

Focused Logistics: Holy Grail or Poisoned Chalice?

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Introduction

With the end of the Cold War and the dissolution of the Warsaw Pact and Soviet Union, and hence the disappearance of a monolithic threat to Western Europe, there has been an increasing desire to reduce defence spending and divert scarce resources into other public sector services. This increased pressure on the defence budgets, which has been felt in most countries in Europe and North America, has led to a search for ways of making a shrinking budget stretch further.

In some ways the MoD is facing the same challenges as many commercial companies did in the late 1980's and early 1990's with the recession, in their bid to reduce costs in order to maintain profitability. While the Strategic Defence Review (SDR) has generated new initiatives such as 'Smart Procurement' and 'Lean Logistics' in order (for some, at the behest of the Treasury) to reduce costs in the procurement and sustainment of the UK Armed Forces. This however, can be seen as important due to the fact that defence inflation has for many years exceeded normal economic inflation (1), leading to the spiraling cost of new weapon systems.

With logistics having become more important as the 20th Century has progressed, and particularly since the end of the Cold War, the need for more efficient and effective logistics is becoming paramount, as it is seen as both a 'competitive advantage' and a 'force enabler'. 'Focused Logistics' is the latest term to enter usage, and this paper will examine how different it is from what has gone before, and whether it is applicable to some of the operational challenges that the armed forces might face in the near future.

What is Focused Logistics?

As the 21st Century dawns, the rate of change in technological progress is, compared to earlier times, astonishing. With this change, mankind is potentially facing a revolution in information technology, which will be equal to, if not greater than, those of the agrarian and industrial revolutions of previous centuries. With this technological change, allied with the end of the Cold War and the seeming necessity to be able to intervene effectively far away from the home base, attitudes to war are changing along with the approach to business. In many ways, the two are converging, as the military try to take on board some of the 'best' practices of the business and commercial world, as both are faced with significant alterations in political and economic structures, the geopolitical balance, technological progress and perceptions of the 'threat'.

The term 'Focused Logistics' originates with the US Armed Forces and is defined as *"the fusion of information, logistics and transportation technologies to provide rapid crisis response, to track and shift assets even while en route, and to deliver tailored logistics*

packages and sustainment at the strategic, operational and tactical level of operations.”

(2) The key elements here are the embracing of emerging technologies (particularly information technology), transportation techniques, business methods of asset control and the concept of ‘tailoring’. (3)

Evolution or Revolution?

Is ‘Focused Logistics’ a new concept or an evolution from present ideas? Is it a military version of ‘Lean Logistics’? ‘Lean Logistics’ has five principles: specify value, identify its stream and make it flow, pull just in time and strive for perfection. (4) Additionally, the objective of integrating information, logistic and distribution systems is also known as ‘supply chain logistics’. This includes *“the functions of purchasing, transportation, inventory control, materials handling, manufacturing, distribution and related systems ... Its primary focus is the physical flows and storage of materials and the system flows of related information.”* (5) It seems that ‘Focused Logistics’ is very similar to ‘Lean Logistics’ in many ways, but it can be argued that it is not exactly the same. Where they differ is the intention to adopt the principles of ‘Lean Logistics’ to the military environment. The military have a requirement for their supply chain to be as flexible as possible given the uncertain environment they now face. In essence, they are seeking a leaner supply chain, which can support forces anywhere in the world, at short notice.

However, given that the overriding imperative seems to be that of reducing costs, the need to have a more efficient supply chain must be seen in that light. Ultimately, if revisions in the supply chain are going to be costly, then despite the military benefit, governments are unlikely to give the go ahead as the objective for them is the reduction of defence spending. Even if the go ahead is given, is ‘Focused Logistics’ achievable? Is it possible to utilise a leaner, more responsive supply chain tailored for the operational environment (whatever that may be)?

The Lean Supply Chain

‘Focused Logistics’ seeks to reduce the logistic footprint, that is, to reduce the amount of equipment and consumables that the MoD needs to store and that commanders need to take on operations. This could be undertaken either by better predicting the rate at which resources are used, which would enable the defence industry to better gear their rate of production within the supply chain to match the usage of the ‘customer’. Therefore, the current philosophy of ‘just in case’ (where equipment and supplies are stockpiled to cover as many eventualities as possible) would have to be replaced by a ‘just in time’ one’. (6) However, it may be that commercial JIT is too risky in an operational environment, and that the MoD will move towards a compromise position of ‘just enough’, which should reduce inventory and make the supply chain more efficient.

