgway exercised the modern Army's concept of mission command by the numbers.

Mission command is the US Army's core command philosophy, providing structure to how commanders can effectively balance the art of command with the science of control. In today's Army, risk aversion and micromanagement are perceived inhibitors to full adoption of mission command. They are inter-related concepts and are common plights of Soldiers and leaders at every echelon.

Army Doctrinal Reference Publication (ADRP) 6-0, *Mission Command* states the mission command philosophy "uses mission orders to enable disciplined initiative within the commander's intent, to empower agile and adaptive leaders in the conduct of Unified Land Operations."[2] This philosophy is guided by six principles: "build cohesive teams through mutual trust, create shared understanding, provide a clear commander's intent, exercise disciplined initiative, use mission orders, and accept prudent risk."[3] The mission command philosophy is executed through the mission command warfighting function.[4] Simply stated, the commander and

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references are in found at the following: Eighth Army commander's (LTG Walton Walker) death, 143; Seoul on edge of falling to Communists, 143; MacArthur's positive reputation as "riding high both at home and abroad," 146; MacArthur detached from Korea, 141; MacArthur being limited by the Presidential administration, 141; President Truman's frustration with MacArthur, 149, 156; The vignette abbreviates Victor Hansen's portrayal of LTG Ridgway and is depicted in chapter four of his book.

[2] Army Doctrinal Reference Publication (ADRP) 6-0, *Mission Command*, change 2 (Washington, DC: Government Printing Office, 2014), 1-1.

[3] Ibid., 2-1.

[4] Ibid., 1-3.

staff use mission command to "balance the art of command and the science of control in order to integrate the other warfighting functions."[5]

Current mission command doctrine resulted from the Doctrine 2015 initiative. Doctrine 2015 (unveiled in 2012) was designed to revise the doctrinal base of the Army. In February 2012, the Combined Arms Center Commander, LTG David Perkins, described Doctrine 2015 as anchored by enduring doctrine, with supporting doctrine able to be rapidly updated to "prepare us for an unknown future." In March 2012 the Chairman of the Joint Chiefs of Staff, General Martin Dempsey, released a white paper on mission command emphasizing mission command's importance in "defending the nation in an increasingly complex and uncertain operating environment."[6] Three months after General Dempsey's white paper, the Army released its first manual under the Doctrine 2015 initiative: Army Doctrine Publication (ADP) 6-0, *Mission Command*.[7] ADP 6-0 re-focused mission command from a command and control-based function to a dual-hatted philosophy and warfighting function. Updates to, and senior leader emphasis on mission command, has sparked dialogue to ensure its full implementation.

Renewed interest in mission command has generated studies to assess its effectiveness. Recent Department of Defense (DOD) studies indicate micromanagement and risk aversion as two issues adversely affecting mission command implementation. The 2014 Annual Survey for Army Leadership indicates one in four Army leaders express dissatisfaction in their ability to make decisions and exercise initiative. When asked whether they were "satisfied with the amount

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[5] ADRP 6-0, 3-1. The other warfighting functions are intelligence, sustainment, fires, movement and maneuver, and protection.

[6] Martin Dempsey, *Chairman of the Joint Chiefs of Staff Mission Command White Paper* (April 3, 2012), 1, accessed September 21, 2016, http://www.dtic.mil/doctrine/concepts/white_papers/cjcs_wp_missioncommand.pdf.

[7] Army Doctrine Publication (ADP) 6-0, *Mission Command* (Washington, DC: Government Printing Office, 2012).

of freedom/latitude in the conduct of duties," forty percent of Sergeants and Staff Sergeants answered negatively.[8] Analyzing the same question across the entire surveyed population (Sergeant–Colonel) reveals 25 percent of Army leaders dissatisfied.[9] Regarding risk, The 2013 Chief of Staff of the Army Leader Development Task Force indicates over fifty percent of surveyed leaders have neutral to negative feelings about their ability to accept prudent risk. Findings reveal, "37% of those surveyed believe to a great or a very great extent their higher headquarters underwrites prudent risk in garrison operations (comparable to 42% in deployed operations), and only 30% believe only to a slight extent or not at all."[10] These heuristics indicate risk aversion and micromanagement as cold realities in the Army.

These findings are not exclusive to recent research. In 2003, the Army Training and Leader Development Panel (ATLDP) found micromagement as being a part of the Army culture. Specifically, the ATLDP panel found, "inexperienced officers, a high operational pace, and associated high standards of achievement encourage senior officers to be more directive in their leadership and less tolerant of mistakes."[11] These studies clearly speak to the presence of micromanagement and risk aversion in the Army for over ten years.

Further dialogue on risk aversion and micromanagement's effects on mission command has been generated by all ranks. In his 2008 study, Major James Lewis discussed a zero-defect

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[8] Josh Hatfield et al., *2014 Center for Army Leadership Annual Survey of Army Leadership (CASAL): Military Leader Findings,* CAL Technical Report 2015-01 (Fort Leavenworth, KS: Center for Army Leadership, 2015), 39. It is important to note, Sergeants and Staff Sergeants accounted for 40 percent of the personnel surveyed. Over 8,000 personnel Army-Wide completed the survey.

[9] Ibid., 39.

[10] Department of the Army, *2013 Chief of Staff of the Army Leader Development Task Force Final Report* (Washington, DC, 2013), 17.

[11] Department of the Army, *Army Training and Leader Development Panel Officer Study* (Washington, DC: Government Printing Office, 2003), OS-9.

Army culture, in which, "the fear of mistakes and failures causes a climate of risk and uncertainty aversion."[12] More recently, a 2016 article by LTG (Ret) Barno and Nora Bensahel recommend the Army inculcate numerous changes, two of which include accepting more risk and powering down to subordinates.[13] These studies further support risk aversion and micromanagement as problems affecting mission command; problems the Army at all levels is trying to solve.

Cultural issues supported by aforementioned heuristics provide the majority of research and dialogue on the Army's inability to fully implement mission command. Pointedly, issues affecting mission command's principles of exercising disciplined initiative and accepting prudent risk are recurring themes. Analysis of the Army risk management process and its interaction with mission command doctrine offer a plausible source of friction and poses the question, does risk management produce unintended consequences on mission command?

This study explores whether risk management doctrine and regulation produce unintended consequences on mission command. The first section explores the historical trace of risk management, mission command and operations regulation and doctrine. Analyzing doctrinal and regulatory change provide the ability to assess inconsistencies and deviations between the documents. It explores their purpose, content and interaction to base these judgments. Specifically, it explores opportunity and uncertainty–concepts associated with risk and common to all publications.

The second section explores Rational Choice and Prospect Theories–decision-making theories–and their relevance to risk management. They focus on decision making amidst uncertainty, and how variables associated with Army risk management impact decision making.

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[12] James M. Lewis, III, "Trust and Dialogue in the Army Profession" (Monograph, School of Advanced Military Studies, 2008), 35.

[13] Dave Barno and Nora Bensahel, "Six Ways to Fix the Army's Culture," *The Strategic Outpost Blog: War on the Rocks*, September 6, 2016, accessed November 22, 2016, http://warontherocks.com/2016/09/six-ways-to-fix-the-armys-culture/.

Prospect Theory holds a preponderance of research because it emphasizes variables of probability, loss and gain, describes their effects on decision making, and provides baseline heuristics to compare Army doctrine and regulation against. This comparison provides an alternative view of risk management, and offers options to compensate for inconsistencies found in risk management doctrine which may inhibit mission command principles.

The first two sections provide running analysis, but the final section synthesizes these findings. Inconsistency between publications, misguided application of risk management, and recommendations to rectify deficiencies are presented for consideration. Integral to this examination is comparing the findings from each section, and with heuristics from theoretical testing to provide coherent conclusions. Research shows risk management regulation and doctrine fail to properly address decision making; this creates two significant issues. First, it forces the US Army into hierarchical-based decision making inherently counter to mission command; because the Army is a large bureaucracy this is probably an inherent by-product. Second, an examination of Army risk management models reveal a risk-averse approach to risk decisions. A review of this approach through the lens of decision making theory corroborates these findings.

Doctrine Review

Ridgway knew MacArthur was toeing a fine civil-military line. He also knew MacArthur was still his boss, and the military obeyed the orders of the President–these were the rules of the game. Although a field-tested commander, Ridgway did not serve in the Pacific Theater during WWII. En route to assuming his new duties, he reported to MacArthur in Japan to receive guidance. MacArthur ordered Ridgway to withdraw south, but to protect Seoul from falling.

Ridgway, in turn, asked MacArthur if he could attack. "The Eighth Army is yours, Matt."[14] *Ridgway had received his risk guidance* (for emphasis).

As an operational commander, Ridgway's military boss answered to national command authorities; the bureaucracy was thick. But MacArthur provided Ridgway intent and conceded him his trust, leaving Ridgway free to make risk decisions. This leeway provides a good model for how risk management and mission command positively interact. It also provides a relevant example to compare issues between risk, mission command, and operations.

Prior to formal analysis, the relationship between risk management, mission command and operations is explained. The operations process is a mission command warfighting function task driven by the commander and executed by the staff; therefore operations is the framework in which mission command is executed.[15] Orders produced through the operations process assist the mission command philosophy in blending the art of command and science of control, enabling disciplined initiative and risk acceptance. Risk management is an integrating process for Army operations; it assists commanders in synchronizing functions throughout the operations process.[16] Because risk management's effect on mission command is at the fore of examination, it will be discussed first. Analyzing risk management first sets conditions to examine context of its use in mission command and operations doctrine.

