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Making long-range planning work: the case of the US Army's 30-year strategic modernization plan

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The extensive timespan of evolving assumptions about future adversaries, US military engagements, and technology inherent in the US Army's 30-year modernization strategy can overwhelm the management capacity of planners, and misdirect acquisition investments. Some military scholars have argued that long-range planning is futile due to the complexities of the global security environment. So how can the US Army manage the evolving assumptions inherent in its 30-year modernization strategy to ensure it remains a superior global force? This study will answer the above question by arguing that the US Army's 30-year modernization strategy, while emulative of a similar modernization approach in the threat-based planning environment of the Cold War, is viable if supported by a method and a tool that manage investments and planning assumptions.

Keywords: US Army; modernization; long term; planning; methods; assumptions; risk; management

Introduction

The extensive timespan of evolving assumptions about future adversaries, US military engagements, and technology inherent in the US Army's 30-year modernization strategy can overwhelm the management capacity of planners, and misdirect acquisition investments. Some military scholars, such as Eric Hollister, argue that long-range planning is futile and write that the global "Operating Environment (OE) is far too complex to be predictable … there are simply too many variables – e.g. politics, economics, natural disasters and non-state actors – to make any kind of far-reaching plans with any degree of certainty".[1] So, how can the US Army manage the evolving assumptions inherent in its 30-year modernization strategy to ensure it remains a superior global force? This study will answer the above question by arguing that the US Army's 30-year modernization strategy, while emulative of a similar modernization approach in the threat-based planning environment of the Cold War, is viable if supported by a method and a tool that manage investments and planning assumptions. It will introduce and discuss the Army's 30-year modernization strategy; examine some planning methods; and focus on a long-range defense planning method and tool to manage assumptions underlying acquisition investments.

In 2012, the Assistant Secretary of the Army for Acquisitions Logistics and Technology, Ms Alice Shyu, announced that the US Army was developing a 30-year strategic modernization plan to ensure its preparedness for future conflicts.[2] Strategy formulation relies on assumptions to deal with future uncertainty. Generally, the greater the span of uncertainty

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the more assumptions planners have to make. Thus, in a 30-year modernization strategy – given today's diverse threat environment – the Army will have to systematically manage evolving foundational assumptions of its acquisition investments. The probability of making bad investments based on failed long-range assumptions – though manageable – causes scholars such as Eric Hollister to recommend that the Army avoids long-range planning, and adopt a "policy … to modernize incrementally, based on the operational environment and near-term future trends".[3]

The US Army's 30-year modernization strategy

A basic definition of the term *strategy* helps contextualize the US Army's long-range modernization. For clarity and consistency, Carl Builder's definition of the term *strategy* is used as "a concept for relating means to ends … a single concept that relates one or more means to one or more ends".[4] Builder's definition is preferred because it recognizes that the relation of means to ends involves the element of costs – associated with means – and risks – associated with ends. The Army's 30-year modernization strategy chiefly involves managing the costs and risks inherent in the cycle of sustaining and developing capabilities.

According to Margaret Roth, the US Army's 30-year modernization strategy involves a process that "combines a detailed analysis of … current and planned investments in Science and Technology and materiel development, linked to emerging threats and capability gaps across a long-term, 30-year planning period".[5] The strategy entails a process that identifies capability gaps based on the current adaptive threats (symmetric and asymmetric) and links them to long- and short-term acquisition investments (Programs of Record, Life Cycle and Sustainment), and Science and Technology (Research and Development).[6] This process helps the Army identify and mitigate residual capability gaps with acquisition investments. The Army's modernization strategy therefore makes assumptions to address uncertainty about future US missions and capability requirements in relation to the capabilities of current and potential adversaries.

Long-range modernization

Why is the US army pursuing a long-range modernization strategy?