The second method would be to build a greater level of reliability into systems in order to reduce the maintenance burden. By reducing the amount of maintenance needed, it logically follows that the amount of spare parts that have to be moved through the supply chain can thus be reduced. Correspondingly, the number of faulty parts moving back up

the chain is reduced as well. As an example, during the Gulf War, the Challenger 1 main battle tank was found initially to have a poor Mean Time Before Failure rate, around 723 kilometers, instead of the planning figure of 1,235 kilometres. (7) Thus as the Challenger was substantially less reliable than anticipated, then far more spares had to be moved down the supply chain, more man hours of work had to be put in to fix the problems and more faulty parts had to move back up the supply chain.

In reducing the amount of inventory held in the combat area, reducing the throughput in the supply chain, and having a greater visibility in the supply chain, it would be possible to reduce the logistics infrastructure. Less inventory requires less people to maintain it and less space to store it, as well as fewer troops to guard it in the theatre of operations. Fewer consumables will mean less personnel and transport assets will be needed to move these items (which in turn will mean fewer consumables will be required to keep those assets running) but it is important that the right material be loaded on the correct transport at the correct time and place. The concept of tailoring resources is an important one and will be vital if a leaner supply chain is to be set up.

Focused Logistics: The Advantages

The setting up of a 'Focused Logistics' system could have several advantages:

- The availability of global real-time logistic information for all those who need it (as in the United States discount chain 'Wal-Mart' model). Automatic Identification Technology (bar codes, optical memory cards, radio frequency tags etc.) will enhance world-wide asset tracking.
- Electronic commerce systems would allow on-line ordering and payment.
- Logistics will be centered around speed, instead of mass, relying on rapid transportation systems on both land and sea, as well as in the air.
- Integrated distribution systems (supply chain integration) should improve response times, accurate delivery scheduling and forward delivery.
- The enhancement of civil-military integration should mean that the military capitalise on best business practice. Commercial lift can be used and brought onto the battlefield as a part of the force, as happened in the Gulf War. The contracting of civilian firms to provide a broad range of logistic services can be viewed as a potential force multiplier, especially in peacekeeping or humanitarian situations in countries that have little infrastructure.
- The accurate identification of future logistic requirements should allow industrial base planning, allow the MoD to target investment in critical material which in times of war the supply of which is too uncertain or lead times too great.

- Logistic supply planning tools would allow real-time awareness of unit and weapon system readiness, enabling the logistician to be 'proactive' and using a 'pull' supply chain. The redesign of unit organisation should allow it to have a smaller logistics 'footprint' and act as a broker of information and integrator of supplies and services.
- Personnel should receive additional training in the use of IT and acquisition.
- It would enhance overall acquisition reform, such as the move to the paperless contracting procedure, electronic commerce, the growth of civil-military integration and the use of life-cycle management.

Overall, 'Focused Logistics' is designed to reduce response times and costs, produce a more agile infrastructure, and improve quality and readiness. This 'faster, better and best value' support is arrived at by first identifying and then concentrating on the key elements of the logistic system, and substitutes speed of response for large 'just in case' inventories. The real question is whether 'Focused Logistics' can actually be made to work in an operational environment, or whether it is merely a buzzword for an inappropriate business philosophy shoehorned into a military context? There is a danger of being seduced by the theory of cost saving and efficiency building – implementing 'Focused Logistics' and then cutting overall logistic capability (or in classic British Government parlance, 'improving the tooth-to-tail ratio'). The Falklands Campaign reminded the MoD that the "*need to get the logistics right determined the ability of a formation to conduct its operations*". (8) The Gulf War could have been a good opportunity to test many of the concepts now grouped under the banner of 'Focused Logistics' but the Coalition instead chose to build up a logistic 'insurance policy'. Why was this apparent lack of trust exhibited when the crunch came?

Focused Logistics: The Disadvantages

The difficulty for the Armed Forces is knowing what they want and need as well as finding out what is 'just enough' in order to accomplish the goals set them. Allied to this are the possible disadvantages with 'Focused Logistics':

- A possible over reliance on technology, where "*a soldier who is a true information warrior may be so fascinated by what he is seeing ... on his laptop, that he fails to notice that his virtual battlespace is about to be violated by a real warrior with a machete who has crept up behind him.*" (9)
- The immense power of emerging technology (which continues to advance at a rapid rate) has created its own myths, and produced a myopia in which technology and automation is the panacea for all situations. As the US Deputy Undersecretary of Defense (Logistics) has said, "*information and technological advances will revolutionise warfare.*" (10) There is very little in the concept of 'Focused Logistics' that does make imaginary use of such advances.