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[14] Hansen, 156. 144. References to Ridgway's specific conundrum is found at the following: circumstances surrounding his meeting with MacArthur in Japan to include his guidance, 156; Ridgway's WWII experience, 144; George C. Mitchell, *Matthew B. Ridgway: Soldier, Statesman, Scholar, Citizen* (Mechanicsburg, PA: Stackpole Books, 2002), 67. Ridgway did have limited experience in Asia as a company level officer serving in the 15th Infantry Regiment in Tientsin China in 1925.

[15] ADRP 6-0, *Mission Command*, 1-2 – 1-4.

[16] Orders produced through the operations process is referenced in Army Doctrine Reference Publication (ADRP) 5-0, *The Operations Process* (Washington, DC: Government Printing Office, 2012), 1-1 – 1-2. Risk management as an integrating function is examined on p. 1-12.

Risk Management

Examining historical context and content of Army publications reveals change over time. Risk management changed from being solely a safety regulation, to two separate publications: risk management safety regulation and tactical risk management doctrine. These publications are complimentary, but risk doctrine is legally bound to risk regulation.[17]

Continued examination of risk structure and content reveal adverse effects to mission command created by both risk regulation and doctrine. Risk regulation contains risk decision authorities whose existence stands as a roadblock to disciplined initiative. Risk doctrine's failure to address uncertainty leads to adverse effects on risk decision makers, leaving an incomplete assessment of risk-producing hazards. These issues are identified when reviewing risk doctrine, but their effects are addressed in the following two sections reviewing mission command and operations doctrine.

History

US Army risk management is deeply rooted in safety regulation, and was originally perceived as a safety officer function.[18] Over time, safety regulation and risk management doctrine separated into different publications, with safety (risk management) residing in Army Regulation (AR) and risk management in operational doctrine. Through multiple changes, content contained in either regulation or doctrine has shifted location between each. Today's risk regulations are typical of any bureaucracy: rules to govern. Today's risk doctrine offers flexible techniques for application. This paradoxical relationship creates problems.

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[17] Army Regulation (AR) 385-30, *Safety: Risk Management* (Washington, DC: Government Printing Office, 2014), 1.

[18] Field Manual (FM) 100-14, *Risk Management* (Washington, DC: Government Printing Office, 1998), iii.

Concepts originally found in safety regulation spawned risk doctrine. 1959's AR 385-10, *Safety-Army Safety Program,* was designed to "reduce and keep to a minimum accidental manpower and monetary losses." AR 385-10 endures in its nomenclature and purpose to this day.[19] 1979's AR 385-10 introduced the concept of risk assessment. This version defined risk as "an expression of probable loss, described in terms of hazard, severity and mishap probability"–a definition nearly identical to the Army's current definition of risk.[20] The Army's first operational risk management manual, Field Manual (FM) 100-14, *Risk Management,* was initially published in 1998.

Operations doctrine was the first Army doctrine to contain a risk management process. 1993's draft version of FM 101-5, *Staff Organizations and Operations* (final version published in 1997), was the first to contain a risk management model.[21] It was identified as a staff responsibility and the five-step process–identify hazards, assess risk of each hazard, make risk decisions and develop controls, implement controls, and supervise–remained in 1997's final version, and is nearly identical to the five-step process featured in current doctrine.[22]

The Army's current risk management procedures reside in two series of publications: safety and administrative risk management guidance resides in Army Regulation; operational risk

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[19] Army Regulation (AR) 385-10, *Safety: Army Safety Program* (Washington, DC: Government Printing Office, 1959), 1.

[20] Army Techniques Publication (ATP) 5-19, *Risk Management* (Washington, DC: Government Printing Office, 2014), 1-6. Current Army definition of risk is probability and severity of loss linked to hazards; Army Regulation (AR) 385-10, *Safety: Army Safety Program* (Washington, DC: Government Printing Office, 1979), C1. This publication contains the historic definition of risk.

[21] Center for Army Lessons Learned, *Newsletter 95-9* (Fort Leavenworth, KS: Government Printing, 1995), 2.

[22] Field Manual (FM) 101-5, *Staff Organizations and Operations* (Washington, DC: Government Printing Office, 1997), J-2 – J-3. Chapter 4 addresses risk management as a staff function; Appendix J provided–what is now–the five step process the Army uses for risk management.

management evolved over time from the Field Manual series to the Army Techniques Publication (ATP) doctrine. Army Regulation carries punitive characteristics and states, "A violation of any of these paragraphs is separately punishable as a violation of a lawful general regulation under Article 92, Uniform Code of Military Justice."[23]

The current capstone safety document for the Army, 2013's AR 385-10, has a myriad of supporting regulation. In 2014's AR 385-30, *Safety: Risk Management* is one of many supporting in the AR safety series.[24] It contains risk management policies defined in 385-10, provides a detailed framework to apply risk to planning, and provides legal guidelines such as authorities for risk decisions.[25] AR 385-30 is important because it is a regulation, and regulations carry legal consequence.

The second series of risk management doctrine is operational risk management. It is legally bound to risk regulation. Currently, 2014's ATP 5-19, *Risk Management* provides "doctrinal guidance on managing risk within the conduct of operations."[26] ATP 5-19 and AR 385-30 are designed to work "complementary, and in tandem."[27] However, ATP 5-19 specifically states, "where Army doctrine differs, the laws, regulations and policies (of Army Regulation) take precedence."[28] ATP 5-19's legal obligations stem from risk policies defined in AR 385-30.

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[23] Army Regulation (AR) 385-10, *Safety: Army Safety Program* (Washington, DC: Government Printing Office, 2013), i.

[24] Ibid., 1.

[25] Army Regulation (AR) 385-30, *Safety: Risk Management* (Washington, DC: Government Printing Office, 2014), 10.

[26] ATP 5-19, *Risk Management*, iii.

[27] AR 385-30, *Safety: Army Safety Program*, 2014, 1.

[28] ATP 5-19, *Risk Management*, iii.

Structure

The structure of risk regulation and doctrine refers to how and where risk information is presented. Risk doctrine progressed over time, integrating with Army planning processes to cover a wider variety of content. The three versions of risk doctrine iteratively improved, integrating the five-step risk model with the military decision making process (MDMP). Other changes to structure reveal administrative and safety risk information (i.e. personal operated vehicle) moving from tactical doctrine to Army regulation.

The aforementioned integration of the risk management model with MDMP was the most significant structural change to risk doctrine. 1998's FM 100-14, *Risk Management* stated the value of risk management being nested with MDMP; it featured a table depicting the steps of risk management integrated with the steps of MDMP.[29] This table served as a precursor to 2006's FM 5-19, *Composite Risk Management* and 2014's ATP 5-19. Both FM 5-19 and ATP 5-19 added chapters depicting how to effectively integrate risk management into troop leading procedures and the MDMP process.

The second structural change for risk management doctrine was the location of safety and administrative related content. A historical trace reveals administrative risk management procedures have moved from risk doctrine to AR series publications. An example, 2006's FM 5-19 expands significantly in administrative related topics to include POV safety, suicide prevention and sexual harassment related topics. These topics subsequently moved to 2014's AR 385-30. This move was a result of 2014's ATP 5-19, mandating the "removal of all chapters and examples covering non-operational topics."[30] Administrative risk material now resides in AR series publications; operational risk material resides in tactical doctrine.

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[29] FM 100-14, *Risk Management*, 2-1.

[30] ATP 5-19, *Risk Management*, vi.

Content

Acknowledging changes to the structure in risk management publications, it is important to analyze its content. Three specific areas are important to focus on when analyzing the content: the methodology, risk management's interaction with other doctrine, and changes to details nested in the process. Analysis of these areas reinforces discussion on purpose and structure and provide a "so what" to draw conclusions.

Since inception there have been no significant changes to the five-step methodology of risk management; there have been changes to the principles guiding the process. 1998's risk management doctrine featured three principles that remain in doctrine today: integrate risk management into planning, preparation and execution; make risk decisions at the appropriate level in the chain of command; accepting no unnecessary risk.[31] In 2006's FM 5-19, two additional principles were added: apply (risk management) process cyclically and continuously; do not be risk averse.[32] Notable, 2014's doctrine features 1998's original principles, but eliminates "do not be risk averse."[33] The removal of "do not be risk averse" could be an acknowledgement of the perception of risk aversion, and speculatively signals a movement to create space from the perception.

Risk management's interaction with other doctrine has grown over time. 1998's FM 100-14 discusses interaction with intelligence doctrine when identifying enemy hazards, references how risk management is used in FM 100-7: *Decisive Force: The Army in Theater Operations*, and discusses the moral obligations of leaders when exposing Soldiers to risk (found in FM 22-

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[31] FM 100-14, *Risk Management,* 1-3.

[32] Field Manual (FM) 5-19, *Composite Risk Management* (Washington, DC: Government Printing Office, 2006), 1-2.

[33] ATP 5-19, *Risk Management*, 1-1 – 1-2.