Contemporary factors

Understanding why the US Army is pursuing a long-range modernization strategy provides the context for studying how this organization can manage its 30-year modernization strategy. US defense budget reductions decrease Army funding for modernization, and foster a greater need for spending anticipation and prioritization. Moreover, defense spending reductions require stronger justifications for funding by the respective Services. The 30-year modernization strategy increases the Army's range of anticipation helping it prioritize the financial costs inherent in sustaining and developing capabilities outside the 5–6-year near-term projection of the Future Years Defense Plan. Mapping out a long-range modernization strategy helps present coherent, viable long-term capability requirements that compete more viably for reduced defense funds. According to the US Army Deputy Assistant Secretary for Research and Training, Mary Miller, the Army is pursuing a 30-year modernization strategy – as opposed to a more traditional five-year strategy (submitted to Congress as the Program Objective Memorandum) – to more holistically anticipate costs for future equipment development and long-term sustainment requirements.[7] Miller further stated that the long-range outlook enabled the Army to "see those things pushed outside the five year window", and argued that, "by understanding where platforms go into sustainment, where

they need to be refreshed, we can better articulate for industry IRAD [Internal Research and Development] for science and technology".[8]

The US Army's 30-year modernization strategy helps change its wartime trend of short-term adaptation into long-term innovation responsive to future conflict. The Iraq and Afghanistan campaigns reinforced the Army's ability to adapt to short- and near-term challenges. As the Afghanistan campaign wound down, the Army evolved its trend of combat adaptation into a more sustainable, coherent interwar trend of long-term innovation to sustain its technological edge for future conflicts. According to Lt. Gen. Keith Walker, the former Director of the US Army's Capabilities Integration Center,

> adaptation is driven by some emergency and arguably what we've done for the last dozen years at war … right now, we are coming out of a period of adaptation and into a period of innovation … how we do that … invest in the future Army, is absolutely critical.[9]

A long-range approach to innovation is critical in hedging against potentially disruptive enemy capabilities.

Cold War influence

Defense planning during the post-Vietnam Cold War era set the precedence for the current long-term modernization approach. After the prolonged unconventional warfare in Vietnam, the USA shifted its strategic focus toward defending Western Europe against the Soviet Union in the mid to late 1970s. This challenged the US Army to develop conventional capabilities that could outmatch the Soviet Union on the European mainland. Defense planners of the period assumed the Cold War would endure and, consequently, pursued long-term modernization policies. This was understandable, since most policy-makers and international theorists failed to foresee the end of the Cold War. According to Richard Ned Lebow and Thomas Risse Kappen, "most theorists and policy analysts assumed that bipolarity and its associated Soviet-American rivalry would endure for the foreseeable future".[10] This assumption formed the basis for the Army to invest and develop what is commonly known as the "Big Five Systems" to bolster its capabilities against the Soviet Union over the long term. The Big Five Systems are: the M1 Abrams tank; M2 Bradley Infantry Fighting Vehicle; AH 64 Apache; UH-60 Blackhawk; and the MIM 104 Patriot Missile.

Arguably, the existence and successful employment of the above platforms to the recent conflicts in Iraq and Afghanistan justify the long-range modernization strategy of the post-Vietnam Cold War era. The long-term modernization strategy delivered platforms that are still relevant, and feature prominently in Army operations today, which implies that the precedence of long-range modernization can and should be emulated. Ms. Shyu concurs and in her 2014 AUSA Convention speech at the US Army Garrison – Redstone – she

> referenced the Abrams tank, Bradley fighting vehicle, Black Hawk utility helicopter and Apache attack helicopter, which all saw an initial investment following the Vietnam War during a similar time of budget decline … and all became key to the Army's victory during Operation Desert Storm years later.[11]

In terms of defense planning methods, long-range modernization during the post-Vietnam Cold War was aided by a planning method that was conducive to the homogenous threat strategic environment – the Threat-Based Planning Method. This planning method thrives best when there is certainty about a future adversary, capabilities, and the operating environment.