- While many factors in the post Cold War world have created a drive for new ideas (low threat perception and financial pressure among them) we should not “*make the mistake of equating reception of concept and volume of debating noise with strategic truth.*” (11) Purely basing a paradigm shift on upcoming technology (and hence changing the fundamental structure of our armed forces) without any true regard or appraisal as to the nature of future opponents has its own dangers. Even if we make our logistics cleverer, we have not altered the conditions in which they will be tested. Technology has many advantages, but in many areas in the world “the ultimate determinant in war is the man on the scene with a gun.” (12)
- Future warfare is increasingly seen as being dominated by coalition or international co-operation. “*We take it as a ‘given’ that the future battlespace will be joint ... and ... multinational.*” (13) True integration between nations will be very difficult given the disparity between budgets and the size of armed forces.
- Not only is there disparity between frontline forces, but also in strategic lift. The UK has just over sixty Hercules transports and a few surface ships. The USA used some 350 transport aircraft in the Gulf War. (14) It is capability differences such as these that raise questions about full integration. Asset tracking depends on an uninterrupted stream and a capability mismatch anywhere along the line, could prove dangerous. (15)
- Modern deep battle doctrine stresses the need to strike at the enemy’s rear areas, where he is vulnerable and his supply system is located. If we are fighting a reasonable competent and technologically sophisticated opponent (given that we are conducting deep battle) then we can assume that he will be looking to do the same to us, that is, dislocate our fighting forces from our supply line. ‘Focused Logistics’ has not addressed the issue of its own vulnerability to enemy action. Even an asymmetric opponent will be out to try and make sure that ‘just in time’ become ‘just too late’.
- Transportation is another central tenet of ‘Focused Logistics’. Many of the current transport methods use sophisticated technology and are thus open to exploitation. The balance between ‘just in time’ and ‘just in case’ as indicated by Paul Kaminski seems to rely heavily on delivery rather than storage. It requires “*the substitution of fast transportation for logistics infrastructure*” (16), which focuses on actual customer requirements when those requirements arise. Transportation assets are vulnerable, not only to a sophisticated opponent employing deep battle, but also to a well-placed insurgent. Ships, planes, trucks and trains however mobile, are soft targets while supplies carried with the forces are protected inside their own battlespace.
- There are risks in becoming too dependent on corporate outsourcing in that the military may cease to be an ‘intelligent customer’. (17)
- Is one of the true drivers behind ‘Focused Logistics’ that of cost? While cost and value have a legitimate place in all defence policy calculations, it is dangerous to dress them up as military advantages. “*Cost was the ever present limitation. Before*

Hitler came to power, there seemed very little prospect of the British Army being called upon to fight a (European) land battle. Theorists spoke of the ‘expanding torrent’ in which armoured forces, with close air support, would make deep penetrations through fortified fronts. Such expensive ideas were far too Napoleonic for an army mainly concerned with putting down riots in the colonies.” (18)

- If ‘tailoring’ is a cost cutting exercise then it should be acknowledged as such and adapted to. Cutting the cloth to produce a more elegant fit is valid, stretching it until the seams go, is not. User confidence in ‘Focused Logistics’ will be essential, and cost-cutting is a great disincentive to the acceptance of innovation, particularly if it is dressed up to be something it is not.

The Tailored Supply Chain – ‘Suits You, Sir?’

Whatever happens in the way of moving the supply chain towards a more ‘just in time’ approach, the MoD must match the logistic capability with its warfighting capability. This is actually pretty diverse with high intensity conventional warfare at one extreme and peacetime training at the other, with many other types of conflict in-between. The logistic requirements of these two scenarios are quite different, and for the UK’s Armed Forces to be an effective tool in Foreign and Defence policy, it may seem that the best solution would be to have a system that could cope with the worst case scenario – a conventional war. But that may incur additional costs in peacetime with significant capability going unused.

It would thus appear that the concept of ‘Focused Logistics’, advocating as it does the tailoring of the supply chain to the operational need, provides the answer. In peacetime, the assets and resources that the military need will be quite small. But as they begin to move along the spectrum of conflict, more assets and resources could be allocated to meet the increasing requirement. This however, may not only have implications for the production capacity within the supply chain, but for the relationships between customers and suppliers.

Firstly, there will be implications for the supply of material to formations on the ground that are at the end of the supply chain. Because of the rising costs of running and maintaining equipment coupled with the high costs of certain consumables (such as ammunition, missiles and torpedoes), there is a move towards a greater reliance on simulation to cover the needs of peacetime training. If this is combined with the concepts of lean supply management, that is, keeping the minimal amount of inventory and producing goods as and when required, it is possible that the production of such goods will be small or even zero in peacetime, with the intention to gear up or even restart production if necessary. The problem however, is that commercial organisations are unlikely to want, or be able to leave production capacity unutilised whilst awaiting MoD requirements. Chances are, they will want to employ these resources satisfying other customers, and are unlikely to divert these resources back to the MoD if it adversely affects other commercial relationships. In order to guarantee supply, it might have to purchase production capacity that lays dormant, and that could be expensive.