100, *Army Leadership).*[34] As discussed, there has also been a significant push to integrate risk management into the Army planning methodology. Lastly, 2014's ATP 5-19 integrates mission command into the risk management doctrine. It abruptly describes what mission command is, and states the mission command warfighting function and philosophy "encompass and support RM."[35]

Finally, detailed analysis of risk management reveals components whose function plays an integral role to draw conclusions. The use of uncertainty and its relevance to decision making, and implications of risk acceptance authorities is examined. Analyzing these topics show their purpose in use, reason for change, and current disposition in today's doctrine.

Uncertainty, over time, has been removed from risk management doctrine placing the risk management process primarily in analytic decision making. Uncertainty was prevalent in 1998's FM 100-14 and was described as a characteristic of war that "create risks that affect an army's ability to fight and win."[36] Uncertainty was also used in relation to gauging probability and severity of a hazard; 1998's doctrine states its importance as "risk management is the recognition that decision making occurs under conditions of uncertainty."[37] 2006's FM 5-19 uses the term uncertainty once when discussing risk management's role in command and control while "managing chaos and uncertainty."[38] Uncertainty is not mentioned in 2014's ATP 5-19, and its

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[34] FM 100-14, *Risk Management,* 2-13, 3-1. Ties to other doctrine are enmeshed throughout the initial risk management doctrine. Recognized examples can be found primarily in chapters two and three.

[35] ATP 5-19, *Risk Management,* vi.

[36] FM 100-14, *Risk Management,* 1-2.

[37] FM 100-14, 2-13. This reference is featured in risk management doctrine, but is referencing FM 100-7, *Decisive Force.*

[38] FM 5-19, *Composite Risk Management,* 4-1.

absence has critical implications on decision making. It's removal from risk doctrine side-step the method and importance of intuitive decision making.

Risk acceptance authorities are a second detail of risk management doctrine worth exploration. They first appear in the 2007 version of AR 385-30, *Mishap Risk Management,* and are inherently part of steps two and three of the risk management process providing legal parameters to accept identified risk.[39] Risk acceptance authorities provide the appropriate rank associated with either controlling the resource to mitigate, or the appropriate rank to assume the risk.[40] Because operational and administrative risk management is co-dependent, it is important to recognize a note from 2014's ATP 5-19's "Make Risk Decisions" paragraph: "For further guidance on the appropriate risk acceptance authority and nonoperational RM integration, see DA Pam 385-30."[41] Tables 1 and 2 display the evolution of risk management authorities. Noteworthy, the 2007 and 2014 editions of AR 385-30 slightly differ. The 2014 version combines short-term risk waivers of one month or less to Brigade level authority (Colonel), but changes risk waiver authority for one year or more to General Officer authority. The waiver authority for one year or more reflects a more risk averse approach.

[39] Army Regulation (AR) 385-30, *Safety: Mishap Risk Management* (Washington, DC: Government Printing Office, 2007), 31.

[40] AR 385-30, *Safety: Mishap Risk Management*, 2014, 10.

[41] ATP 5-19, *Risk Management*, 1-14.

Table 1. 2007 Risk Acceptance Matrix

Table 4–2
Risk acceptance authority

	Risk acceptance matrix					
	Duration of risk					
Category of risk	**24-hours or less**	**1 month[3] or less**	**1 year or less**	**More than 1 year, less than 5 years**	**Permanent or greater than 5 years**	**Chartered system development programs**
Extremely high risk	General officer	MSC CG[1]- General officer	Army Headquarters' CG[1]	Army Headquarters' CG	ASA(I&E)	Component Acquisition Executive (CAE)
High risk	Brigade CO	Brigade CO	MSC CG[1]- General officer	Army Headquarters' CG[1]	Army Headquarters' CG	Program Executive Officer (PEO)
Medium risk	Battalion CO	Battalion CO[2]	Brigade CO[1]	MSC CG[1] - General officer[1]	Army Headquarters' CG[1]	Program manager
Low risk	Company CO[2]	Company CO[2]	Battalion CO[2]	Brigade CO[1]	MSC CG - General officer	Program manager
Tolerable	None required	None required	None required	None required	None required	None required

Legend for Table 4-2:
In organizations led by civilian leaders, equivalent civilian grades may be substituted for military ranks, see table 4–2.
The term "Army Headquarters" used in the table includes ACOMs, ASCCs, DRUs, and the National Guard Bureau (NGB).

Notes:
[1] May delegate in writing authority to accept at the next lower level.
[2] May delegate in writing authority to accept risk at lower levels to include senior noncommissioned officers.
[3] A certificate of risk acceptance or System Safety Assessment will be completed for all risk accepted for greater than a week.

Source: Army Regulation (AR) 385-30, *Safety: Mishap Risk Management* (Washington, DC: Government Printing Office, 2007), 31.

Table 2. 2014 Risk Acceptance Matrix

Table 4–1.
Risk acceptance authority for safety standards deviation

	Risk acceptance matrix[2, 3, 4, 5]			
	Duration of risk			
	Event waiver	**Waiver**		**Exemption**
Category of risk	1 month or less	1 month to 1 year	1 year to 5 years	Permanent or greater than 5 years
Extremely high risk	General officer (GO)	Army Headquarters Commanding General (CG)	Army Headquarters CG	Army Headquarters CG
High risk	Brigade commanding officer (CO) or responsible O–6	GO	GO	GO
Medium risk	Battalion CO[1] or responsible O–5	Brigade CO[1] or responsible O–6	GO[1]	GO[1]
Low risk	Company CO or responsible O–3	Battalion CO[1] or responsible O–5	Brigade CO[1] or responsible O–6	Brigade CO[1] or responsible O–6

Legend for Table 4-1.:
In organizations led by Army civilian leaders, equivalent civilian grades may be substituted for military ranks (see table 4–2).
The term "Army Headquarters CG" used in the table refers to Army commands (ACOMs), Army service component command (ASCCs) (including Joint Forces Land Component Commands (JFLCC) and GO level Joint Task Forces (JTFs)), direct reporting units (DRUs), and the Director, Army National Guard.

Notes:
[1] May delegate in writing authority to accept at the next lower command level.
[2] For deviations involving violations of AE or chemical agent safety standards during Joint operations planning, training, and execution, refer to CJCSI 4360.01 and Service risk acceptance guidance. See also paragraph 4–6*i*.
[3] H risk (beyond 1 month) or EH risk will always be accepted by a GO or flag officer.
[4] For hazards discovered in fielded acquisition programs, risk will be accepted per DA Pam 385–16.
[5] Deviations from range standards and procedures are addressed in AR 385–63.

Source: Matrix. Army Regulation (AR) 385-30, *Safety: Mishap Risk Management* (Washington, DC: Government Printing Office, 2007), 31.

Risk Management Effects on Mission Command

Seasoned leaders like Ridgway navigated bureaucratic rules under the most fragile of circumstances, rules similar in nature to those currently imposed by Army risk management. Army risk management is an analytic-based decision process with rules governing its application, and authorities governing risk acceptance. Its history and structure reveal doctrine and regulation typical of a bureaucracy–heavy in analytic tools and rules to abide by. Further dissection reveals this approach, coupled with the removal of uncertainty from risk management, skew decision making; heuristics supporting these effects are highlighted in a subsequent section on decision making theory. Together, these findings reveal multiple factors adversely affecting mission command.

The directed co-dependence between risk regulation and tactical doctrine impose behaviors inconsistent with mission command. Notably, risk approval authorities stand contrary to the spirit of mission command for two reasons.[42] First, their presence has the ability to put a mental governor on leaders accepting risk to gain an opportunity. Risk approval should be identified and accepted through commander intent and risk guidance; this also reinforces trust and shared understanding. Second, commanders conditioned to seek risk acceptance can lose the window of opportunity in dynamic environments. Both examples display risk averse and micromanaging behaviors.

Expulsion of uncertainty from risk publications highlight a greater issue affecting mission command: decision making. While mission command can utilize analytic decision making, it requires commanders to have the capacity to make an informed, intuitive decision. Uncertainty

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[42] MAJ Amos C. Fox, "Cutting Our Feet to Fit the Shoes: An Analysis of Mission Command in the U.S. Army," *Military Review* (January-February 2017): 51, accessed February 4, 2017, http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_2017228_art011.pdf. MAJ Amos Fox's article on mission command describes putting controls on Soldiers as standing contrary to mission command because it does not allow Soldiers to act within intent and among others, exercise disciplined initiative. For further reference see,

plays a critical role in analytic and intuitive decision making; removing uncertainty reinforces risk management's role as an analytic decision-making process. ATP 5-19 states, "A deliberate approach is more analytical but takes more time; a real-time approach is more intuitive and tends to take less time. Regardless of the amount of time available, Army forces manage risk throughout the operations process using the five steps of RM."[43] Analytic decision making generally decreases risk over time through analysis and controls. Contrarily, intuitive decision making is heavily rooted more in experience and judgment, less in analytics. ATP 5-19 briefly recognizes the importance of real-time risk management, but only states leaders must "master the principles and steps of RM" to apply it.[44] These points are reinforced in a subsequent section analyzing mission command doctrine.

The removal of uncertainty also raises questions about how probability and severity are defined. Uncertainty by nature has the ability to increase risk and directly affect both probability and severity. These factors weigh significantly on a decision maker, and can skew decision making. These points are expanded in section two on decision making theory.

Risk management's rules and removal of uncertainty reveal the Army operates in a hierarchical-based decision making environment relying on an analytic process. Its impacts on an intuition-reliant command philosophy will next be examined.