Planning methods

Threat-based planning (TBP)

This planning method is centered on developing capabilities to meet a pointed threat. The former Soviet Union represented a pointed threat to the national security of the USA and its allies in Western Europe during the Cold War. TBP was ideal for long-range modernization planning in the post-Vietnam Cold War era because it entailed certainty as far as the adversary, its capabilities, and the area of conflict. There was sufficient profiling of the Soviet Union to make assumptions about why and when a war would start. Additionally, there was certainty about the adversary, its capabilities, and the operating environment to drive modernization planning. The threat of the Soviet Army coming across the Fulda Gap into Western Europe with its large armored formations was perceived as enduring. There was little doubt that if the Army was going to defend Western Europe from the Soviet Union and its Warsaw Pact partners over the long term, it needed to

M1A1 Abrams Tank and AH 64

Apache Helicopter (courtesy of www.fas.org)

M2 Bradley Infantry Vehicle and MIM 104 Patriot Missile launcher (courtesy of www.fas.org)

UH-60 Blackhawk (courtesy of www.fas.org)

Figure 1. The Big Five Systems.

develop overmatched armor, mechanized infantry, artillery and aviation capabilities. Long-term strategic modernization was made more imperative by the need to increase capabilities and lethality of what was then a smaller, post-Vietnam, all volunteer force – early to mid-1980s. These considerations drove the Cold War long-term modernization strategy resulting in the development of the *Big Five systems*. In the contemporary post cold War world, the USA and its Figure 1.

North Atlantic Treaty Organization partners no longer face a single, eminent threat to their national interest; Russia is but one of the risk-taking nations in the high end side of the threat spectrum. The threat environment is now more diverse than it has ever been, and is best viewed within the framework of a spectrum that contains risk-taking States with conventional capabilities at the high end, and transnational Violent Extremist Organizations and criminal enterprises at the low end. Thus in the USA's case, the threat diversity in the contemporary period makes it unrealistic to exclusively rely on the TBP method. An alternate planning method like Capability-Based Planning (CBP) might prove more relevant.

Capability-Based Planning

CBP is a defense planning method driven primarily by assumptions about future operational or mission objectives and the capabilities that will be required for successful completion. This reliance on assumptions requires that the latter be constantly evaluated for validity to ensure the plan's relevance, which fostered the development of Assumptions-Based Planning (ABP). CBP and ABP drive the US Army's 30-year modernization strategy, so their examination is vital to understanding the strategy. CBP grew to handle the uncertainty of the increasingly ambiguous threat environment that exceeded the limited threat scope of Cold War TBP. Paul K. Davis defines it in similar terms – "Capabilities Based Planning (CPB) is planning, under uncertainty, to provide capabilities suitable for a wide range of modern-day challenges and circumstances while working within an economic framework that necessitates choice" – and acknowledges that CBP contrasts TBP's restrictive approach of "developing forces based on a specific threat and scenario".[12]

Basically, CBP is optimized to deal with a constantly shifting threat picture, compared to TBP, which is better suited to deal with a predictable threat environment boasting a limited number of threats with largely known capabilities.

James Dewar and Carl Builder write that the "job of planning is to isolate and deal with the uncertainties".[13] To deal with the long-term uncertainty entailed in preparing for the next conflict the Army's strategic modernization plan relies heavily on assumptions and trend extrapolation. In other words, the plan makes assumptions about future unknowns regarding the threat, operational environment, and the nature of conflict, and extrapolates current trends in technology to drive assumptions about future trends. This extensive reliance on assumptions requires a tool and a method of management.

Assumptions-based planning

According to James Dewar, "Assumption-Based Planning (ABP) is a tool designed for improving the robustness and adaptability of plans, and for reducing the number of avoidable surprises in any plan or planning."[14] Basically, ABP is designed to check on the assumptions that are central to the success of a developed plan to ensure they are valid, and recommend management or hedging actions when they are failing. ABP is a way to manage the risks posed by assumptions. ABP is essential to dealing with the extensive assumptions inherent in CBP. This is evident in the workings of ABP. Dewar breaks the ABP process down to five fundamental steps that are illustrated in Figure 2:

