

Using Agile Project Methodologies in Military Action Planning

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Abstract

To improve the responsiveness and adaptability of decision-makers in the ever-changing and unpredictable world of contemporary military operations, flexible and adaptable approaches to planning are essential. Originally created for software development, Agile approaches offer a new way to increase the effectiveness and efficiency of planning in the military context through the use of project management. This study examines the application of Agile concepts - such as collaboration, flexibility, and iteration - to the planning of military operations. This study highlights the advantages and challenges of applying these concepts in a military setting, emphasising how they can improve strategic adaptability and rapid response times. Focusing on their development, fundamental ideas and various project management applications, the study summarises the body of research on Agile approaches. The main focus of the paper is on the way in which Agile frameworks such as Scrum and Kanban can be adapted for use in military contexts, emphasising teamwork, customer satisfaction and continuous improvement. Key studies show that by encouraging greater cooperation and adaptability, Agile approaches dramatically improve project performance in dynamic contexts. However, obstacles such as reluctance to adapt, lack of qualified staff and problems in scaling Agile methods are also reported.

Keywords:

Agile Methodologies; Scrum; Kanban; Project; Military Operations; Planning.

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Military operations are conducted in environments characterised by volatility, uncertainty, complexity and ambiguity. Agile project methodologies, originally created for software development, offer promising approaches to enhance the effectiveness of military planning in these dynamic environments. This paper examines how Agile frameworks can be adapted to military contexts, providing empirical evidence of their benefits while recognising the challenges of their implementation. Research shows that military organisations adopting Agile methods have achieved significant improvements in responsiveness, collaboration, and operational efficiency. Medium-sized projects using Agile methods have delivered greater customer benefits than traditional approaches, with notable success in military IT deployments. While organisational resilience and security concerns pose challenges, strategic implementation approaches that balance military hierarchical structures with Agile principles hold great promise for improving military operational capabilities.

1. Historical background and evolution of military planning

1.1. Traditional military planning approaches

Military planning has historically used linear, sequential processes that emphasise comprehensive, advanced planning and strict hierarchical execution. These traditional approaches, while providing structure and clarity of command, often fail to respond effectively to rapidly changing operational conditions. Military organisations around the world have recognised this limitation in contemporary operational environments where threats evolve rapidly and information flows continuously.

Traditional military planning typically follows a “waterfall” approach, with sequential phases that include intelligence gathering, mission analysis, course of action development, comparison, approval, and execution. This methodology emphasises thorough analysis and detailed planning before execution begins (Tudose 2021). While this approach provides a comprehensive analysis of factors and clear direction, it suffers from significant limitations in dynamic environments. Once launched, these plans are difficult to modify without substantial disruption, creating rigidity that can be exploited by more agile adversaries.

As military leaders face increasingly complex and unpredictable operational environments, the limitations of traditional planning approaches have become more apparent. The quest for greater flexibility within military organisations has become the “requirement of the moment” in the digital age, as they seek to flatten organisational structures to speed decision-making and improve responsiveness. This recognition has led to increased interest in alternative planning approaches that can better accommodate uncertainty and change.

1.2. The emergence of Agile methodologies

Agile methodologies emerged in the software development industry in the 1990s, culminating in the “Agile Manifesto” in 2001. This manifesto established four core values: individuals and interactions are more important than processes and tools; functional software is more important than complete documentation; collaboration with customers is more important than contract negotiation; and responding to change is more important than sticking to a plan. These values represented a significant departure from traditional “waterfall” approaches to development, which followed a linear, sequential process similar to traditional military planning ([Agile Manifesto 2001](#)).

The Agile approach introduced several key innovations in project management, including iterative development, self-organising teams, continuous customer feedback, and adaptation to changing requirements. These principles were initially applied to software development, but have since been extended to diverse domains including product development, marketing and organisational management. Agile’s success in managing complexity and uncertainty in commercial environments has sparked interest in its application in military contexts.

