
Enabling Army Innovation

By Brigadier Chris Field

Abstract

The Defence White Paper 2016 articulated a specific requirement for the Australian Army to respond to the challenge of innovation. This article constitutes a response to that requirement, initially defining innovation and then summarising the 10 characteristics that are central to innovation. Employing these characteristics, the article moves to examine two concepts that would enable Australian Army innovation: improving collaboration and realising people's potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate thinking on how the Australian Army can 'adapt to change, to innovate and to integrate reform into its core business processes'. This is a crucial debate for the army as it moves into the twenty-first century.

Enabling army innovation – improving collaboration and realising potential

Innovation emerges as a major concept in the statements and assertions of the Defence White Paper 2016. Indeed, it is so important that innovation is mentioned on no fewer than 36 occasions. In its various guises, innovation appears as a tool of defence industry; the research community; Defence

Science and Technology Group; United States (US) Defense Innovation Initiative; innovative manufacturing in the region; the 2012 Coles Review, Collins Class Submarine, innovative transformation plan; Hawkei Protected Mobility Vehicles innovative design; Defence Innovation Hub; improved technology to enhance flexibility and innovation in training, education, and skilling; and an innovative 'High Res' smart phone app that will help serving and ex-serving Australian Defence Force (ADF) members manage stress and building their psychological resilience.¹

In the midst of this plethora of innovation cameos, the White Paper articulates an innovation challenge for the ADF, including the Australian Army:

*The more complex future strategic environment Australia faces will place greater demands on Defence, particularly its ability to adapt to change, to innovate and to integrate reform into its core business processes.*²

This article aims to respond to the White Paper challenge and suggest a way in which the army can fulfil the exacting requirements articulated in its pages. The logical starting point for this discussion is a definition for the term 'innovation' which can assume various meanings in a broad span of contexts. The discussion will then extract 10 characteristics from that definition, using these as the basis for two concepts to enable Australian Army innovation: improving collaboration and realising people's potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate debate over how the Australian Army can 'adapt to change, to innovate and to integrate reform into its core business processes.'³

Innovation defined

According to *The Macquarie Dictionary*, innovation is 'something new or different introduced; the act of introducing new things or methods.'⁴ This simple and concise definition will form the basis for the ensuing discussion.

Preceding the release of the 2016 White Paper by two years, the Australian Army's capstone doctrine, *Land Warfare Doctrine 1, The Fundamentals of Land Power* (LWD 1), emphasises the importance of innovation in achieving the army's mission, which it defines as: 'to win the land battle in order to

defeat our enemies and safeguard the interests of the nation and the lives of our people'.⁵ In particular, LWD 1 states:

*The intellectual component of fighting power ... is supported by an organisational climate that enables creativity and innovation, analytical excellence and continuous learning.*⁶

LWD 1 also notes that successful armies employ innovation to 'provide the versatility inherent in land power' which builds an army's 'capacity and willingness to ... change to solve a new complex problem or execute an unexpected mission'.⁷

Innovation is the process of designing and implementing new methods to lead an organisation and produce better results.⁸ Innovation involves the generation, adoption, implementation and incorporation of new ideas and practices.⁹

In the 1990s, Oldham and Cummings, and Scott and Bruce concluded that creativity and innovation are important to the long-term survival of organisations.¹⁰ In examining organisational disruption caused by innovation, Ehigie and McAndrew assert:

*In the innovation change process, creativity leads to invention, and the first introduction or implementation of an invention is innovation, which could lead to adoption. Adoption results from the diffusion process.*¹¹

Professor Roger Clarke describes the diffusion process as the spread of a new idea from its source of invention to its ultimate users or adopters.¹² Individuals who adopt an innovation evolve their thinking as they increasingly understand the opportunities presented by change. The innovation change process is incomplete if use is limited only to the innovator and is not adopted by others. Limited adoption means an innovation may not lead to the broad transformation of an organisation or system.¹³

Gladwell explains that successful innovation requires 'divergent thinkers' who effectively communicate the requirement for change.¹⁴ Psychologist Jordan Peterson notes that 'divergent thinkers' are uncommon in society.¹⁵ Instead societies, particularly within traditional organisations such as the century-old Australian Army, seek convergent thinking. Divergent thinkers challenge orthodoxy. Through leadership, divergent thinkers create an environment conducive to the adoption of new ideas.