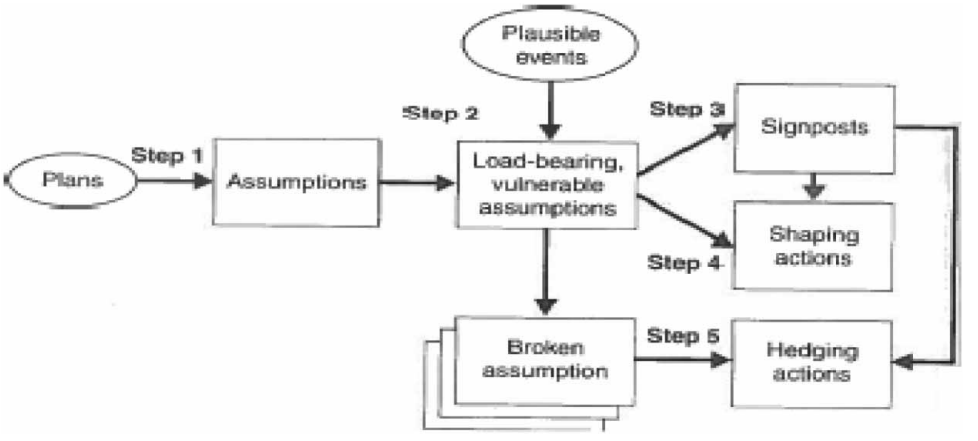

Figure 2. The basic steps and flow of ABP.[28]

(1) Identify Planning assumptions
(2) Identify load-bearing assumptions
(3) Develop signposts
(4) Develop shaping actions
(5) Develop hedging actions[15]

The first step of the process is identifying assumptions in the plan. This helps decide which ones are absolutely critical to the success of the plan (load-bearing assumptions) and which ones are most likely to be invalidated over time (vulnerable), in the second step. To know when the vulnerable assumptions might become invalidated, the process requires as a third step, the development of signposts or indicators. The process also requires the development of shaping actions to prevent assumptions from being invalidated as the fourth step. The fifth step of the process requires the development of hedging actions to "better prepare for the possibility that an assumption will fail, despite efforts to shore it up … ", and is basically done by visualizing a particular scenario of an assumption failing, and planning how to mitigate it.[16] ABP does not comprehensively cover every possible way an assumption can fail – these are infinite – but it is effective in getting a plan to account for some salient ways that its assumptions could fail.

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Managing assumptions in the 30-year modernization strategy

One method the modernization strategy can use for managing long-term uncertainty is called Acquisition Investment Management (AIM). This tool uses the post-planning tool, ABP, which "deals with planning uncertainties by looking for vulnerable assumptions in plans and

programs and devising specific actions to test and compensate for failures in those assumptions".[18] The AIM method uses ABP as a tool for managing planning assumptions that influence current and future investments.[19] AIM and ABP can be vital components of the Strategic Modernization Plan that ensure a valid road map for generating and maintaining capabilities relevant to fighting and winning across a full spectrum of operations, and operational environments.

So how can the strategy manage acquisition investments and assumptions over time? To answer this, one must first understand how the AIM works, as well as how the ABP process supports the AIM. According to John Peters, AIM manages investments by "incorporating information about current and alternative threats and the relative likelihood of Army involvement in each"; it uses the five traditional steps of the ABP tool "to ensure that the Army's acquisition strategy can respond to emerging new threats that require high levels of Army involvement".[20]

The process or steps of ABP can be applied to managing assumptions about acquisition investments in the Army's strategic modernization plan. They can help extrapolate Army involvement or engagement of future threats to shape future investments. As mentioned earlier, the first step in the ABP process is identifying assumptions. This entails annotating all assumptions for the second step of discerning which are the load-bearing ones, or in other words, which are the assumptions on whose validity the success of the plan lies. This second step is critical because failure of load-bearing assumptions includes significant risk to the plan. What the first two steps of ABP can do for the Army's Strategic Modernization plan is to analyze current overarching Army planning guidance – which explains how the Army will organize, train and fight, as well as the kind of future operations and environment it will engage in – to identify underlying general and load-bearing assumptions.[21]

A good example of a load-bearing assumption that supports long-term acquisition efforts in the cyber domain is the 2013 Army Strategic Planning Guidance statement that:

> Space and cyberspace will play a particularly important role in the years ahead … [and feature] prominently in the projection of military power … armed combat and national security … future adversaries may even elect to attack only in cyberspace, where military networks and critical infrastructure are vulnerable to remote attack and actions remain difficult to trace.[22]

Current cyber spending and future investment in research and development under the modernization strategy rely on the sustained validity of this assumption. The challenge with hinging Army acquisition investments on load-bearing assumptions such as this is to know when they are about to break.