The evolution of the software industry from waterfall to Agile approaches reflects the challenges faced by military organisations. As Gen. Ellen M. Pawlikowski, former commander of Air Force Materiel Command, explained in 2017, Agile is about continuous iteration: “You plan it, you build it, you release it, you get feedback. And you do it constantly.” This iterative approach offers a potential solution to the adaptability challenges facing military operations ([U.S. Air Force 2019](#)).

2. Theoretical framework for implementing agile approaches in the military environment

2.1. Fundamental principles of Agile project management

Agile project management is based on several fundamental principles that differentiate it from traditional approaches. First, it emphasises iterative development, breaking projects into small, manageable cycles that produce incremental value. Second, it prioritises adaptability, encouraging change rather than resisting it. Third, it focuses on collaboration, promoting self-organising, cross-functional teams working closely together. Fourth, it focuses on the customer, ensuring continuous alignment with user needs. Finally, it encourages continuous improvement by regularly reflecting and adapting processes ([Daraojimba, et al. 2024](#)).

These principles manifest in various practices within Agile. Daily stand-up meetings improve communication and problem-solving. Sprint reviews (in Scrum) provide regular opportunities for stakeholder feedback. Retrospectives allow teams to learn from experience and improve processes. Visual workflow management (in Kanban)

increases transparency and identifies bottlenecks. Together, these practices create a framework to respond effectively to changing requirements while maintaining focus on delivering value (Orlov, et al. 2021).

The iterative nature of Agile project management is particularly valuable in uncertain environments. Rather than trying to predict all requirements and plan everything in advance, Agile approaches recognise uncertainty and establish mechanisms for periodic reassessment and adaptation. This iterative approach allows teams to learn and adapt as they progress, making it well-suited for complex and dynamic environments such as military operations.

2.2. Parallels between military strategy and Agile philosophy

Surprisingly, many Agile principles find parallels in traditional military strategy and tactics. The ancient Chinese military strategist Sun Tzu emphasised adaptability, rapid response, and exploiting changing circumstances - concepts that align closely with Agile philosophy. Research has explored these connections, highlighting how military strategy concepts can be translated into Agile development principles. For example, Sun Tzu's emphasis on adaptability and adjusting strategies according to the situation aligns with Agile's emphasis on responding to change (Tudose 2021).

Military doctrine has long recognised the importance of adaptability in uncertain environments. The concepts of mission command and commander's intent provide subordinate units the freedom to adapt their approach while maintaining alignment with overall objectives. This balance between autonomy and alignment reflects Agile's emphasis on self-organising teams working toward common goals (Tudose 2021).

The link between military strategy and Agile becomes particularly evident when examining the military's approach to VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) environments - a concept that has also been applied to business contexts. Both military doctrine and Agile methodologies recognise the limitations of prediction and detailed planning in such environments, emphasising instead adaptability, learning, and decentralised decision making (Supriyadi, et al. 2023).

2.3. Adaptability and responsiveness in military contexts

The ability to adapt quickly to changing circumstances is crucial in military operations. Soldiers typically operate in uncertain, hostile and ambiguous environments where rapidly changing scenarios are the norm. Traditional planning approaches often have difficulty maintaining relevance in such dynamic environments, as plans can become obsolete before they can be fully executed.

Adopting Agile methodologies allows military leaders to exert control while adapting to changing conditions that might otherwise disrupt operations. By breaking down operations into smaller iterations, maintaining continuous feedback loops, and empowering teams to adjust tactics based on the realities on the ground,

Agile approaches can enhance the military's ability to respond effectively to emerging threats and opportunities.

This increased adaptability can provide strategic advantages in conflict situations. Military theorists have long recognised that the ability to execute the OODA (Observe, Orient, Decide, Act) loop faster than adversaries provides a significant advantage. Agile methodologies, with their emphasis on rapid feedback and adaptation, can accelerate this loop, enabling military forces to outperform adversaries in dynamic environments ([Toroi and Stanciu 2023](#)).