Mission Command

A review of mission command doctrine reveals ties to operations doctrine which first used the term command and control. Command and control matured into the mission command philosophy and warfighting function–the Army's current command philosophy. Further analysis

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[43] ATP 5-19, *Risk Management*, 1-2.

[44] Ibid., 1-3.

reveals mission command's cognitive evolution and its reliance on embracing uncertainty as a means to create opportunity. These findings expose inconsistencies with risk management's use of opportunity and uncertainty, and reinforce risk management's reliance on analytic decision making. Ridgway's ability to balance risk, uncertainty, and opportunity in Korea provide a useful guide for this analysis. His situation required him to embrace uncertainty, and exercise an informed intuition to make a risk decision to create opportunity.

Mission Command Doctrinal Review

Mission Command's doctrinal roots trace to 1905's Field Service Regulations, but began to take form in WWII doctrine when the term command and control was introduced.[45] Until the late 1990s and early 2000s, command and control application, definition and utilization resided primarily in operations doctrine. In 2003, the Army doctrinally aligned the term command and control under the concept of mission command.

Two types of command are recognized in 2003's mission command manual—detailed command and mission command–specifying mission command as the preferred type of command and control.[46] Compared to detailed command, mission command thrives in uncertainty and individual initiative vice certainty and centralization.[47] A figure from 2003's mission command

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[45] Clinton J. Ancker, "The Evolution of Mission Command in U.S. Army Doctrine, 1905 to the Present," *Military Review* (March-April 2013): 43, 50, accessed November 27, 2016, http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20130430_art008.pdf. Reference to 1905's doctrine is found on page 43; reference to WWII era doctrine and introduction of command and control are on p.50.

[46] Field Manual (FM) 6-0, *Mission Command: Command and Control of Army Force* (Washington, DC: Government Printing Office, 2003), 1-14.

[47] Ibid., 1-15.

doctrine explains the differences between mission and detailed command (Figure 1). The Army subsequently produced two revisions of mission command doctrine; one in 2011 and one in 2014.

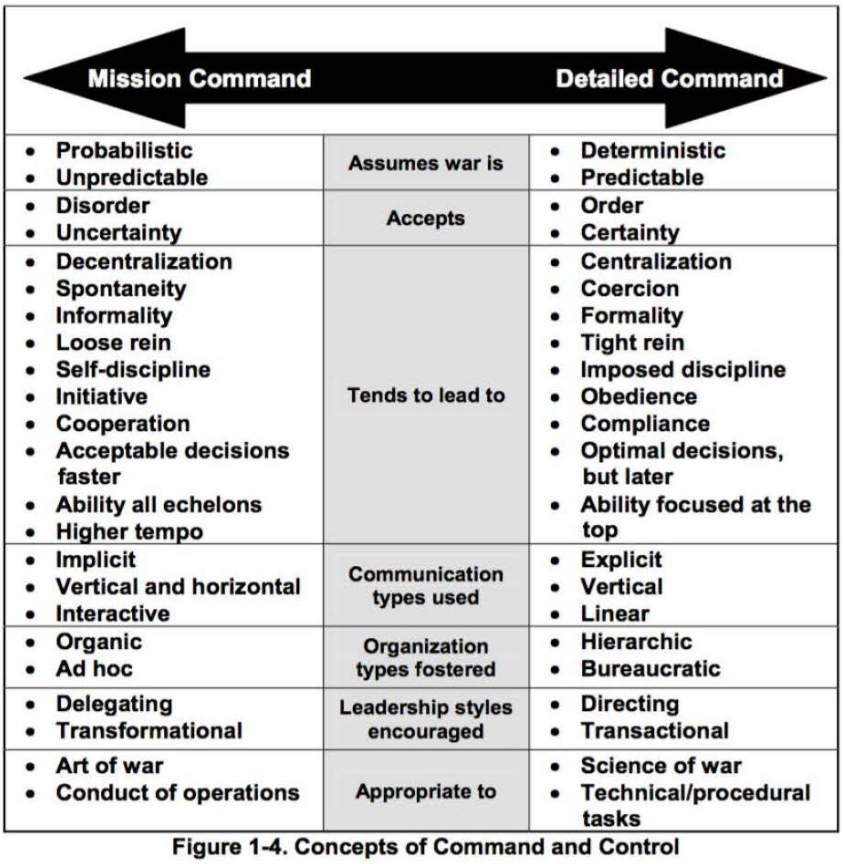

Figure 1. Detailed vs. Mission Command. Field Manual 6-0, *Mission Command: Command and Control of Army Forces* (Washington, DC: Government Printing Office, 2003), 1-15.

Given its doctrinal trace, mission command's purpose changed subtly over time. 2003s purpose was for mission command to be the key integrating concept for command and control, with the ultimate goal of trying to encompass what a commander does, and how they lead their organizations.[48] Current doctrine's purpose for mission command is to combine the art of

[48] FM 6-0, *Mission Command*, viii, xii.

command and science of control, to ultimately, complete the mission.[49] The noticeable difference in the current purpose of mission command lies in changes to its application. Since 2011, doctrine recognizes mission command as both a warfighting function and a philosophy. The Army's philosophy of command is mission command, and is executed through the warfighting function of mission command (tasks and systems).[50] This change is important because it emphasizes the role of the leader instead of role of the system, formalizing the importance of the human aspect in a complex environment.

Finally, it is important to recognize the changes to mission command doctrine in context to time and presentation. 2003's mission command doctrine was published on the leading edge of the information boom (internet, connectivity, etc.). Its exorbitant length (333 pages) result from the newness of the doctrine and the necessity to explain parts of the mission command system (i.e. information systems). As described, it also attempted to explain and compartmentalize human cognition. 2011 and 2014 revisions reflect the maturation of mission command as a philosophy and warfighting function. These versions do not describe in detail how every system interacts, or what the difference is between detailed and mission command. This reflects a movement to onus on commanders and leaders–the human endeavor.

Mission Command's Relation to Risk Management

Risk management doctrine is complementary to mission command, playing an integral role as it identifies and assesses hazards for military personnel to negotiate or accept. Mission command embraces the concept of risk acceptance by making decisions in the presence of uncertainty to create an otherwise lost opportunity. Decision making associated with risk

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[49] ADRP 6-0, *Mission Command*, 1-2.

[50] Field Manual (FM) 6-0, *Mission Command* (Washington, DC: Government Printing Office, 2011), 1-2.

acceptance is integral to two of mission command's principles: accept prudent risk and exercise disciplined initiative.

In describing the acceptance of prudent risk, ADRP 6-0 states, "commanders accept prudent risk when making decisions because uncertainty exists in all military operations."[51] Through trust and shared understanding (two other principles of mission command), commanders embrace risk to create opportunities.[52] A commander who exercises risk management effectively to accept prudent risk creates a climate of trust, allowing subordinates to exercise judgment within the commander's intent, and make risk decisions independently.[53]

Uncertainty is recognized by mission command as co-existent with risk. ADRP 6-0 states "The mission command philosophy helps commanders counter the uncertainty of operations by reducing the amount of uncertainty to act."[54] While uncertainty can be mitigated (like risk) through time, analysis and controls, it must be accepted to create opportunities. "Experienced commanders balance audacity and imagination with risk and uncertainty."[55] If commanders embrace risk and uncertainty, and translate their associated guidance through mission orders and intent, subordinates are free to exercise initiative. This initiative creates opportunities over an enemy.

Decision making is a critical component of the art of command; it is also inherent to making risk decisions. In mission command there is a correlation between the type of decision making and the type of command being utilized. Analytic decision making is more science and

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[51] ADRP 6-0, *Mission Command*, 2014, 2-5.

[52] Ibid., 2-5.

[53] Ibid., 2-4.

[54] Ibid., 2-1.

[55] Ibid., 2-5.

less art; intuitive decision making is more art and less science. Applying risk and uncertainty to decision making relies on commanders to use either analytic or intuition to accept or mitigate risk. When time is a factor, intuitive decision making is the mode of choice.[56] Commanders apply judgment to make these decisions.[57] A graph from 2003's mission command doctrine attempts to capture this process.

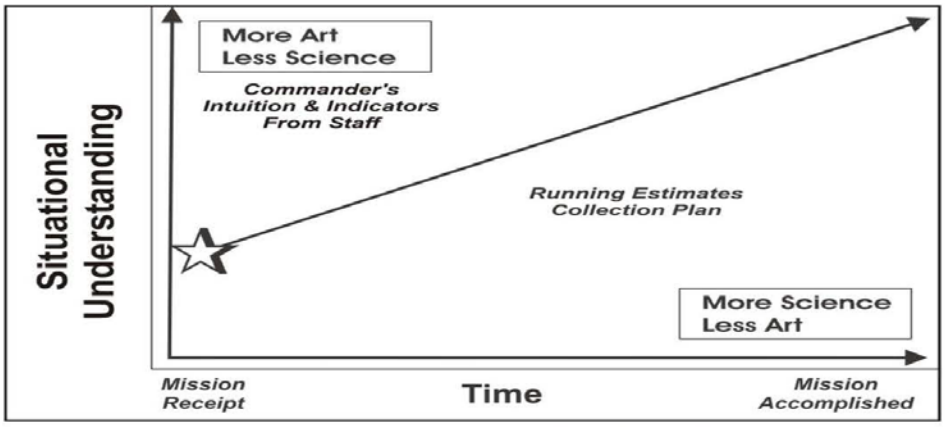

Figure 4-2. Situational Understanding Over Time (Ideal)

Figure 2. Situational Understanding Over Time. Field Manual 6-0: *Mission Command: Command and Control of Army Forces* (Washington, DC: Government Printing Office, 2003), 4-3.

