



A soldier gives a mission briefing to a team member 12 May 2018 before participating in a live-fire exercise during Joint Readiness Training Center Rotation 18-07 at Fort Polk, Louisiana. (Photo courtesy of the Department of Defense)

Mission Modeling for Commanders

Improved Operational Effectiveness through the Use of Measurable Proxy Variables

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To introduce mission command, the present American approach to orders, manuals, and doctrine has to change. Mission command is the enemy of doctrine, of long-winded and complicated orders, and masses of paperwork. German generals did not practice the art of writing five-paragraph-orders, but the capability of rapidly composing and delivering precise oral orders in the chaos of war.

—Jörg Muth

Mission command is the Army's approach to command and control that empowers subordinates' decision-making and decentralized execution appropriate to the situation. Mission command supports unified land operations and its emphasis on seizing, retaining, and exploiting the initiative.¹ The philosophy appeals to Western countries because it optimizes individual strengths and organization virtues, and it fits culturally with the people who make up its forces. Mission command, however, does not specify the conditions under which it needs to be more prescriptive, leaving commanders to decide the proper balance. Their knowledge of the individual

unit, conditions that are present, and general situational awareness drives their decision-making.

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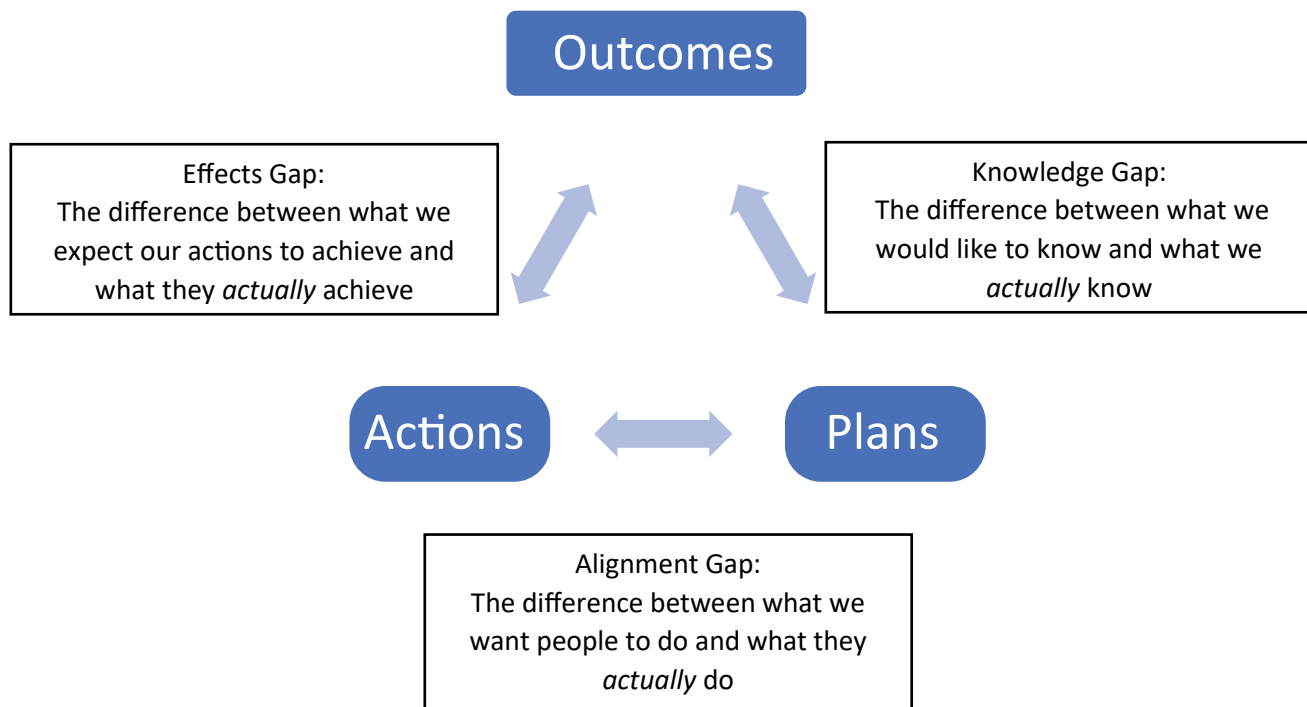
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Under these conditions, are commanders still utilizing mission command, or are they applying a different philosophy entirely? The current mission command doctrine fails to address what these other styles are or how they could be useful within Army operations, or even the conditions under which they could be preferable. The authors propose a way to identify and fill this vacuum through a *prospective model capable of evaluating what style of command a unit is currently employing or what style they should employ to operate in an optimal fashion.*