3. Agile frameworks and their military applications

3.1. Scrum framework in military operations

Scrum, one of the most widely used Agile frameworks, provides a structured but flexible approach to project management that can be adapted to military contexts. The framework organises work into time-framed iterations, called sprints, typically lasting 1-4 weeks. Each sprint begins with planning, includes daily synchronisation meetings, and concludes with review and retrospective sessions. A product owner prioritises work based on value, while a Scrum master facilitates the process and removes impediments ([Schwaber and Sutherland 2020](#)).

In the military environment, Scrum can be adapted to support operational planning and execution. Sprint planning sessions can include mission analysis and course of action development. Daily meetings serve as synchronisation meetings for operational teams, ensuring alignment and surfacing challenges. Sprint reviews provide structured opportunities to assess progress and adjust plans as conditions change. Retrospectives support after-action review processes and lessons learned, reinforcing organisational learning.

The US Army has successfully used Scrum to manage logistics operations in Iraq and Afghanistan, demonstrating its applicability beyond software development. By organising logistical support into sprints and maintaining regular synchronisation, these operations achieved greater responsiveness to changing needs while maintaining coordination between units. This application shows how the Scrum structure can provide a sufficient framework to ensure coordination while allowing the flexibility needed in dynamic environments ([Orlov, et al. 2021](#)).

3.2. Kanban implementation for logistics and military support

The Kanban method provides a visual approach to workflow management that can be particularly valuable for logistics and military support functions. The method visualises work items on a whiteboard with columns representing workflow steps, limits work in progress to prevent overload, and focuses on optimising flow through the system. This visualisation makes bottlenecks immediately visible, allowing teams to address problems before they affect operations ([Kanban University 2021](#)).

In military contexts, Kanban can efficiently manage operational tasks, logistics and support activities. The US Navy has used Kanban to manage the development of software systems, demonstrating its military applicability. By visualising the status of tasks and limiting work in progress, logistics teams can focus their resources on critical priorities instead of spreading their efforts too thinly across multiple tasks ([Abercrombie, Fullbright and Long 2016](#)).

Kanban's emphasis on limiting work in progress aligns with the military principle of concentrating force, suggesting a natural fit between the two approaches. By visualising workflows and identifying bottlenecks, military units can ensure that resources are directed to the most critical tasks, increasing overall operational efficiency.

3.3. Hybrid approaches: Scrumban, Kanplan and Military Design Thinking (MDT)

Recognizing that there is no single framework that fits all contexts, hybrid approaches have emerged that combine elements of different Agile methodologies. Scrumban combines the Scrum framework with Kanban flow optimisation, while Kanplan adds Scrum backlog concepts to Kanban, allowing teams that don't work iteratively to benefit from backlog preparation.

Similarly, the military has developed hybrid approaches that combine Agile principles with traditional military planning. Military Design Thinking (MDT) adapts the principles of design thinking to military contexts, creating an innovative and flexible command and control (C2) method. This approach maintains the necessary military structures while incorporating iteration, user-centeredness, and adaptability from Agile and Design Thinking approaches ([Alaidaros, Omar and Romli 2021](#)).

These hybrid approaches provide valuable flexibility by combining structure with adaptability. They recognise the reality that military organisations cannot completely abandon hierarchical structures and formal processes, but they can improve them with Agile principles. This balanced approach may be the most practical way forward for military organisations that want to become more adaptive while maintaining the necessary command structures.

4. Empirical evidence and case studies

4.1. Transnational analysis of military IT projects

Empirical studies of military IT projects provide valuable insights into the effectiveness of Agile methodologies in military contexts. A cross-country study of IT projects in NATO countries and agencies found that projects using Agile methods delivered more benefits to customers than those using traditional methods. Medium-sized projects performed better than small and large projects, and customer

involvement had a positive effect on project success. Clear specification of objectives also had a statistically significant positive effect on project outcomes.