Figure 3, a modified version of Figure 2, shows the relationship between when a decision is made, and incorporates risk as a variable. Figure 3 is a graphical depiction of decision making in relation to time and uncertainty. The dotted line depicts where a decision must be made–provided a current level of analysis–requiring the commander to exercise an informed intuition. 2012's ADRP 5-0 provides a fitting description of this process stating, "Commanders seek to

[56] FM 6-0, *Mission Command*, 2003, 6-29.

[57] Ibid., 4-5.

counter the uncertainty of operations by empowering subordinates at the scene to make decisions, act, and quickly adapt to changing circumstances. As such, the philosophy of mission command guides commanders, staffs, and subordinates throughout the conduct of operations."[58] Time allows for increased analysis and understanding, and provides a vehicle to reduce risk; this is relevant to when a decision must be made.

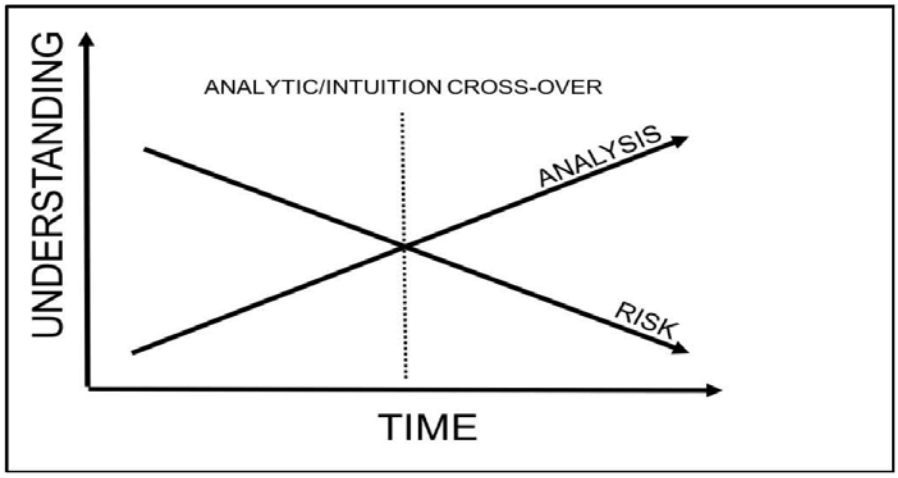

Figure 3. Analytic-Intuition crossover point. Created by author, with thought creation assisted by FM 6-0 (featured in Figure 4) and MAJ Sam Linn's article for the Association of the United States Army Magazine, August 2016, accessed January 30, 2017, https://www.ausa.org/articles/unintended-risk-policies-designed-'not-lose'-may-make-winning-less-likely.

Mission Command–Risk Management Analysis

Analysis reveals inconsistencies between risk management and mission command. Uncertainty's presence in mission command doctrine emphasize its importance in creating opportunity for decision makers and expose its inadequate presence in risk management.

Mission command reveals the role uncertainty plays in risk management and more important, risk decisions. It embraces uncertainty to create positions of advantage or gain an

[58] ADRP 5-0, *Operations,* 1-1.

opportunity; by creating conditions of mutual trust and shared understanding, it allows subordinates to "counter the conditions of uncertainty by reducing the amount of uncertainty needed to act."[59] Ridgway knew this all too well as he considered whether to concede Seoul to the Chinese. By accepting risk amidst uncertainty, he could produce a secondary effect: uncertainty in the enemy. Ridgway had to decide whether controlling uncertainty allowed him the opportunity to exploit his enemy.[60]

Mission command recognizes risk acceptance as a means to create opportunity against an enemy; this exposes its relative absence from risk management doctrine. Risk doctrine mentions opportunity only twice in relation to risk decision making.[61] A prime example, the risk management worksheet does not mention opportunity in relation to identified risk. Figure 4 shows an example of DD Form 2977, the Risk Management Worksheet.

[59] ADRP 6-0, *Mission Command*, 2-1.

[60] Ibid., 2-5. Idea originally found in 2003's FM 6-0, *Mission Command*. It is explained in detail using John Boyd's OODA loop to show how to create conditions of uncertainty in an enemy. These thoughts have been subsequently removed in future doctrine.

[61] ATP 5-19: *Risk Management*, 1-2 and 1-5. ATP 5-19 only mentions opportunity twice in relation to risk decisions, and only four times in the entire publication. The other two times do not use opportunity in any correlation to decisions.

DELIBERATE RISK ASSESSMENT WORKSHEET

1. MISSION/TASK DESCRIPTION			2. DATE (DD/MM/YYYY)
Relocate and Conduct Jump FARP Ops, (04/09/20XX)			03/09/20XX
3. PREPARED BY			
a. Name (Last, First Middle Initial)	**b. Rank/Grade**	**c. Duty Title/Position**	
Public, Robert W.	1LT / O-2	3/5 Platoon Leader	
d. Unit	**e. Work Email**	**f. Telephone** (DSN/Commercial (Include Area Code))	
F Company, 1-3 CAB (Atk)	robert.w.public.mil@mail.mil	000-5451 / (555) 000-5451	
g. UIC/CIN (as required)	**h. Training Support/Lesson Plan or OPORD** (as required)	**i. Signature of Preparer**	
W3YTAA	OPORD XX-001	**DIGITAL SIGNATURE 123456789**	

Five steps of Risk Management: (1) Identify the hazards (2) Assess the hazards (3) Develop controls & make decisions (4) Implement controls (5) Supervise and evaluate (Step numbers not equal to numbered items on form)

	4. SUBTASK/SUBSTEP OF MISSION/TASK	5. HAZARD	6. INITIAL RISK LEVEL	7. CONTROL	8. HOW TO IMPLEMENT/ WHO WILL IMPLEMENT	9. RESIDUAL RISK LEVEL
+ -	Movement, emplacement, and teardown	Aircraft loading, air movement, and aircraft unloading	H	Detailed mission briefing, crew oversight of loading, detailed pax briefings.	How: SOP and Rehearsal Who: Air Mission Commander	M

Figure 4. DD Form 2977, Risk Management Worksheet. Army Techniques Publication 5-19, *Risk Management* (Washington, DC: Government Printing Office, 2014), A-8.

In the risk management worksheet, the mission being executed is the only opportunity presented (Figure 4, Block 1); this under-informs a commander making decisions. For example, in a training environment, a commander may not want to accept bad road conditions (hazard) with a potential vehicle accident (loss), as an opportunity to conduct a rifle qualification range (the mission). If that same commander with the same training mission was one week away from deploying, and anticipated bad road conditions in his future environment, he may accept the risk as an opportunity to mitigate a future risk. As simple as this example sounds, the myriad opportunities for gain present complex decisions for commanders. These opportunities presented from uncertainty are embraced in mission command and absent from the risk management process. Their implications are further discussed in the section on decision making theory.

A recent Chairman of the Joint Chiefs of Staff Manual (CJCS) is a risk management model utilizing both risk and opportunity. Figure 5 displays how the CJCS examines strategic risk. This figure addresses gain by adding the columns: Enduring National Interest and Strength of Interest. It then addresses loss in relation to gain, resulting in a Risk to Interest. The CJCS model provides the user a more complete tool to identify and compare risk in terms of gain and loss, thus a more complete decision.