Emphasising divergent thinking, creativity and innovation, Williamson Murray and MacGregor Knox observe that:

The military institutions that successfully innovated between 1919 and 1940 without exception examined recent military events in careful, thorough, and realistic fashion. Analysis of the past was the basis of successful innovation. The key technique of innovation was open-ended experiments and exercises that tested systems to breakdown rather than aiming at the validation of hopes or theories.

Simple honesty and the free flow of ideas between superiors and subordinates—key components of all successful military cultures—were centrally important to the ability to learn from experience. And the overriding purpose of experiments and exercises was to improve the effectiveness of units and of the service as a whole, rather than singling out commanders who had allegedly failed.¹⁶

Leaders foster divergent thinking through consistently challenging their own and others' preconceptions. They excel when readily imagining alternative futures and developing 'non-linear' thinking where many possible solutions are explored. Leaders challenge assumptions in a broad range of areas from education, training and doctrine, to systems, processes and planning.¹⁷

Theodore Levitt warns that 'what is often lacking is not creativity in the idea-creating sense but innovation in the action-producing sense, i.e., putting ideas to work.'¹⁸ Levitt asserts that, when a person suggests an idea:

... the responsible procedure is to include at least some minimal indication of what it involves in terms of costs, risks, personnel, time, and perhaps even specific people who ought to carry it through. That is responsible behaviour, because it makes it easier for leaders to evaluate the idea and because it raises fewer problems. That is the way creative thinking will more likely be converted into innovation.¹⁹

Echoing Levitt's requirement for organisations to transition from 'idea-creating' to 'action-producing' entities, the Australian Army employs eight fundamental inputs to capability — personnel, organisation, collective training, major systems, supplies, facilities, support, command and management — for project consideration, risk analysis and development.²⁰ Through systems such as the fundamental inputs to capability, leaders 'view a problem from multiple perspectives, frame that problem within a workable

context, and develop either conventional or unique or unorthodox solutions as required.²¹

In psychological terms, leaders who frequently break the 'frame' of the current view or reference often develop profound intuitive insights.²² Leaders who enable innovation effectively identify and define the end state or objective of a situation or problem. Once the end state is defined, innovative leaders guide their team along paths to develop solutions.

Successful innovation requires some, and preferably all, of the following 10 characteristics:

1. divergent thinking
2. acceptance of failure
3. challenging assumptions in education, training, doctrine, systems, processes and planning
4. viewing a problem from multiple perspectives
5. enabling the diffusion of ideas
6. continuous learning through the generation, adoption, implementation and incorporation of new ideas and practices
7. testing systems to breakdown through open-ended experiments and exercises
8. simple honesty and the free flow of ideas between superiors and subordinates
9. careful, thorough and realistic self-reflection and analysis
10. framing innovation in the action-producing sense (i.e., putting ideas to work)

With innovation defined and then summarised in these 10 characteristics, this article now examines two ideas for Australian Army innovation: improving collaboration and realising people's potential. The discussion focuses on how the Australian Army can 'adapt to change, to innovate and to integrate reform into its core business processes.'²³

Enabling army innovation

Improving collaboration

Collaborative, broad-thinking leaders create environments conducive to innovation. These leaders generate enthusiasm for new ideas, shared understanding and efficient resource use. Collaborative leaders create determined, cooperative and innovative teams. These leaders encourage divergent thinking, challenge assumptions and enable continuous learning.

By contrast, competition and self-interest generates an environment of uncertainty, poor communication and resource wastage. Competition at the expense of collaboration creates an unhappy and dysfunctional organisation. Innovation is difficult in this environment.