This research challenges the common assumption that traditional approaches are more suitable for military projects. Empirical evidence suggests that Agile methods can deliver superior outcomes, particularly in terms of benefits and customer satisfaction. The finding that medium-sized projects performed best indicates that Agile methods can be most effective when applied at an appropriate scale, neither too small to justify the overhead nor too large to be managed effectively ([Orlov, et al. 2021](#)).

The study also highlighted the importance of customer involvement - a core Agile principle - in project success. Military IT projects that benefited from active end-user participation were more likely to deliver benefits that met real operational needs. This finding supports Agile's emphasis on collaboration between developers and users throughout the project lifecycle.

4.2. Diggerworks: an Agile success story in the military

One of the most compelling cases of a successful Agile implementation in a military context is Diggerworks, the Australian defence organisation responsible for the design, development, and integration of combat equipment and clothing for soldiers. Following its move to Agile, Diggerworks has achieved remarkable results: productivity has increased by 400-600%, project delivery times have dropped from months to weeks in many cases, and employee satisfaction has increased significantly ([Cebon and Samson 2012](#)).

The Diggerworks case is particularly notable because it involves physical hardware rather than software, demonstrating the applicability of Agile beyond IT. The organisation was established in 2011 after Australian Senate hearings identified critical problems in procurement and supply chain arrangements for military equipment. By adopting Agile approaches that emphasise innovation and responsiveness, Diggerworks has dramatically improved its ability to deliver better equipment faster.

This success has prompted other military groups to consider adopting Agile, including Army R&D groups, personnel management, and major procurement projects. Even the Royal Australian Navy and Air Force have expressed interest, suggesting a growing recognition of the potential benefits of Agile across all areas of the military.

4.3. US Air Force Agile Transformation

The U.S. Air Force has adopted Agile methodologies to address challenges in software development and acquisition. Following the lead of organisations such as the Defence Innovation Unit (DIU), the Air Force is implementing a more modern and less bureaucratic approach to development that aims to deliver capabilities to warfighters faster and at lower cost ([U.S. Air Force 2019](#)).

One notable example is the Air Force's Kessel Run software development initiative, which utilises Agile methods to rapidly develop and deploy software capabilities. By adopting Agile practices, Kessel Run has significantly reduced development times, enabling more responsive support to operational needs. This initiative represents a departure from the Air Force's traditional "waterfall approach" to software development, which typically followed a sequential process with lengthy documentation and review requirements ([Budden, et al. 2021](#)).

These Air Force initiatives demonstrate how even large, traditionally hierarchical military organisations can successfully adopt Agile approaches. By starting with specific projects and demonstrating success, these initiatives create momentum for broader organisational change while addressing immediate operational needs.

5. Agile benefits in military operations

5.1. Improve responsiveness to changing conditions

One of the main benefits of Agile methodologies in military contexts is increased responsiveness to changing conditions. Traditional military planning processes can be time-consuming and difficult to adjust once set in motion. Agile approaches, which emphasise iteration and adaptation, allow military units to react more quickly to changing circumstances while maintaining operational effectiveness despite uncertainty.

Research on military projects using Agile methods has shown significant improvements in cycle time and responsiveness. For example, the ISPAN program shortened cycle time by 45 months, demonstrating the time-saving potential of Agile approaches ([Kniberg and Skarin 2010](#)). Similarly, the Diggerworks experience has shown dramatic reductions in project delivery times from months to weeks ([Cebon and Samson 2012](#)). These improvements in responsiveness translate directly into operational advantages. In combat situations, the ability to adapt quickly to changing circumstances can determine success or failure. By adopting Agile principles, military organisations can enhance their ability to respond effectively to dynamic operational environments while maintaining the initiative and seizing opportunities as they arise.