Secondly, financial pressure may mean the increased outsourcing of certain services, such as the maintenance of equipment, to a greater extent than happens now. This may also become more commonplace as systems become more complicated and the MoD has to rely on the system's producers to maintain their product in service. While in a peacetime role, this may not present a problem, but the MoD has to prepare to engage in, if need be, other operational deployments, up to, and including, high intensity conventional warfare. How the MoD satisfies this need, either by having civilian contractors or sponsored reserves is not the question. What matters is that the operational commander can be guaranteed their participation, particularly where it is a foreign company, whose government does not support the actions of the UK. Of course, the same problems could reoccur with regard to the tailoring of the transportation needs of the supply chain. Transport assets need to be earmarked and contracts placed, to acquire the necessary resources as the MoD's needs expand and contract according to the situation. This principle isn't new, but SDR identified a number of flaws in the system, as did the National Audit Office report regarding the contracting of sealift for Operation Granby. (19) These flaws would have an impact on one of the central tenets of 'Focussed Logistics' – that of rapid response.

Flexibility and Responsiveness

In times past, there was an assumption in the MoD that transport assets could be obtained from commercial sources if the need was sufficiently great. In SDR, the MoD announced its intention to purchase four more roll-on/roll-off ships and four large strategic lift aircraft (C-17 or equivalent) (20) in recognition that while resources such as these may be obtainable given sufficient lead time, the time frames that the MoD may sometimes have to deal with makes it unlikely that commercial resources would be available. This is another possible Achilles heel with 'Focussed Logistics'.

Of the few definitions that exist of 'Focused Logistics' none defines rapid response in terms of time frame. The British Army holds combat units at varying states of readiness, some as little as twenty-four hours. As a bench mark, however, it anticipates being able to deploy a fully operational brigade in thirty days. Any logistic support for this formation must therefore be able to respond in the same timescale. It is unlikely then, that in a normal situation, that civilian production facilities, support assets and transport assets will be available at such short notice unless they remain uncommitted to other ventures and earmarked solely for MoD use, which in all probability will command a premium price. It may therefore be more cost effective in certain situations to rely on military assets rather than civilian ones. If the operation then becomes a prolonged one, there is thus no reason why commercial assets could be used in the longer term, thus releasing military assets to once again be held for short notice contingencies.

Conclusion

The United States Armed Forces see 'Focused Logistics' once fully implemented, as a seamless system where there is total asset visibility to enable logistics to be based on

velocity of distribution rather than stockholding. Rapid force projection will be possible thanks to an adequate but small logistic footprint and an 'agile supply chain'. (21) The use of commercial best practice, competitive sourcing and partnering, combined with a decreased in-theatre logistic footprint and infrastructure, reduced inventory and reduced numbers of maintenance personnel are all part of the strategy. It will reduce costs, increase flexibility and provide them with the tailored support to take on an enemy anywhere in the world at short notice. It thus seems an answer to budgetary prayers. For those who resent paying for warfighting assets that remain under utilised in peacetime, 'Focused Logistics' advocates lean supply and a flexible supply chain that should enable the 'tailoring' of logistic requirements on a case by case basis. Not only would it remove the financial drain of under utilised assets, but a properly constructed and tested 'Focused' supply chain should ensure the right warfighting assets are in the right place at the right time and in the right amount.

The MoD has not stated that they will adopt 'Focussed Logistics' as such, and will have to implement a number of changes before they will have the capability to support such a system. The United States has the advantages of having the required funding, economies of scale and readiness to innovate that means that they have every chance of pulling this off.

While some operations (such as in the former Yugoslavia) have shown 'Focused Logistics' to work, it would be inappropriate to draw the conclusion that it can therefore work in all scenarios. In large scale conventional operations, the dependence on technology and logistics based on velocity of distribution, may leave the forces involved vulnerable to whether there is enough transport assets available to accomplish the mission, unanticipated weather, capability mismatches with other allies, maintenance problems, enemy interdiction and the 'fog' or 'friction' of war. 'Tailoring' needs to provide the best, and not just the cheapest, if the troops on the ground are going to have confidence in the system. The final shape of the supply chain, whether it is closer to 'just in case' or 'just in time', must be constructed and tested under the concept of *kaizen* or the eternal drive for perfection. The system must be constantly tested under conditions as close as possible to what will be found under operational deployment. As such, logistics planning must take into account the huge variety of scenarios that are possible in the post-Cold War world. In the commercial world, the supply chain that works for cars may not work for computers or fresh food, just as high intensity conventional conflict is far removed from many of the operations other than war that we have seen in the past few years. While the exploitation of technology for military advantage has always been an important part of the race to win wars, it should not be sought in isolation. Just as important is an understanding of its best use, the risks, how it can change or not change the operational environment, and how an enemy might respond to its use.

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