Using the idea of “gaps” (defined by Stephen Bungay as the separation between what commanders want to happen and what occurs), the proposed model assigns a measurable proxy variable to each of the three gaps: the knowledge gap, the alignment gap, and the effects gap.² These proxy variables are henceforth referred to as *information density, assessment of unit capability, and order specificity.* If we use a value of either “high” or “low” to describe each of these variables, we can categorize the environment that commanders find themselves in and, ultimately, what kind of orders they should give their soldiers. Commanders can lead in a variety of different ways, but understanding how their individual styles impact the execution of those orders is something a commander ignores at the peril of their soldiers.

Mission Command

The U.S. military formally adopted mission command as a warfighting function and as the dominant command philosophy in 2012.³ Since then, the military has had mixed success in executing the lofty tenets presented in Army Doctrine Publication 6-0, *Mission Command: Command and Control of Army Forces*—building cohesive teams through mutual trust, creating shared understanding, providing clear commanders' intent, exercising disciplined initiative, using mission orders, and accepting prudent risk.⁴ This struggle has many roots, but most prominent among these are a lack of trust and risk aversion engendered by bureaucracy, which hinders the application of mission command principles by Army leaders in garrison environments.⁵ Mission command functions in combat and training environments as the exception rather than the rule. There may also exist the perception that while the subordinate decision-making and decentralized execution



(Figure by Bradford Witt, adapted from Stephen Bungay, *The Art of Action: How Leaders Close the Gaps between Plans, Actions, and Results*)

Figure 1. Stephen Bungay's Three Gaps Model

clauses of the mission command philosophy are beneficial and desired, commanders may elect to hold tightly to decision-making and control so as not to be perceived in a negative light or perhaps to impact their careers.⁶ Commanders want to see themselves and be seen as champions of mission command but act sometimes against those principles, which makes objective analysis of mission command difficult.

If we assume that commanders understand the concepts of mission command and do not set it aside intentionally, then the problem resides in their ability to identify compliance.⁷ If commanders could understand their plan was out of alignment with mission command and how to correct it, they could improve their organization's performance in both garrison and combat environments. With the difficulties of practicing mission command and the issues with objectively assessing one's compliance with the philosophy, there exists a need for tools for objective analysis of when mission command is present or not. The authors propose a model that can do both and is easily adaptable into the planning process.

Historical Models

In developing a model for mission command, we first examined the theories critical to its development. Carl von Clausewitz identified friction as a key component in the struggles of armies and commanders in warfare, which is the gap between what commanders intended to occur and what happens.⁸ He also recognized that this friction expressed itself in two ways: internal friction, which results in a gap between the plans of the commander and the actions taken by the troops, and friction created by the environment, which results in a gap between the actions and their intended results.⁹ Stephen Bungay continued and expanded the analysis from Clausewitz on the topic of friction, displayed in figure 1.

Martin Samuels continued this research, adding an additional layer to the model. He asserted that each gap rests in an either/or option, which results in eight possible outcomes of each gap. This is the space within which a military commander operates. Samuels refers to each of these as an approach to command and has named each of these binary outcomes in figure 2 (see page 38).¹⁰

Knowledge Gap	Alignment Gap	Effects Gap	Title
Superior Knows Less	Subordinates should use initiative	Superior will intervene	Enthusiastic Amateur
		Superior will NOT intervene	Directive Command
	Subordinates should do as they are told	Superior will intervene	Restrictive Control
		Superior will NOT intervene	Detached Control
Superior Knows More	Subordinates should use initiative	Superior will intervene	Directive Control
		Superior will NOT intervene	Umpiring
	Subordinates should do as they are told	Superior will intervene	Logistic Control
		Superior will NOT intervene	Neglected Control