EVENT TITLE:		Hazard Estimate (Consequence based on damage to interest, time, resiliency) (w/ Illustrative Exemplars)				Probability	RISK to Interest
Enduring National Interest	**Strength of Interest** HLD/Vital: 4 Global System/Ally: 3 Partner/Regional: 2 Other/Local: 1	**Limited (1)** Minor damage to interests, and/or short-term impacts	**Major (2)** Moderate damage to interests and/or mid-term impacts	**Catastrophic (3)** Major damage to interests and/or long-term impacts	**Existential (4)** Extreme damage to interests, and/or permanent destruction of defining system	HIGH 81-100% SIG 51-80% MOD 21-50% LOW 0-20%	HIGH SIG MOD LOW
The Security of the U.S., its population, civil society, Allies and Partners	HLD/Vital: 4 Global System/Ally: 3 Partner/Regional: 2 Other/Local: 1	- Small Scale Contingency Ops (NEO, HA/DR) - Tactical Terror Attack (Lone Wolf) - Minor domestic civil disturbance - American hostage(s) - Loss of access - Coop Security activity or arrangement cancelled	- Minor Armed Conflict - Operational Terror Attack - Isolated or Minor Attack on Global Domain or critical infrastructure - Major domestic civil disturbance - Isolated Attack on U.S. Embassy or Business - Loss of Ally or Partner - Rise of Regional Hegemon - Unsecured global domains - Isolated epidemic or natural disaster	- Theater War on Major Armed Conflict - Strategic Terror Attack (9/11) - Strategic Attack on Global Domain or critical infrastructure - Concurrent widespread major domestic civil disturbances - Integrated regional attacks on U.S. Embassies or Businesses - Invasion or Loss of Major Ally or Partner - Regional Security Organization (NATO) breakup - Major epidemic or natural disaster (Spanish Flu of 1918, Katrina)	- Nuclear War (U.S. or Allies) - WMD Terror Attack - Domestic rebellion - Pandemic or natural disaster that threatens U.S. existence		
Security of the U.S. Economy & the global economic system	HLD/Vital: 4 Global System/Ally: 3 Partner/Regional: 2 Other/Local: 1	- Limited trade, resource, or financial interruption - Limited Interference in critical infrastructure - Change in currency standard - Minor cyber compromise	- Extended trade, resource, or financial interruption - U.S. Recession - Extended interference in critical infrastructure - Failure of IMF - Lack of int'l norms - U.S. Depression	- Financial failure of major institution or market - Major Degradation of critical infrastructure - Access to Global Domain(s) disrupted by adversary	- Global or U.S. economic collapse - Closed economic system - Destruction of critical infrastructure - Seizure of U.S. business/industry - Access to Global Domain(s) denied by adversary		
Preservation, and extension of universal values	HLD/Vital: 4 Global System/Ally: 3 Partner/Regional: 2 Other/Local: 1	- Local Atrocities - Imposition of martial law by Ally or Partner - Democratic regression in Ally or Partner	- Mass atrocities - Democratic regression in Key Ally or Partner - Local imposition of alternate value system	- Genocide (Holocaust) - Regional imposition of alternate value system - Emergence of powerful totalitarian nation	- Global Imposition of alternate value system		
Advancing & maintaining U.S.- led International Order	HLD/Vital: 4 Global System/Ally: 3 Partner/Regional: 2 Other/Local: 1	- Local or State order undermined replaced by alternative system, neutral or antagonistic to U.S. system; sets negative precedent	- Regional Order undermined or replaced by alternative system, neutral or antagonistic to U.S. system	- Elements of International order undermined or replaced by alternative system, neutral or antagonistic to U.S. system	- US Order Replaced in total by alternate system, hostile to current U.S. system		
Strategic Risk: Summary discussion of strategic risk criteria and factors to each US Interest to develop an overall strategic risk assessment.							

Figure 5. CJCS Strategic Risk Matrix. Chairman of the Joint Chiefs of Staff Memorandum 3105.01 (Washington, DC: Government Printing Office, 2016), C-8.

Operations

Operations doctrine is among the deepest in historical content and provides Army personnel a baseline operating concept. Its longevity and historical depth often reveal concepts before they their own stand-alone doctrine is established. Risk, uncertainty and decision making are examples of concepts used in operations doctrine prior to expansion in other doctrine. The methods in which these terms are utilized in operations doctrine evolve over time and reinforce findings made in risk and mission command analysis.

Risk Management in Operations Doctrine

Risk's utilization in operations doctrine spans purposes ranging an action taken to gain opportunity, to a critical element in the employment of operational art. Post WWII operations doctrine uses risk to describe effects on friendly and enemy forces. 1954's Field Service Regulations (FSR) 100-5: *Operations* uses risk to describe opportunities gained during a pursuit: "During the pursuit, commanders may be justified in taking operational risks greater than normal, in order to destroy the hostile force."[62] Risk was dedicated its own section in 1968's 100-5; In Chapter 5: The Principles of War and Operational Concepts, "Vulnerability and Risk" are afforded their own category to describe the importance of taking them to achieve a gain.[63] 1986's FM 100-5, *Operations* links risk to a tenet of Air Land Battle: Initiative. Risk to mission and risk to force are introduced as considerations that may impact initiative; it is here risk beings to take its modern form in both use and future application in risk management doctrine.[64] The last

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[62] Field Service Regulations 100-5, *Operations* (Washington, DC: Government Printing Office, 1956), 13.

[63] Ibid., 5-7.

[64] Field Manual (FM) 100-5, *Operations* (Washington DC: Government Printing Office, 1986), 15.

transition for risk in operations doctrine references its utilization in relation to operational art. 2001's FM 3-0: *Operations* cites risk as a consideration in the employment of operational art. From 2008 to current, risk is considered an element of operational art; with ends, ways and means it is a key employment consideration.[65] Risk and risk management evolved from a concept to an integral component in operations.

Uncertainty is a modern addition to operations doctrine and is undeniably linked to risk.[66] Uncertainty first appears in 1986's FM 100-5, but was not associated with risk until 1993's FM 100-5.[67] Uncertainty has subsequently co-existed with risk through the last three iterations of operations doctrine. Specifically, uncertainty is recognized as being inherent in all operations.[68] Uncertainty is inextricably linked to situational understanding, and provides the impetus linking judgment and intuition in decision making. As discussed in figure 2, situational understanding under the constraints of time require commanders to exercise judgment in decision making. In this regard, decision making is more of an art than a science. If it were a risk decision being made, it would require the judgment of an intuitive commander.

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[65] Field Manual (FM) 3-0, *Operations* (Washington DC: Government Printing Office, 2001), 2-5; Field Manual 3-0, *Operations* (Washington, DC: Government Printing Office, 2008), 7-5; Field Manual 3-0, *Operations* (Washington, DC: Government Printing Office, 2011), 7-5. Manuals produced after 2001 reflect risk as an element of operational art.

[66] Jonathan P. Klug et al., "The Game of #RISK," *The Strategy Bridge*, March 2016, accessed July 30, 2016, http://www.thestrategybridge.com/the-bridge/2016/3/22/the-game-of-risk. A 2016 article in The Strategy Bridge reinforces the point that risk is created by uncertainty. ADRP 5-0 also reinforces this point.

[67] FM 100-5, *Operations* (Washington, DC: Government Printing Office, 1993), 3-5.

[68] FM 3-0, *Operations*, 2001, 6-10.

Operations–Risk Management Analysis

Like mission command doctrine and LTG Ridgway's pending decision, operations doctrine integrates risk, uncertainty and opportunity in decision making. These findings support inconsistencies found in analysis of mission command and risk management doctrine.

Operations doctrine reinforces the relationship of risk and uncertainty. Similar to inconsistencies found in mission command doctrine, the recognition of uncertainty as present with risk in all operations reinforces the peculiar absence of uncertainty in Army risk management. Coalescing these findings, operations doctrine cites mission command as the philosophy required for commanders to operate under uncertainty; this ultimately raises the question why uncertainty is not found in risk doctrine.

Additionally, operations doctrine reinforces opportunity as a condition created through making risk decisions. Risk must be accepted to create opportunities in support of desired endstates. Operations doctrine recognizes not all decisions are made analytically, requiring commanders to exercise mission command in uncertain environments. Operations doctrine reinforces opportunity's role in decision making and further highlights its absence in risk management doctrine.

Decision Making Theory

Ridgway was conditioned to make risk decisions amidst uncertainty. At the Battle of the Bulge in WWII, he witnessed Germans out-run their supply lines; he drew similar parallels with his enemy on the Korean Peninsula. He knew conceding Seoul further stretched his enemy, traded space for time, and set conditions to counterattack and restore the 38th Parallel; his risk decision succeeded. He regained trust among national command authorities and boosted morale in the force–all within 100 days. *"Optimism, if grounded in logic rather than blind hope, was critical*

for restoration. And no one was more rational in those dark days than Matthew Ridgway (emphasis added)."[69]

Ridgway's risk decision highlights the importance of education and experience for decision makers. Provided analytics, Ridgway was able to draw from experience and make proper risk decisions using intuition. Since the 1960s, study of decision making theory has expanded immensely. Decision making theory provides plausible explanation for making decisions under uncertainty. Rational Choice Theory and Prospect Theory provide two schools of thought for exploration. Their perspective into how and why decisions are made under conditions of uncertainty afford relevant insight for risk decision makers. Their study provides heuristics presenting how factors such as gain and loss adversely affect decision makers, further illuminates fault in the Army's approach risk management, and provide alternatives to better the process.

Rational Choice Theory

Rational choice is a decision-making theory presuming humans make decisions based on consequence and preference.[70] Its founding on consequence and preference provide a natural reference point for risk decision makers. Pure rational choice theory becomes limited rationality when constraints are placed on the system. Introducing these constraints widen Rational Choice theory's aperture for related and expanded study.

Pure Rational Choice Theory "assumes that an actor has consistent preferences over alternatives and chooses from among the best alternatives available."[71] This implies all conditions

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[69] Hansen, 163, 168, 169. Parallels Ridgway drew with The Battle of the Bulge and logistics can be found on page 168; Ridgway's regained trust with national command authorities, 169; quote on optimism grounded in logic, 163.

[70] March, *A Primer on Decision Making*, 4.

[71] Charles H. Anderton and John R. Carter, *Principles of Conflict Economics* (New York, NY: Cambridge University Press, 2009), 28.

and consequences for decisions are known, and thus, humans can decide rationally.[72] Arguably, the world is too complex to assume people always understand the conditions and consequences surrounding decisions. Uncertainty and realizing decisions are often made among a host of alternatives has led to a further expansion of Rational Choice Theory. When Rational Choice Theory includes uncertainty, rationality becomes limited, and open itself to studying rational choice in the presence of constraining factors.[73]

Studies in limited rationality address the constraints on pure Rational Choice Theory and enhance its applicability. Sociologist James March expands dialogue on limited rationality to include what constrains information–attention, memory, comprehension, communication; how humans deal with information constraints–editing, decomposition, heuristics, framing; and how numbers are construed through explanation–external reality, processes and outcomes. March concludes when taking these variables into account, humans normally maximize their choices to seek a best solution, or satisfice to seek a "good-enough" solution.[74] Rational Choice Theory's greatest value is recognizing multiple factors influence decisions; studying factors constraining information expands research immensely.

