



Accelerated Warfare means asking difficult questions about internal cultures and identities.

DEFENCE

## Is the ADF ready to ask difficult questions?

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**A recent [article](#) by Tim Harford opened with an interesting question. If the British were the first to introduce the tank onto the battlefield (helped by Australian inventor E L de Mole), why were the Germans the first to use it in blitzkrieg?**

As Harford points out, the same question can be asked of many organisations that failed to capitalize on an in-house innovation. Xerox developed the first personal computer – why are they still making photocopiers? Sony made one of the first digital music players – so why did everyone buy iPods? Kodak invented the digital camera – so why did they go bust?

The answer comes from an idea known as [architectural innovation](#), first outlined in 1990 by Rebecca Henderson. Essentially, big organisations struggle to capitalise on innovations that challenge the internal structures and cultures of the organisation itself.

The British Army, for example, was quick to adopt other innovations that emerged at the same time as the tank (machine guns, artillery, and barbed wire). These were potent force multipliers, but they multiplied the existing force. New tools, but the same tasks.

However, if an innovation alters the relationship between parts of the organisation, then change often falters. Unlike the machine gun, the invention of the tank forced the British Army to ask inconvenient questions about the tactical

relationship between cavalry and infantry. Tanks also came up against hostile internal politics caused by a culture built on the traditions of a suddenly obsolete capability (in this case, horses). The technological initiative was handed to the Germans, who had the tough conversations and evolved faster. Defeat is the mother of reform.

The problem here was not tanks; it was how the British military was built, and how different corps traditionally viewed their respective roles on the battlefield. Resultant organisational inertia prevented them from realising the full potential of the technology in front of them.

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Given today's pace of technological change, it is worth asking what innovations might force the modern ADF to ask similarly difficult questions.

Take the meteoric rise of UAS as an example. These capabilities are arguably iterating faster than almost any others today. Army is currently rolling out [Black Hornet](#) nano UAS down to all combat platoons, the Wasp capability will be in the hands of soldiers by 2020 with a replacement due just seven years later, and the DJI Phantom 4 [roll-out](#) will be completed as soon as November to improve drone literacy across the entire organisation.

But are UAS challenging how Army is built and how it sees itself? Arguably not. Just as the change from muskets to machine guns drastically improved the infantry's fighting ability, UAS are improving the infantry's situational awareness. However, just like the change from muskets to machine guns, the UAS roll-out as it stands is not challenging the core function of the infantry itself, nor its relationship with other combat corps and the wider ADF.

As *ADM* understands, platoon commanders will use Black Hornets to do what they have always done, but better; just as company commanders will use Wasps to do what they have always done, but better. Army's organisational structure is so far unchallenged by the introduction of UAS in the order of battle: New tools, but again, the same tasks.

Perhaps machine learning is a better example. As systems become increasingly autonomous (rather than just unmanned), there will come a point where machines learn and adapt to certain situations faster than humans. Just as rivals build a new innovation, machines themselves will be capable of identifying the relevant weakness of the latest tech and innovating themselves accordingly.

In short, where once new machines only asked the difficult question (as the tank did), soon they will also be able to provide the answer.

Chief of Army LTGEN Rick Burr wants Army to respond to this future - what he calls '[Accelerated Warfare](#)' - by thinking “in creative and unconstrained ways to ensure our warfighting philosophy is appropriate.”

The answers that machines devise to the difficult questions of tomorrow will likely challenge the organisational structures, cultures, and corps identities in the ADF today.

The ADF must ask whether it is creative and unconstrained enough to listen.