(Figure by Bradford Witt, adapted from Martin Samuels, *Piercing the Fog of War: The Theory and Practice of Command in the British and German Armies, 1918-1940*)

Figure 2. Command Approaches

The organizing principle (knowledge gap) is framed generally as whether the superior (commander) knows less or more about the situation than the subordinates, and whether the subordinates should use initiative or do as they are told (alignment gap). The effects gap reflects the commanders' decision to intervene or not intervene, reflecting their individual bias, training, experience, and decision-making style.

Samuels' command model proposes that while there are eight possible choices, four are inherently dysfunctional (highlighted in red) because they increase an element of friction in widening one of the three previously mentioned gaps, while the other four (highlighted in yellow) reduce at least one of these gaps.¹¹

The *enthusiastic amateur* is a commander who believes that subordinate initiative is important and that subordinates understand the situation better than the commander does, yet still intervenes in the execution of the operation. They end up intervening in situations that they may not fully understand, or their orders contradict the "ground truth," yet they will intervene if subordinates alter the plan to meet reality.¹²

In contrast, if the commanders realize that they know less than their subordinates and expect them to use initiative to achieve the stated end goal, then the commanders' command style becomes highly functional. *Directive command* is considered most similar to mission command, but it requires significant levels of responsibility, initiative, training, and trust. Incidentally, this was considered the default preference of the German army for more than a century.¹³

Restrictive control, on the other hand, is the situation where commanders feel that the knowledge gap is high; they are uncertain, so they issue definitive orders that they expect to be followed to the letter. This can be a functional style of command but discounts the potential abilities of their subordinates.¹⁴

Detached control occurs when superiors issue directive orders without fully understanding the situation and then fail to intervene when subordinates struggle to carry out those orders and/or fail to update subordinates when new intelligence is obtained. This is inherently dysfunctional and can occur when command tries to practice directive command but does not give subordinates enough guidance. It could be the product

of restrictive training and education, or overly prescriptive doctrine.¹⁵

Directive control is a restrictive style where the commanders have more information or knowledge than their subordinates; they issue prescriptive orders and will intervene if their subordinates stray from the orders but still expect their subordinates to use initiative. This is a unique example because the commander trusts the subordinates, but through superior knowledge, is aware that their command decisions, from the commander's perspective, will result in a better outcome. This idea is reflected in the German approach *Schwerpunkt*, where the commander will take personal control at the decisive point but expects his subordinates to take initiative outside of this point.¹⁶

Umpiring is a failed version of directive control. The superiors know more than subordinates but will not intervene even if the superiors see the subordinates doing something that does not make sense. Expecting subordinates to use initiative while withholding critical information is dysfunctional and careless. This could occur if the commanders are insecure, are the same rank as the subordinates, or feel that they cannot give subordinates orders for political or personal reasons.¹⁷

Logistic control is the most centralized-control style of command, where subordinate units are treated like inanimate objects to be moved around without any ability to act independently. The Soviet army used this approach in the 1980s due to a lack of trust in subordinate units. Highly advanced surveillance technology could also give commanders this logistic control capacity because they can always see more and further than subordinates. This exact situation has been observed during moments in the Global War on Terrorism when commanders watching a mission from an unmanned aerial vehicle feed could give orders directly to the units on the ground.¹⁸

Neglected control is a special case where a commander does not trust subordinates to take initiative and gives prescriptive orders but refuses to intervene when there is an alignment gap. This unique scenario makes sense when a commander wants to avoid all responsibility for failure or when a commander is deliberately setting up the subordinates to fail. In situations of internal political turmoil or where Army loyalties cannot be guaranteed, these extreme measures make some

semblance of sense. Samuels used the Italian army in 1940–1942 as an example of this backstabbing, politically motivated behavior.¹⁹

Model Development

These eight command styles appear to encompass the full range of possible command styles, but with limitations. These limitations reduce its usefulness as a teaching tool or for understanding historical figures. What level of knowledge disparity determines who knows more? When should a commander trust a subordinate to make decisions, and when should they require obedience over initiative? These important factors, if quantified, could render this descriptive model useful as a teaching tool, as an aid in planning, and to optimize a particular command style to the situation. The authors anticipate that such benchmarks can be developed and fit into a static-stochastic model.