Collaborative leaders enable innovation through ensuring their availability to their people, peers, staff and other leaders. Collaborative and available leaders maintain control of their emotions, encouraging people to seek their counsel and support. Availability is a discipline and must be planned and practised. These leaders demonstrate an unhurried yet professional persona. Available leaders create time for themselves and others to listen, think and understand. These leaders view problems from multiple perspectives and encourage the diffusion of ideas.

Available leaders invite innovation through enabling people to express their ideas and opinions. These leaders do not command from their desks or tied to their headquarters' plasma computer screens. Following the 2006 Second Lebanon War, Major General (ret'd) Matan Vilnai, former Israeli Defence Force Deputy Chief of Staff noted:

... this war underscored the limitations of plasma [screens], especially when [they are] accorded disproportionate priority over training and discipline.²⁴

Countering tendencies to command from behind a computer, the Australian Army annually collaborates in live exercises such as Exercise Hamel. Exercise Hamel encourages the army to be innovative by developing, confirming and evaluating reinforced combat brigade foundation warfighting skills within a joint task force environment.²⁵ Supported by a continuous force generation cycle, Exercise Hamel is an open-ended experiment testing the army's education, training, doctrine, systems, processes and planning.

To make Exercise Hamel a success, the army collaborates across the eight fundamental inputs to capability.

Exercise Hamel ensures that the army collaboratively nurtures future leaders through investing the experience of others in the education of their peers. Encouraging innovation based on collaborative available leadership, the Australian Army employs the knowledge and skills of past, current and future army and joint commanders to observe, train and mentor currently serving commanding officers and their staff. Empowering people to coach serving commanding officers and staff is a positive and powerful mechanism enabling innovation within the army. Honestly analysing, understanding and learning from both success and failure represent critical coaching functions.

Through putting ideas to work, Exercise Hamel frames innovation in the action-producing sense. Innovations already realised in the army as a result of collaborative approaches to Exercise Hamel include: digitising the army's reinforced combat brigades; developing the army's common combat brigade standard operating procedures; enhancing air-land integration; testing and evaluating the Armoured Cavalry Regiment; and integrating Army Reserve battle groups into the reinforced combat brigades.

Meeting the requirements of the White Paper to 'adapt to change, to innovate and to integrate reform into ... core business processes', Exercise Hamel's innovations result from leaders at all levels within the army, along with joint enablers, collaborating to achieve change.²⁶ As Exercise Hamel continues to mature, a process enabled by personnel throughout the army carefully reflecting on their own performance, collaboration becomes normal business. In turn, army and Defence innovations will continue to increase as people unite, cooperate and learn.

Realising potential

Through nurturing innovation, leaders ensure that people are appropriately skilled and supported to realise their own potential. Leaders routinely and energetically encourage people to innovate, make decisions, challenge policy and take responsibility for well-considered risks. In reaching their own potential, people will experiment, learn and, sometimes, fail. Historian Paul Kennedy describes an innovation-enabling culture:

There has to be a support system, a culture of encouragement, efficient feedback loops, a capacity to learn from setbacks, an ability to get things done. And all this must be done in a fashion that is better than the enemy's. That is how wars are won.²⁷

Creating a supportive environment nurturing innovation through enabling people to realise their own potential requires the robust and continuous employment of mission command. Comparing the six mission command principles of the Australian Army with those of the US Army illustrates how the concept of people realising their own potential is central to the idea of mission command:

Australian Army	US Army
Grant trust and freedom to subordinates	Build cohesive teams through mutual trust
Junior leaders possessing a detailed understanding not only of the immediate tactical commander's intent, but also of the broader operational and strategic situation	Create shared understanding
Develop a clear expression of the senior commander's intent	Provide a clear commander's intent
Subordinates are expected to apply individual judgement in achieving the commander's intent, regardless of changing situations	Exercise disciplined initiative
Assign a subordinate commander a mission without specifying how the mission is to be achieved	Use mission orders
Junior leaders are expected to seek opportunities to immediately pursue their commander's intent once tasked and resourced	Accept prudent risk

Six Australian Army and US Army mission command principles²⁸

Mission command for both the Australian and US Army emphasises that empowered, enabled and trusted people are essential for mission success and are also a prerequisite for creating an environment that encourages innovation. To achieve mission success and innovation, both armies describe their requirements, in peace and war, as: trust; freedom; cohesion; understanding; clear commander's intent; disciplined initiative; mission orders, including the diffusion of ideas; and acceptance of risk. Ultimately, mission command requires the free flow of ideas between superiors and subordinates while simultaneously putting those ideas to work.