Rational Choice Theory, to include variables identified in limited rationality, provide a baseline to expand research across many mediums. It allows other theories to introduce these constraints or variables in decision making; values of loss and gain present one such variable. Subsequently, Prospect Theory examined the environment in which value is considered in decision making.

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[72] March, *A Primer on Decision Making*, 4.

[73] Ibid., 8.

[74] Ibid., 11-22. March discusses constraints to processing information on p.11; he discusses how humans manage information constraints on pages 11-14; how number are processed on pages 14-17; he discusses final thought processes in decision making on pages 18-22.

Rational Choice Theory and Risk Management

Rational Choice Theory provides a gateway for further study of two prevalent aspects of risk management: uncertainty and consequences of decisions. Recognizing uncertainty as a variable in limited rationality provides additional variables for study and research; it also reasserts that risk decisions are always made under the guise of uncertainty. Pure Rational Choice Theory insinuates good decisions are made because humans know all variables involved, and thus make decisions based on personal preferences and consequences. A trained leader like Ridgway knows this is never the case, and acknowledges the increase of variables complicates decision making; rationality is thus limited rationality. Recognizing uncertainty impacts potential consequences open Rational Choice Theory up to further exploration.

Most important, Rational Choice Theory provides a framework for comparison in decision making. Its decision-making framework based on consequence and preference provides a gateway to study of other variables; the study of loss, gain and opportunity are applicable risk variables. In the next section, Prospect Theory's study of effects of loss and gain on human decision making is examined.

Prospect Theory

Prospect Theory is a choice theory developed in the late 1970s to further enhance the study of decision making under risk, and is accepted as a form of Rational Choice Theory.[75] Its main concepts expand on Utility Theory by looking at the effects of probability on decision weights.[76] Put simply, it takes a person's basis of reference into consideration during the

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[75] Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47, no. 2 (March 1979): 263-292, accessed November 29, 2016, http://links.jstor.org/sici?sici=0012-9682%28197903%2947%3A2%3C263%3APTAAOD%3E2.0.CO%3B2-3, 263.

[76] Daniel Kahneman, *Thinking, Fast and Slow* (New York, NY: Farrar, Straus, and Giroux, 2011), 326.

decision-making process. Prospect Theory's value is its ability to educate decision makers as to why–given a known probability–they make certain decisions. More important, Prospect Theory assists decision makers in being comfortable with risk and uncertainty.

Prospect Theory's origins trace back to a casual encounter. Daniel Kahneman, who along with Amos Tversky founded Prospect Theory, had a student who argued punishment was a source of improved performance. Kahneman's conversation led him to contemplate whether humans can err in future judgment based on past experiences. Kahneman and Tversky sought to expand rational choice theory, namely, the effects of human cognition on choices of uncertain outcomes.[77] Prospect Theory emerged and is founded on three cognitive features "common to many automatic processes of perception, judgment, and emotion." First, humans are susceptible to their base of reference, called the "adaption level." Second, people experience diminishing sensitivity to change in reference to scale. Third, people are loss averse.[78] Examples of each provide context for applicability to risk management.

These three cognitive features highlight their relevance as variables to expand rational choice theory. Kahneman uses the analogy of placing one hand in a bowl of warm water, and another cold water, as an example to draw out base of reference and adaption level. Given time for your hands to adapt (to warm and cold water), if you were then to place both hands in room temperature water, each hand would experience something different. The hand in cold water experiences heat; the hand in the warm water experiences cold. The reference point of each hand provided the base for adaptation.[79] The same analogy proves useful in describing the second

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[77] Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York, NY: John L. Wiley and Sons, 1996), 291.

[78] Kahneman, *Thinking, Fast and Slow,* 281-2. Kahneman explains three cognitive features affecting decision making over two pages.

[79] Ibid., 282.

cognitive feature: reference in scale. If the hand in the cold water was placed in a bowl of slightly colder water, change in sensitivity is less. If the hand in the cold water were placed in warm water, the change in scale (temperature of water) would produce significant effects–more sensitivity.

The third cognitive feature, loss aversion, describes natural human aversion to loss; humans do not like loss. Kahneman states, "A salient characteristic of attitudes to changes in welfare is that losses loom larger than gains."[80] Testing loss and gain as variables reveal human sensitivity to loss outweighs the sensitivity to gain. Drawn on an axis (reference point is the crosshairs on the axis), the line depicting loss would be steeper than the effects depicting gain; these effects would be most noticeable at the loss-gain crossover point. However, the lines level out at more extreme ends, ultimately creating an asymmetric "S" curve. The asymmetry of the "S" curve depicts a greater sensitivity to loss near the reference point, with diminishing sensitivity as scale increases.[81]

Prospect Theory and Risk Management

Prospect Theory does not provide a risk management model, but its cognitive principles and psychological testing provide heuristics to educate leaders making risk decisions. These heuristics provide decision makers a baseline for self-awareness. Further study of variables affecting their baseline better inform risk decision makers, ultimately enhancing self-awareness. The effects of loss, gain and decision weighting will be explained and examined.

Testing Prospect Theory reveals truths applicable to risk management. In the realm of gain, humans avoid risk when the probability is high, and seek risk when the probability is low.

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[80] Kahneman and Tversky, *Prospect Theory: Decision under Risk*, 279.

[81] Kahneman, *Thinking, Fast and Slow*, 283. The "S" curve is considered the banner for prospect theory. A graphical depiction of the "S" curve can be found at the referenced page.

Contrarily, in the loss domain, humans seek risk when the probability is high, and avoid risk when the probability is low.[82] Simply put, humans will seek the risk to avoid loss when they are relatively certain they are going to lose something.

The simplified explanation of Prospect Theory requires further examination for nuances involved in these statements. The simplified version does not take into account numerous variables including multiple decisions and personal perspective at the time of decision; these variables play a role in the decision maker's ability to make a rational decision. The simplified version discusses what would happen if decisions were made in isolation, but adding decisions to the process brings out their greater point. Kahneman uses an economic example to explain:[83]

Decision (i): Choose between

A. Sure gain of $240

B. 25 percent chance to gain $1,000 and a 75 percent chance to gain nothing

Given this situation, humans overwhelmingly take Choice A–the sure gain. In the realm of gain, they avoid the risk of (losing) a gain-they are risk averse. But in a situation regarding a loss and a gain, "loss aversion causes extremely risk-averse choices." An expanded explanation shows the value placed on a loss is 1.5–2.5 times more valued than that of a gain.[84] Because Prospect Theory says people are loss averse, it sounds contradictory that potential loss results in risk aversion, but it is the inability to assimilate the two values that creates the risk aversion, not the ability to make independent decisions. Taversky and Kahneman describe this as narrow framing and broad framing - considering multiple decisions at once or each in isolation. They warn,

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[82] Kahneman and Tversky, *Prospect Theory: Decision under Risk*, 285.

[83] Kahneman, *Thinking, Fast and Slow*, 334.

[84] Ibid., 284.

combining "loss aversion and narrow framing is a costly curse."[85] The inability of a risk decision makers to manage multiple risk decisions of both positive and negative outcomes makes them risk averse.

Decision weighting is a second variable impacting rationality in decision making. Early study of Prospect Theory recognizes "highly unlikely events are either ignored or overweighted."[86] Subsequent development of the theory finds people are risk averse in low probability situations in the realm of loss. The example of citizens avoiding air travel after 9/11 magnifies the point; the probability is low, but the catastrophic level of the hazard is high. This drives people to overestimate probabilities of unlikely events, subsequently overweighting their decisions.[87] Further analysis reveals even the extent of how we discuss these events may weight our decisions.[88] This heuristic has influences on not only the decision maker, but people who inform the decision maker.

Known probabilities, multiple decisions and decision weights all play a vital role influencing a decision maker. The effects of loss, gain and decision weighting allow decision makers to "see themselves" better, creating a more rational decision maker.

Prospect Theory–Risk Management Analysis

Prospect Theory provides a critical lens to evaluate Army risk management. It reinforces previous analysis on inconsistency in the use of uncertainty and opportunity in risk management, and its empirical data provide options for risk management alternatives. Prospect Theory's

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[85] Kahneman, *Thinking, Fast and Slow*, 339.

[86] Kahneman and Tversky, *Prospect Theory: Decision under Risk*, 283.

[87] Kahneman, *Thinking, Fast and Slow*, 324.

[88] Bernstein, *Against the Gods*, 299.

strongest attributes are its ability to show how people are conditioned to make decisions certain ways. This section evaluates implications of loss and gain, decision weights and potential implications of educating leaders with Prospect Theory.

Prospect Theory sheds light on how to look at loss and opportunity. Figure 4 shows Army risk management is generally predicated on a loss-only model (the mission is the only opportunity presented); ironically, humans faced with only loss seek risk.[89] Where Army risk management doctrine utilizes probability and severity of loss (in relation to hazard) to measure risk, Prospect Theory uses it to generalize what types of decisions people are prone to make. Operations and mission command doctrine–like common sense–tell us we take risk to create an opportunity; we accept prudent risk for a reason! Risk management's neglect to properly consider opportunity further anchors the "loss" mindset and does not provide a complete model for risk consideration; this can lead to sub-optimal risk decision making.