To establish these benchmarks, we attempt to introduce estimable and assessable values for each of these gaps. The first element to the model is the complexity of the problem presented to a commander. A “tame” problem, as Samuels refers to it, is a unilinear problem having a single solution.²⁰ This type of problem can be analyzed, and a correct solution can be determined. Logistical and training problems could fall into this category. A tame problem, however, does not mean that it is not difficult, only that there is a solution that can be determined. A “wicked” problem has uncertain solutions and complex structure. These are problems that are nebulous or nonlinear, with many potential solutions or no solution that fulfills all the requirements. Next, a value needs to be created for each of the gaps: the new variables expressing them are *capability*, *information density*, and *order specificity*. Each value is binary, either high or low.

With the effects gap, the commander must determine whether to intervene when the desired end state and actions taken are at odds. Whether subordinates' actions are a positive change in response to new information or a mistake born from ignorance of the wider situation is in part based on the commander's assessment of their capability. A commander should trust a capable subordinate's assessment of the situation, while they may be far more suspicious of a less capable one. This value would be assessed during training, and a commander would assign each subordinate unit a value (capability). While this would be relatively stable, this value should change if the

Knowledge	Alignment	Effects	
Information Density	Specificity	Assessment of Capability	Command Style
Low	High	High	Enthusiastic Amateur
Low	Low	High	Directive Command
Low	High	Low	Restrictive Control
Low	Low	Low	Detached Control
High	High	High	Directive Control
High	Low	High	Umpiring
High	High	Low	Logistic Control

(Figure by Bradford Witt, adapted from Martin Samuels, *Piercing the Fog of War: The Theory and Practice of Command in the British and German Armies, 1918-1940*)

Figure 3. Model Categorization

unit, for example, takes significant casualties to personnel or equipment (> 25%). While objective measures of a unit’s capability are notoriously difficult, the commander’s assessment of the units is all that this model requires, because the value of the variable determines how much flexibility the commander would extend to them.²¹

Information density is another variable that would require assessment during training. Reports; radio transmissions; and intelligence, surveillance and reconnaissance platforms all help to inform commanders at all levels about what occurs on the battlefield. There is so much information available that it has the potential to quickly overwhelm the decision-maker.²² With this in mind, the quantity of information is not an effective measure, but the quality of the information presented, or rather the density, is of greater value.²³ More information and more technology does not always close this gap. In addition, even a unit that is highly skilled at this task will only remain consistent some of the time. We, therefore, need to represent this value as a probabilistic distribution, with the assessed value acting as the mean for this unit. This random variable serves as the value for the knowledge

gap—greater than fifty represents the commander knowing more information.

In addition to the representation of information density, categorizing its place as “high” or “low” also depends on the nature of the problem the unit is solving. A wicked problem, by definition, will not be easily solved. It will require adjusting the plan as the situation unfolds and maintaining flexibility. Samuels noted that if the general nature of warfare is inherently chaotic and problems are typically wicked, “commanders can rarely know the local situation as well as, let alone better than do their subordinates.”²⁴ Therefore, commanders should assume that their information density is “low” unless there is a compelling reason for it not to be so.

Lastly, the specificity (order specificity) with which a staff or commander creates a plan will serve as the alignment gap. The capability of units is consistent, and the information density has a mean value, but the commander chooses the order specificity based on the conditions on the ground. This will allow the commander to understand the functional command styles that are available based on the other information already presented. This output is critical because they will not be able to change their

knowledge of the situation in the short term, but they could select a different unit for the mission or change the order specificity.

Considering each of these variables, the command styles can therefore be categorized according to figure 3 (on page 40).

While a more complex model could arguably be derived using specific values for each of the variables, this would require extensive data to show the inflection points between each category. The authors recommend that such data begin to be collected, but the current model does not require that level of precision to be useful.