In summary, if the Australian Army actively educates, trains, practises, rehearses, experiments and tests for the employment of mission command, then innovation should follow. The army's education, training, doctrine, systems, processes and planning describe and define the tools and employment of mission command. With application and practice, army leaders can engender organisational innovation based on the six principles of mission command.

Extending the idea of trust enabling mission command, innovative leaders actively refuse all opportunities to enhance themselves to the detriment of others. Leaders live President Harry S. Truman's philosophy that 'it is amazing what you can accomplish if you do not care who gets the credit'.²⁹ Selflessness in leaders encourages people, including divergent thinkers, to excel and innovate even under the most challenging circumstances.

Leaders expect and confront failure.³⁰ Mission command and innovation require leaders to accept prudent risk and informed risk-taking. Eschewing risk aversion in support of innovation, leaders encourage a risk-conscious culture. In this culture, leaders encourage people to have fun and enthusiasm for their job. Enthusiasm leads to optimism. Intel co-founder Robert Noyce noted that optimism is 'an essential ingredient of innovation'.³¹ To want to work is to want to improve.

Employing mission command utilising decentralised decision-making, and viewing problems from multiple perspectives, leaders assume the burden of risk themselves. This requires them to lower the risk threshold to a level where their people feel confident in taking their own risks. Leaders realise that people often have imperfect information for decision-making and allow subordinates the opportunity to fail. People quickly learn and innovate through self-reflection and decision-making success and failure.

Fulfilling the requirements of the White Paper to ‘adapt to change, to innovate and to integrate reform into ... core business processes’ requires leaders to nurture innovation and enable people to realise their own potential. These leaders successfully foster and apply mission command. Leaders encourage people, including divergent thinkers, to excel and innovate, and sometimes fail, even under the most challenging circumstances. Leaders encourage a risk-conscious culture that enables people to view and test problems from multiple perspectives.

Conclusion

Leaders who energise and nurture organisations build the foundation for innovation. Innovation is the process of designing and implementing new methods to lead an organisation and produce better results. The diffusion process is the spread of a new idea or innovation from its source of invention to its ultimate users or adopters.

The Defence White Paper 2016 mentions innovation on no fewer than 36 occasions. While most of the White Paper’s innovation focus is broad, there is one innovation statement immediately applicable to the army:

*The more complex future strategic environment Australia faces will place greater demands on Defence, particularly its ability to adapt to change, to innovate and to integrate reform into its core business processes.*³²

To achieve this aspiration, innovation first has to be defined and understood. This article has summarised its definition in 10 characteristics which it has then utilised to examine two ideas for Australian Army innovation enabled through improving collaboration and realising people’s potential.

Importantly, and aligned to the requirements of the White Paper, this article seeks to initiate thinking on how the Australian Army can ‘adapt to change, to innovate and to integrate reform into its core business processes’.³³