5.2. Improving collaboration and information exchange

Agile methodologies emphasise collaboration and communication within and between teams. In military contexts, this can lead to more effective coordination and information sharing, addressing the "stovepipe" problem often seen in military organisations where information remains siloed in separate units or systems ([Tudose 2021](#)).

Studies of military IT projects have found that customer engagement, a key aspect of Agile approaches, has had a positive effect on project success. By encouraging closer collaboration between developers and users, Agile methods ensure that solutions

meet real operational needs rather than assumed requirements. Beyond IT projects, Agile principles can improve collaboration in operational planning and execution. Practices such as daily meetings and regular reviews improve synchronisation between units and ensure that all stakeholders have a common understanding of the situation and plan. This improved collaboration can reduce friction, increase coordination, and ultimately improve operational effectiveness ([Alaidaros, Omar and Romli 2021](#)).

5.3. Increase operational efficiency and effectiveness

Agile methodologies can improve the efficiency and effectiveness of military operations by focusing resources on prioritised tasks, reducing waste, and promoting continuous improvement through regular feedback and adaptation. Kanban's emphasis on visualising work and limiting work in progress helps military units identify bottlenecks and ensure that resources are allocated to essential tasks. Diggerworks' experience with a 400-600% increase in productivity demonstrates the potential efficiency gains of Agile approaches. By focusing on delivering incremental value, limiting work in progress, and continuously improving processes based on feedback, military organisations can potentially accomplish more with limited resources, addressing the perennial challenge of balancing strategies with available resources ([Agile Manifesto 2001](#)).

These efficiency improvements are particularly valuable in resource-constrained environments. By eliminating waste, focusing on high-value activities, and continuously improving processes, Agile approaches enable military organisations to maximise the impact of available resources. This efficiency can create strategic advantages by enabling faster capability development and deployment.

5.4. Strategic adaptability and learning

At the strategic level, Agile methodologies provide military organisations with increased adaptability and learning capabilities. The iterative nature of Agile approaches creates regular opportunities to assess progress, gather feedback and adjust course as necessary. This enables faster learning and adaptation than traditional approaches that rely on extensive post-operational analysis. Military strategy research suggests that adaptability and learning are critical factors in long-term success. By adopting Agile principles, military organisations can improve these capabilities, gaining strategic advantages over less adaptive adversaries. The ability to learn and adapt faster than adversaries creates opportunities to seize and maintain the initiative in dynamic environments. This strategic adaptability also supports innovation in the development of military capabilities. By creating shorter feedback loops between users and developers, Agile approaches enable faster identification and implementation of innovative solutions to operational challenges. This accelerated innovation cycle can provide significant advantages in capability development and deployment ([Abercrombie, Fullbright and Long 2016](#)).

6. Implementation challenges and considerations

6.1. *Organisational and cultural barriers*

Despite its potential benefits, implementing Agile methodologies in military contexts faces significant organisational and cultural barriers. Military organisations have deep-rooted traditions and established ways of working that can be difficult to change. The hierarchical nature of military structures may seem to conflict with Agile's emphasis on self-organising teams and distributed decision making. For example, in international contexts, cultural differences may accentuate incompatibilities between self-organising Agile teams and rigid hierarchical structures ([Šmite, Gonzalez-Huerta and Moe 2018](#)).

Research on Agile adoption in government and military contexts has identified resistance to change as a common barrier. Cultural factors, including risk aversion and a preference for established processes, can impede the adoption of new approaches. Overcoming this resistance requires strong leadership support, clear communication of the benefits, and careful phased implementation that respects the necessary military command structures.

The military's traditional emphasis on extensive planning and formal documentation may also conflict with Agile's preference for functional solutions over comprehensive documentation. Finding an appropriate balance that maintains necessary documentation while eliminating unnecessary bureaucracy is a significant challenge for military Agile implementations ([Alaidaros, Omar and Romli 2021](#)).