With these terms defined, we have a generalized model for practice and planning. As Samuels argued, certain personalities and cultures are predisposed toward certain styles, even if they are not the most effective for the situation.²⁵ When this model is integrated into the planning process, the staff and commander can clearly see whether an operation should be planned that has low or high specificity to allow for subordinates to utilize maximum flexibility and initiative. This helps a commander and a staff to “see themselves” during the planning process. The real benefit of the model is not to reinforce a call for directive command (mission command) but is to assist in the understanding of command approaches and ensure alignment between the approaches armies employ and the contexts within which these are employed.²⁶

Limitations and Future Work

A simplistic model like this has inherent limitations (capability). The separations between “high” and “low” values in each category do not leave room for the difference between a capability of 49 versus 50 on a scale from 1 to 100. In practice, each of these units could enjoy roughly the same level of trust from their commander, but insofar as this is the dividing line, the subordinate units would be treated far differently. This problem is compounded by the fact that people are notoriously bad at evaluating competence.²⁷ A commander could establish criteria for evaluation and then rank those borderline performing units or categorize those units on a conditional basis and evaluate and revise based on operational competency, but that is also subject to error. A unit employing this model could generate the data that this analysis is missing and then add an additional tier to this analysis between “high” and “low.”

Information density is an even more complicated variable to assess. As other research has established, more

information is not the key, but there is an optimum value of how much information aids a commander and how much creates “decision paralysis.”²⁸ The important thing to measure is how often and for how long the headquarters element has incorrect information that is critical information for the circumstance. This could be measured using observers at each echelon. The observers could also measure the time required and how widely dispersed the commanders’ intent and mission permeates. Ultimately this will become a value judgment, but the more times this is conducted, the more accurate the judgment will become. There are also situations where there is an understanding, without having to measure, as to who has more situational awareness. When a command post is moving between positions, for example, there is a necessary drop in situational awareness until it is reestablished. This effect would be mirrored if there was a loss of communications or surveillance assets. Also, as the distance between units increases and the pace of the changing situation increases, the amount of information that the commander can understand decreases.

In contrast, a commander would also inherently know more (knowledge) when a new mission is given to a headquarters, but the planning time is very short. In this situation, the commander would need to take more direct control. This situation could also occur when the commander or their staff identify an enemy operation that would have a drastic impact on the current operation and necessitate a dramatic alteration. That must be executed swiftly, and a commander cannot wait until their subordinates understand and adapt to the new information. A chart of instances, like decision points, where the density variable should be assessed as “high” or “low” immediately would further calibrate this variable.

Lastly, order specificity is the most important output of the model and, luckily, the easiest to put into practice. While no one can put a page limit on a “low” or “high” specificity order, this plays an important role in the wording of an order. If the staff knows that they must be detailed based on the operational environment, they will approach the problem differently than if they know they need to plan for maximum flexibility and adaptability. One will drive the staff to find the “right solution” so that the units can take the plan and execute, and the other will provide a framework for the unit to build upon.

This theoretical model is functional in its current form, but it could be vastly improved with empirical data to

support the ideas proposed. Information could be collected at each of the training centers during the ten or so rotations each year. This would validate the assumptions made in the distribution of the information density variable and create the inflection points between each of the “low” and “high” categorizations. These could be rewritten into a scaled variable between 0 and 100, allowing for a more thorough analysis. Lastly, this could be an illuminating examination of how far from the tenets of mission command most organizations truly are and how to adjust to fit more closely to it.

Conclusion

While this model does not predict the battlefield and it will not reveal where to place units or where the enemy will attack, it can give the commander the feedback that

during the last operation, they employed a dysfunctional command style that impeded the performance of the organization. The style of command is an underresearched and misunderstood facet of operations. And while the mission command doctrine is an extremely flexible and effective philosophy, it is an ideal that is never fully realized. Even worse, commanders believe that they are following it when in fact, they could be uncertain or blatantly out of alignment. This relatively simple model proposes that with a better understanding of the command style we employ, we can be more accurate and effective in following our own doctrine. ■

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Notes

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