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ENDNOTES

- 1 Department of Defence, 2016 Defence White Paper, Canberra, 2016. Innovation is mentioned in relation to: defence industry (pp. 9, 13, 20, 21, 29, 35, 108, 110, 111, 112); defence industry and the research community (p. 111); defence industry and the Defence Science and Technology Group (p. 112); United States Defense Innovation Initiative (p. 41); innovative manufacturing in the region (p. 50); the 2012 Coles Review, Collins Class Submarine, innovative transformation plan (p. 92); Hawkei Protected Mobility Vehicles innovative design (p. 98); the Defence Innovation Hub (p. 112); improved technology to enhance flexibility and innovation in training, education, and skilling (p. 153); and innovative 'High Res' smart phone app that will help serving and ex-serving ADF members manage stress and build their psychological resilience (p. 157).
- 2 Ibid., p. 165.
- 3 Ibid.
- 4 The Macquarie Dictionary Online, Accountability, Macmillan Publishers Group Australia, 2014, at: <https://www.macquariedictionary.com.au/features/word/search/?word=innovation&search_word_type=Dictionary> (accessed 19 April 2016).
- 5 Directorate of Future Land Warfare, *Land Warfare Doctrine 1, The Fundamentals of Land Power*, Canberra, 2014, p. 55.
- 6 Ibid., p. 48. Fighting power is defined as the way in which the army generates its capacity through the integration of the physical, moral and intellectual components at both the individual and organisational level. The intellectual component provides the knowledge of war, warfare and cognitive capability — the 'what to think'. The moral component reinforces culture, values and legitimacy — the will to fight. The physical component provides the army's capabilities and functional effects — the means to fight. The interaction of all three components strengthens the army's capacity to operate in the future environment.
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- 11 B. Ehigie and E. McAndrew, 'Innovation, diffusion and adoption of total quality management (TQM)', *Management Decision*, Emerald Group Publishing Limited, Vol. 43, No. 6, 2005, p. 929.
- 12 R. Clarke, Visiting Fellow, Department of Computer Science, Australian National University, 'A primer in diffusion of innovation theory', notes of May 1991, revised May 1994, 26 September 1999, at: <<http://www.rogerclarke.com/SOS/InnDiff.html>> (accessed 19 April 2016). Clarke describes different adopter categories as:
 - innovators (venturesome)
 - early adopters (respectable)
 - early majority (deliberate)
 - late majority (sceptical)
 - laggards (traditional)
- 13 Ehigie and McAndrew, 'Innovation, diffusion and adoption of total quality management', p. 929.
- 14 M. Gladwell, *David and Goliath: Underdogs, Misfits and the Art of Battling Giants*, Hachette Book Group, NY, 2013, p. 202.
- 15 J. Peterson, C. DeYoung and J. Flanders, 'The Path to Insight: Cognitive Abilities for Dealing with Ill-Structured Problems', *Rotman Management*, Winter 2011, p. 5.
- 16 Macgregor Knox and Williamson Murray, *The Dynamics of Military Revolution, 1300-2050*, Cambridge University Press, New York, 2001, p. 188.
- 17 Colonel Jay Hatton, USMC (ret), Lieutenant Colonel Robert S. Peterson, Majors Josh Kihne and Pete Abelson, and Gunnery Sergeant Alan G. Fowler, 'PME in Today's Interwar Period - Global uncertainty demands high-quality, educated Marines', *Marine Corps Gazette*, June 2015, p. 12.
- 18 Theodore Levitt, 'Creativity Is Not Enough', *Harvard Business Review*, August 2002, at: <<https://hbr.org/2002/08/creativity-is-not-enough>> (accessed 19 April 2016).
- 19 Ibid.
- 20 Capability Development Group, 'Fundamental Inputs to Capability', at: <<http://www.defence.gov.au/cdg/FundamentalInputs/>> (accessed 19 April 2016).
- 21 Hatton et al., 'PME in Today's Interwar Period', p. 12.
- 22 Peterson et al., 'The Path to Insight', p. 16.
- 23 White Paper, p. 165.

- 24 Russell W. Glenn, *All Glory Is Fleeting - Insights from the Second Lebanon War*, RAND Corporation, Arlington, Virginia, 2012, p. 25.
- 25 Australian Army, 'What is Exercise HAMEL?', Canberra, 2012, at: <<http://www.army.gov.au/Our-work/Major-Exercises/Exercise-Hamel-2012/What-is-Exercise-Hamel>> (accessed 19 April 2016). The Battle of Hamel, fought on 4 July 1918, was a successful attack launched by the Australian Imperial Force and several American units against German positions in and around the town of Hamel in northern France. The operation was commanded by Lieutenant General John Monash who employed innovative combined arms tactics to secure victory in just 93 minutes.
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- 33 Ibid.