The third step of the ABP process is establishing signposts to indicate when load-bearing assumptions like the previous one about the future of cyber warfare are weakening or about to break. For example, the strategy (using ABP) can establish a 30% drop in cyber space attacks against the USA and its allies as a signpost for initiating shaping and hedging actions. Peters reaffirms this: he writes that when acquisition planners see a growing trend "the signposts signaling the vulnerability of Army assumptions will also emerge and the acquisition community can take appropriate shaping and hedging actions in response".[23]

Shaping and hedging actions constitute the fourth and fifth step of the ABP process, respectively that can support the AIM strategy over the long term. The signposts or indicator(s) of a weakening assumption alert planners to engage in shaping and hedging actions that will protect and manage acquisition investments. Hedging actions that protect investments can take the form of new procurements of capabilities against new threats; for instance, if the cyber threat grows, or adversaries develop greater asymmetric capabilities that defeat US systems, then hedging actions could come in the form of increased investment in procurement of new cyber capabilities,

as well as research and development. Shaping actions, which are geared toward influencing circumstances to prevent load-bearing assumptions from failing, can support the AIM by helping to align investments in areas where signposts are most likely to emerge, and in a way to prevent those signposts from weakening assumptions. In the case of cyber war, the strategy can use shaping actions like investing in the forward positioning of cyber sensors and defense facilities at US installations to monitor, defend, and where possible attack threats in cyber space.

Intelligence support to ABP

The Army's long-range ABP process demands significant intelligence support to successfully drive the AIM strategy. Consistent access to future intelligence is vital to the success of the Acquisition Planners, Force Planners, and Army Strategists that build and manage assumptions in the ABP process. This section will examine some recommendations for facilitating future intelligence to planners. John Peters, Eric Lawson, and James Dewar recommended some ways the Army intelligence community can support the future intelligence needs of the planners. These experts' three-fold recommendations over a decade ago are worth revisiting today to assess how intelligence support to planners meets the latter's needs, as well as how planners use intelligence. John Peters and his co-authors advanced three recommendations – technical, methodological, and conceptual – for improving intelligence support to the planning communities identified above.[24]

Technical

According to Peters and his co-authors, the Office of the Deputy Chief of Staff for Intelligence (ODCSINT) should ensure continued development of the "Army's information technology technical architecture … to contribute greater connectivity and linkages between Army intelligence and its customers".[25] In support of its long-range modernization strategy, the Army should reassess the link between intelligence providers, acquisition planners, force developers, and Army strategists to ensure it is strong. The timely evaluation of assumptions in the ABP process critically rests on a steady flow of processed intelligence.

Methodological

In today's context, this recommendation implies that to improve planner support, intelligence providers (ODCSINT) should reassess and improve their understanding of what Peters and co-authors term "the important assumptions implicit and explicit in the planners' approaches to their respective tasks".[26] In other words, ODCSINT should strive to link their mostly threat-centric analysis to the capability-centric assumptions made by their customers in the acquisition, force development, and Army strategist communities.

Conceptual

Peters and co-authors recommended a change in the way planners perceive ODCSINT intelligence support. The efficient management of planning assumptions in the Army's long-range modernization strategy requires planners to interact more closely with the intelligence experts, not just their products.[27] This calls for a reassessment of the degree to which intelligence experts are embedded and utilized in the planning process.

Conclusion

Based on the above analysis, ABP is a relevant and valid tool that can support AIM over the extended term of 30 years by constantly monitoring assumptions for application of shaping and hedging actions as required by pre-established signposts. Continued reduction in defense spending, and subsequent resource uncertainty requires long-term projection of military spending to justify and maintain funding; by anticipating requirements beyond future years the Army's 30-year modernization strategy helps it cope with the fiscal environment. Keeping the plan relevant in light of rapid technological evolution and threats relies on effectively managing assumptions, which it can do with the AIM and ABP.