6.2. *Security and privacy concerns*

Military operations involve sensitive information and strict security requirements that can potentially conflict with Agile's emphasis on transparency and information sharing. Balancing security needs with collaborative practices is a significant challenge for military Agile implementations.

Classified information and compartmentalised access create practical barriers to the free flow of information that supports Agile collaboration. Teams may be unable to share certain information across organisational boundaries, limiting the effectiveness of collaborative practices. For example, the DIACAP process used for security assessment in DoD projects introduces significant delays that run counter to the fast pace of Agile methodologies ([Chung and Nixon 2013](#)).

Military organisations must develop adapted approaches that maintain the necessary security controls while preserving the core benefits of Agile. In addition, military systems often operate on isolated networks with restricted access, which complicates the implementation of digital collaboration tools that support Agile practices. Creative solutions that maintain security while enabling necessary collaboration as well are essential for successful military Agile deployments ([Kniberg and Skarin 2010](#)).

6.3. Agile scaling for large-scale military operations

Scaling Agile methodologies to large and complex military operations presents significant challenges. While Agile approaches work well for small, co-located teams, they become more difficult to implement in large, distributed organisations with multiple interdependencies - exactly the environment in which military operations typically take place. Research on scaling Agile in large organisations has identified coordination difficulties, alignment issues, and communication barriers as common problems. Military operations, which can involve thousands of people in multiple locations, face similar challenges in extending Agile approaches beyond small units or specific projects.

Several frameworks for scaling Agile have emerged in commercial contexts, including SAgile (Scaled Agile Framework), LeSS (Large-Scale Scrum), and Nexus. For example, Saab has demonstrated the success of scaling Agile by coordinating over 100 Agile teams to develop the Gripen aeroplane, using daily stand-ups and synchronised sprints. Such examples emphasise the importance of adapting the Agile framework to the complexity of military projects while maintaining alignment between teams and strategic goals ([Rigby, Sutherland and Noble 2018](#)).

While these frameworks offer potential solutions, they need to be tailored to military contexts to account for specific hierarchical command structures and operational requirements. Developing military-specific approaches for Agile scaling is an important area for future research and innovation.

6.4. Implementation strategies for military contexts

The successful implementation of Agile methodologies in military contexts requires thoughtful strategies that recognise organisational realities while pursuing meaningful change. Research on organisational change suggests that incremental approaches are often more successful than radical transformations, particularly in established organisations with strong cultures.

An effective approach is to start with pilot projects in selected areas where Agile is most likely to succeed. These might include IT projects, logistics management, or training programs where the benefits of adaptability and rapid feedback are most evident. Successful pilots serve as examples and learning opportunities for wider implementation, creating momentum for organisational change ([Daraojimba, et al. 2024](#)).

For example, initiatives such as the U.S. Air Force's Kessel Run have utilised Agile methodologies for critical application development, achieving significant resource savings and improved operational planning ([Budden, et al. 2021](#)).

Hybrid approaches that combine elements of traditional and Agile methods offer another promising strategy. For example, maintaining the structure of traditional military planning processes while incorporating Agile practices such as iteration, feedback, and adaptation can provide a bridge between approaches. These hybrid models recognise the reality that military organisations cannot completely abandon

hierarchical structures, but they can improve them with Agile principles. Leadership support and involvement are critical to successful Agile implementation. Leaders must not only support Agile adoption but also model the behaviours and mindsets that support it, including accepting appropriate levels of uncertainty, encouraging experimentation, and valuing learning from failure. Education and training programs should address both Agile technical practices and the underlying mindset shift towards adaptability and continuous improvement ([Tudose 2021](#)).

7. Future directions and research opportunities

7.1. Emerging trends in Agile adoption in the military

Several emerging trends suggest growing interest and innovation in applying Agile methodologies in military contexts. These include integrating Agile with artificial intelligence and autonomous systems, extending beyond IT to operational domains, and developing military-specific Agile frameworks tailored to the unique requirements of military operations.