Risk management doctrine weights decisions of low probability (i.e. negligent discharge) with a high consequence; this flaws the rationality of a risk decision maker. Prospect Theory accounts for how humans make decisions when both a loss and gain are possible, finding fear of loss will outweigh the gain–causing risk aversion. Leaders educated in how to analyze a problem using Prospect Theory can rationally approach gains and losses. For the military decision maker, this assists in analyzing the risk assumed to gain an opportunity.

Empirical evidence provided by Prospect Theory educates decision makers to "see themselves" better. As humans, we are who we are–loss averse. The psychological impact of gain and loss drive value, and humans respond stronger to loss than gain.[90] We generally accept more

[89] Kahneman, *Thinking, Fast and Slow*, 280.

[90] Ibid., 283.

risk with the outcome is a loss, and accept less risk when the outcome is a gain.[91] We also ignore or over-weight unlikely events, skewing our ability to rationally analyze a situation.[92] Decision makers armed with this evidence are better equipped to see risk scenarios for what they are– opportunities. Contrary to how the US Army approaches risk, its ultimate acceptance is based on opportunity. Opportunity can be a situation to be a gain or a loss, and a decision maker armed with the ability to clearly see both, is imperative.

Educating leaders becomes the necessity; Prospect Theory provides a vehicle for education. Educating tactical leaders early in their careers conditions future operational leaders. Leaders must be conditioned at a tactical level to understand the cognition behind their risk.

Combined Analysis and Conclusion

Ridgway was presented a series of decisions featuring risk, uncertainty, loss and gain. He was a trained leader, who given intent and risk guidance, moved out smartly. He knew the number of troops he had on ground, but had no idea how much fight they had left. After their panicked withdrawal to southern Korea, common sentiment was the survival of the army, not victory. He also knew the enemy was on the outskirts of Seoul, but did not know how much fight they had left; after all, laws of logistics works both ways. However, he did not know whether conceding Seoul to the Chinese would be a bridge too far to overcome. Any decision made carried a great deal of uncertainty in relation to loss or gain.

Before Ridgway's arrival, the Eighth Army was in mental disarray; they saw the Chinese horde as unstoppable. Ridgway saw things differently. He saw an opposing force of near equal

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[91] March, *A Primer on Decision Making*, 43.

[92] Kahneman, *Prospect Theory: Decision under Risk*, 283.

number who, like the Allies, were challenge to hold vast terrain. While destruction of the Eighth Army remained possible, the situation was not as dire as the demoralized Allies feared. Continuing the fight came with the potential to lose Seoul, the war, the lives of Soldiers and American support. Ridgway had a good sense of probability, and knew the consequences of severity.

Ridgway believed a successful counterattack could re-establish control of the 38th parallel, push the Chinese back to the Yalu River, and potentially unify Korea. Opportunity knocked at risk's door, and Ridgway walked in. He weighed loss, gain, probability and opportunity under a blanket of uncertainty. *LTG Ridgway made his risk decision–he attacked* (emphasis added)![93]

Ridgway's approach to risk decisions embody the traits of a leader who accepted prudent risk and exercised disciplined initiative–traits mission command seeks in leaders. Doctrine 2015 sparked discourse on whether mission command was fully embraced in today's force. Over 10 years of dialogue and research indicate risk aversion and micromanagement–two behaviors inherently counter to mission command–plague the Army. Historical research predominantly shows cultural issues as the primary cause of risk aversion and micromanagement. These perceptions remain, however, and Army leadership continues to search for answers. Army risk management regulation and doctrine provide additional research fodder and allow the question, does risk management produce unintended consequences on mission command?

A holistic review of findings reveals risk management creates adverse effects on mission command. Risk management's approach to loss and opportunity, and its inability to properly

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[93] Hansen, *The Savior Generals*, 143, 168. The final vignette synthesizes previously cited material. References to Seoul and force posture, 143; reference to Ridgway's experience in WWII and how it augmented his judgment, 168.

account for the role of uncertainty, stand at the fore of the findings. Decision making theory heuristics support these findings.

Risk management's approach to loss and opportunity produce the most egregious effects on mission command. The five step risk management process is primarily a loss-only model where opportunity is not fully addressed; pointedly, the only opportunity presented is the mission. A simple vignette of an Army unit conducting a rifle range explains this faulty logic:

A battalion preparing to deploy conducts a rifle range. Lieutenant X produces a risk assessment for the range. He identifies poor road conditions and incorrect weapons handling procedures as potential hazards. He assesses road conditions as a high risk because it might rain, and assesses fratricide as a high risk because it is possible somebody could get injured through a negligent discharge or weapons mishandling. To control effects of poor road conditions, he solicits only Noncommissioned Officers (NCOs) should drive vehicles moving to the range–this mitigates inexperienced drivers on the road. To control the potential for a negligent discharge, he lists placing a rod down the barrel to ensure weapons are clear before exiting the range. These controls result in a residual risk level of medium, requiring a Battalion Commander signature (reference Table 2—risk approval authorities). The Lieutenant and his Company Commander meet with the Battalion Commander to attain his risk acceptance. The Battalion Commander asks the Lieutenant whether his Soldiers need driver's training as they prepare to deploy to an area with rugged terrain. He then asks, how do Soldiers clear their weapons on deployment?

This simple vignette highlights how loss aversion and the absence of opportunity from the risk management process skew decision making. The conduct of the rifle range was the only opportunity the Lieutenant considered. He then weighted two low-probability (vehicle accident and negligent discharge), but catastrophic events to a level where he became risk averse, stunting his growth and initiative. Further, it forced the battalion commander to micromanage platoon level operations by being the risk acceptance authority.

Decision making theory and recent studies reinforce the adverse effects produced by this scenario. Prospect Theory reveals the dangers high impact and low probability events have on decision making; they make us risk averse![94] The Lieutenant was paralyzed to make a decision because he weighted a low probability event to the point where he could not make a decision. Risk expert Preston Cline's 2013 White Paper produced for the US Army Special Operations community reveal secondary effects of scenarios such as this; they "trade one set of hazards for another set of unknown hazards."[95] The battalion commander's question regarding how Soldiers clear rifles in Afghanistan reveal the Lieutenant inherited a future risk (how Soldiers clear rifles in Afghanistan) to mitigate a current risk (using a rod to clear the rifle at the range).

Holistically, this scenario reveals the macro problem: how the US Army trains and conditions leaders to make risk decisions. Currently, the Army has an incomplete risk management model. Each loss identified in the current model is only compared to the mission; however, the mission is not the only opportunity to be gained. As the Lieutenant learned from his battalion commander's questions, Soldiers must practice driving under adverse conditions, and clear their rifles utilizing the same methods prescribed in combat. The Lieutenant treated each decision in isolation, and not part of a holistic problem set; he did not weigh all the decisions as part of a greater whole. As Prospect Theory reveals, when faced with decisions of loss and gain, we become risk averse.

Secondly, unlike mission command and operations doctrine, risk management does not directly approach the role of uncertainty. As mission command and operation doctrine show, uncertainty and risk are inherent in all military operations, and successful leaders seek prudent

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[94] Kahneman and Tversky, *Prospect Theory: Decision Under Risk*, 283.

[95] Preston Cline, *Risk Management for US Army Special Operation: Addressing the need to continuously adapt to a changing problem set* (February 6, 2013), 13. Preston Cline uses a similar example in his white paper for the special operations community. This monograph expands the vignette to draw out how the way the Army currently operates can produce secondary and tertiary adverse effects in the future.

risk to gain opportunity. The fundamental argument is uncertainty is inherent in estimating probability. While analytics works to reduce uncertainty, it cannot eliminate it; this eventually drives leaders to intuitive decision making. In a 2016 article on risk, DoD Strategist Jeff Hannon states, "When decision makers cannot know the alternatives, consequences, or probabilities of their choices, they are making decisions under uncertainty."[96] Hannon's article aims to educate the user how uncertainty effects risk–namely how uncertainty's inherent lack of a finite probability effects risk decisions. He posits uncertainty needs to be defined by the DoD and risk should be redefined to incorporate uncertainty's effects.[97]

A review of risk management, mission command and operations reveal inconsistency in application of key concepts, specifically, loss, opportunity and uncertainty. Mission command and operations doctrine hold opportunity and uncertainty as key components to risk management and acceptance. Current risk management publications do not properly account for opportunity in risk decision making, and exclude uncertainty when weighing risk; this leaves an incomplete picture for risk decision makers. When analyzed in light of decision making theory, the inconsistencies between these publications reveal more systemic issues.

Analysis of decision making theory reveals significant flaws in the Army's risk management model. The Army's current five step risk management process focuses primarily on loss, and only weighs loss in relation to the mission; heuristics from Prospect Theory indicate this anchors the Army in risk aversion. Prospect Theory also reveals when humans are faced with numerous decisions of loss and gain they become risk averse. This indicates education in decision making theory as critical to leader development.

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[96] Klug et al., "The Game of #RISK."

[97] Ibid.

Analysis proves risk management produces unintended consequences on mission command. The perception of micromanagement and risk aversion in the Army is real because the Army's approach to risk management is flawed. Mission command demands a risk management process that fosters prudent risk acceptance and disciplined initiative, not a process averse to initiative.

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