The end of the Cold War, the evolving security environment, and the rapid pace of technological development do not render futile an extended range (15–30 years) defense modernization strategy such as the US Army's. Rather, having an effective method of managing investments (AIM), and a tool to maintain the validity of planning assumptions (ABP), make the US Army's 30-year modernization strategy a viable option for driving funding requirements and preserving operational superiority.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes

1. Eric Hollister, *A Shot in the Dark: The Futility of Long-range Modernization Planning*, The Land Warfare Papers 79, AUSA Institute of Land Warfare. http://www.ausa.org/publications/ilw/Documents/LWP_79_web.pdf, 1
2. Sydney J. Freedberg Jr., '*Army Crafts 30-Year Plan To Safeguard Research, Development*', Breaking Defense. http://breakingdefense.com/2012/10/Army-crafts-30-year-plan-to-safeguard-research-development/ (accessed October 24, 2012).
3. Hollister, *A Shot in the Dark*.
4. Carl Builder, *The Masks of War: American Military Styles in Strategy* (Baltimore: Johns Hopkins University Press, 1989), 49.
5. Margaret C. Roth, *Army AL&T* (Acquisitions Logistics and Technology), January–March 2013. http://asc.Army.mil/web/wp-content/uploads/2013/04/Jan-Mar2013_Army_al.pdf, 10–15 (accessed February 5, 2014).
6. *Ibid.*
7. Caitlin Lee, 'US Army Builds 30 Year Budget Plan', *Jane's Defense Weekly*, January 15, 2014. https://janes.ihs.com/CustomPages/Janes/DisplayPage.aspx?ShowProductLink=true&DocType=News&ItemId=+++1598060
8. *Ibid.*
9. J.D. Leipold, '*Army Entering Period of Innovation, Critical investments*', The Official Homepage of the US Army, March 22, 2013. http://www.Army.mil/article/99357/Army_entering_period_of_innovation__critical_investments/
10. Richard Ned Lebow and Thomas Risse-Kappen, *International Relations Theory and the End of the Cold War* (New York: Columbia University Press, 1995). http://polsci.colorado.edu/sites/default/files/1B_Lebow%20&%20Kappen%20(1).pdf
11. Amy Guckeen, '*Shyu Outlines Strategy for Modernization at AUSA*', United States Army. http://www.Army.mil/article/120398/Shyu_outlines_strategy_for_modernization_at_AUSA/ (accesed February 24, 2014).
12. Paul K. Davis, *Analytic Architecture for Capabilities-based Planning, Mission-system Analysis, and Transformation* (National Defense Research Institute, Santa Monica: RAND, 2002), xi.
13. Carl H. Builder and James A. Dewar, 'A Time for Planning? If Not Now, When?', *Parameters* (Summer 1994): 4–15.
14. James A. Dewar, *Assumption-based Planning: A Tool for Reducing Avoidable Surprises* (RAND, Cambridge, Cambridge University Press, 2002), 2.

15. *Ibid.*
16. Dewar, *Assumption-based Planning*, 4.
17. Builder and Dewar, *A Time for Planning*?.
18. *Ibid*.
19. John E. Peters, Bruce Held, Michael V. Hynes, Brian Nichiporuk, Christopher Hanks, and Jordan Fischbach, *A Methodology for Developing Army Acquisition Strategies for An Uncertain Future*', Santa Monica, RAND, last modified March 18, 2014. http://www.rand.org/content/dam/rand/pubs/monographs/2007/RAND_MG532.sum.pdf, xi
20. *Ibid.*
21. Peters et al., *A Methodology For Developing Army Acquisition Strategies*, 7.
22. *Army Strategic Planning Guidance 2013*, US Army, accessed March 19, 2014. http://usArmy.vo.llnwd.net/e2/rv5_downloads/info/references/Army_strategic_planning_guidance.pdf
23. Peters et al., *A Methodology for Developing Army Acquisition Strategies*.
24. John E. Peters, Eric Lawson and James Dewar, *Futures Intelligence: Assessing Intelligence Support to Three Army Long-range Planning Communities* (Santa Monica, CA: RAND, 1998), xiv.
25. *Ibid.*
26. Peters, Lawson and Dewar, Futures Intelligence, xiv.
27. *Ibid*.
28. Dewar, *Assumption-based Planning*.