As military organisations increasingly use artificial intelligence, machine learning, and autonomous systems, Agile approaches provide valuable frameworks for managing these complex, rapidly evolving technologies. The iterative and adaptive nature of Agile aligns well with the continuous learning and improvement inherent in these technologies.

While many military Agile implementations have focused on IT and procurement projects, there is growing interest in applying Agile principles to operational planning and execution. Concepts such as agile command and control (C2) seek to increase adaptability in operational environments while maintaining the necessary command structures. These applications represent promising areas for future development and research ([Orlov, et al. 2021](#)).

7.2. Research and training needs

Several research opportunities exist in the area of Agile adoption in the military. More empirical studies of military Agile implementations are needed to better understand outcomes and success factors in these specific contexts. Developing and validating military-specific Agile frameworks is another important area of research, as is investigating the cultural and organisational factors that influence Agile adoption in the military.

Training programs that address both Agile technical practices and the underlying mindset change are essential for successful implementation. They should be tailored to military contexts, recognising the unique challenges and requirements of military operations while preserving core Agile principles. Developing effective approaches to Agile education in military training institutions is an important area for development.

The intersection of Agile methodologies with military strategy and doctrine offers particularly rich opportunities for research and innovation. Exploring how Agile principles can improve military concepts such as mission command, commander's intent, and the OODA loop could provide valuable insights for both military operations and Agile project management ([Schwaber and Sutherland 2020](#)).

7.3. Technology enablers for Military Agile

Technological advances can support and enhance the application of Agile methodologies in military contexts. Digital collaboration tools working within security constraints can enable the application of Agile practices in geographically dispersed military units. Advanced analytics and decision support systems can provide the rapid feedback needed for effective iteration and adaptation in complex environments. Simulation and modelling capabilities can support experimentation and learning without the risks associated with real-world operations.

The military's increasing adoption of cloud computing also supports Agile deployment by providing more flexible and scalable environments for development and deployment. This shift to the cloud increases organisational agility by reducing reliance on outdated systems with limited flexibility.

These technology enablers, combined with appropriate organisational change and training, can help military organisations overcome some of the practical barriers to Agile implementation. By providing infrastructure and tools that support Agile practices, technology can facilitate the transition to more adaptive approaches to planning and execution ([Orlov, et al. 2021](#)).

Conclusions

Applying Agile project methodologies to military action planning is a promising approach for improving adaptability and responsiveness in dynamic operational environments. Evidence from military IT projects and initiatives such as Diggerworks demonstrates that Agile methodologies can bring tangible benefits in terms of speed, quality and operational effectiveness. By adopting principles such as collaboration, iteration, and adaptation, military organisations can improve their ability to respond effectively to the complexity and uncertainty of contemporary operations.

However, implementing Agile methodologies in military contexts presents significant challenges, including organisational resilience, security requirements, and scaling issues. Addressing these challenges requires thoughtful implementation strategies that balance the need for adaptation with respect for the necessary military structures and processes. Hybrid approaches that combine elements of traditional and Agile methods offer practical paths forward, recognising organisational realities while pursuing significant improvements in adaptability.

As military organisations continue to explore and adopt Agile approaches, opportunities exist for further research, innovation, and development of military-specific frameworks. By learning from experiences gained in both military and non-military contexts, organisations can develop approaches that leverage the strengths of Agile while addressing the unique requirements of military operations.

In an era of rapid technological change and evolving threats, the ability to adapt quickly and effectively is increasingly critical to military success. Agile methodologies, which emphasise adaptability, collaboration, and continuous improvement, provide valuable tools for improving this capability and can contribute to more effective and responsive military operations in the 21st century.

The journey towards more agile military planning is only just beginning, but early results suggest that this path holds great promise for improving military effectiveness in complex and dynamic environments.

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