Fujitsu 2016 Future of Logistics Challenge

How should we professionalise logisticians within the Whole Force to meet future challenges, recognising the increasing pace of technological change, greater integration with Industry partners and the drive for greater collaboration with Allies?

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Flight Lieutenant Curtis has written an essay that, more than many in the 8th Fujitsu Future of Logistics Challenge annual Essay Competition, went beyond looking at the what and why of professionalisation of Whole Force logisticians to the all important 'how' this might be achieved with industrial partners and allies using technology. Written when Curtis was a Flying Officer, his paper showed innovative thinking and vision about the mechanics of logistic professionalisation, and was highly commended by the marking panel. His submission has been edited subsequently for wider publication.

Introduction

Predicting the future is a notoriously difficult, some would say impossible task. Unless blessed with foresight, we are limited to making the best forecast, guesstimate, or calculation about what the future might entail. Once that is done, it is often necessary to assess the assets and processes needed to proficiently deal with projected but uncertain challenges. This is the problem that the MOD, alongside every other fighting force in the world, has to deal with on a continual basis.

The MOD spends 2.5% of the UK's GDP on Research and Development (MOD, 2013). It is recognised that the recent rise in the out-sourcing of military support capability, in part through financial necessity, has resulted in a lack of understanding about the end-to end Defence supply network in the UK - both within Defence, and in wider industry. Part of the Whole Force Concept seeks to further professionalise its workforce in order to achieve the most cost-effective approach to the provision of military support. Understanding challenges that implementing a Whole Force Concept face, and the current professional capabilities today's logistics systems, processes and people are a crucial precursor to formulating a strategy for future cost-effective and efficient military operations. Without an accurate analysis of its limitations, the MOD cannot fully understand the value and credibility of its investments. As a result, it will be unable to anticipate and successfully meet future challenges to the best of its ability.

The Whole Force Concept

The Whole Force Concept (WFC), proposed by Lord Levene in his Defence Reform Review in June 2011, and adopted by the MOD, defines the need for the optimal mix of military and civilian force elements that must be adequately prepared to meet future Defence challenges. The MOD set out the fundamentals of the WFC in its New Operating Model in a 2012 paper.

> *"The Whole Force Concept… seeks to develop a process that allows TLBs [Top Level Budgets] to make decisions on the most cost effective balance of regular and reserve military personnel, MOD civilians and contractors"* (MOD, 2012)

Before considering the best way to professionalise logisticians within this new construct, it would be prudent to assess the WFC's performance to date. The WFC is the vehicle which will deliver the best value for money when developing and structuring the collaborative way the MOD works with internal and external partners in the future. It will influence our interactions, our processes, our hierarchies, and the way we spend our money. It is already coming to fruition in Future Force 2020, which has aimed to balance Regular, Reserve and civilian personnel, to meet Joint policy laid out in the Defence Logistic Framework. The New Operating Model goes on to detail that the Chief of Defence Personnel will be advised in principle, when shaping any aspect of military manpower policy, by the Director General of Finance, who is answerable to the Permanent Secretary for Defence. Recent global financial influences on the British economy have fundamentally changed the way the MOD does its business today, and how we will operate in the future; fiscal interest has shifted from standards and production to assurance that processes are financially viable. The Defence Council and Board must now carefully navigate a course, balancing privatised expertise against proven military experience, in order to maintain an agile and effective military force. The British military can no longer operate whilst largely ignoring the Treasury as they did in the last century, they must change the way they do business; processes must be rationalised, duplicated functions reduced and non-effective manpower cut.

Developing the right mix of personnel in the MOD to achieve the right military effects is just one element of the WFC. The MOD has opened its doors to the private sector, welcoming contractors and outsourcing its support functions. It is vital that Defence builds a real understanding of the mismatch of conglomerates, contractors, civil servants and Service moving parts that deliver the MOD's logistic operations. The WFC must be used to develop the most efficient mixture of these private and public formations to support routine business and operations within the MOD. Unfortunately it is not clear to date that the MOD has the knowledge and understanding of its complex supply network to do so, as illustrated in the following paper from the Royal United Services Institute.

> *"…the MoD has an observable tendency to underestimate the complexity and importance of its supply base and thus to live with the risks and uncertainties that remain unidentified and not properly assessed. The Whole Force approach has not addressed this issue; indeed, its early focus on personnel policies and management, at the expense of other considerations, has exacerbated this situation."* (Louth and Taylor, 2015)

As a consequence of not fully understanding its supply base, the MOD has probably been unable to assess the combined impact of multitude of individual projects being rolled out by the wider Defence community against uncoordinated timelines. There is a distinct lack of connectivity between the various procurement and production programmes that run across the MOD, compared to that apparent in the private sector. Take for example the automotive manufacturer Vauxhall, a corporation regularly used by the MOD. Vehicles produced across several different classes with multitude suppliers use the same parts, reducing the need to procure similar assets several times over different projects. The MOD procurement system seems incapable of developing programmes across multiple manufacturers in similar sectors that can use common, interchangeable, simple

components to reduce complexity and cost. This lack of connectivity is partly a consequence of chasing the lowest possible cost for individual projects at the expense of a more cost effective solution that produces the same effect across equipment ranges. Supply chains and support industries need to be selected not only on their suitability for individual, immediate projects, but their ability to change and develop as the MOD evolves its capabilities too. A recent RUSI paper[1] alludes to the requirement for a paradigm shift to achieve best use of the MOD's supply base.

> *"If the MoD recognises itself as a producer of capability rather than simply a purchaser/ consumer, and if it aspires to be business-like, it should endeavour to define and manage its extended enterprise… Its direction reflects management thinking from the 1950s on the multi-divisional form of the corporation which minimises the role of the centre except as a source of capital and oversight."* (Louth and Taylor, 2015)

The logistic community within the MOD, in the main, draws its knowledge and understanding of its parented processes such as Supply Chain Management from personal experience within Defence. Simply put, we do not fully understand, and therefore cannot easily implement private sector best practices and collaborative programmes in order to achieve best value for money. This essay argues that professional development of logisticians in line with private sector logistic practices and improvement of internal collaboration is the best way to move forward. Better understanding of the private sector, combined with better development, retention and sharing of corporate knowledge will improve efficiency, cost-effectiveness and collaborative operations within the MOD, as called for by the WFC.

Professionalising Logisticians

Professionalising the logistic cadre of the MOD in line with best commercial practices may be viewed by some as an unfeasible, uneconomical and insurmountable task. Educating all logistics personnel to the standard of the private sector elite, omitting niche role placements, would require years of exposure to industrial systems outside of the military environment, something that the MOD cannot afford. As a first step, understanding what professionalism actually looks like is crucial; once the fundamental mechanisms of a profession are understood, one can rationalise the best solution to fill gaps in competency.

Professionalism has been subjected to academic study for decades, and no single definition of the term is accepted across academia. It is, however, more widely accepted that there are several criteria which need to be satisfied to qualify an activity as a profession (Chartered Quality Institute, 2015). These are:

1. The members of the profession are engaged in the performance of a service, which is vital to the society.
2. Their performance is based on a specialised and codified body of knowledge.

[1] Louth, J. and Taylor, T. (2015) 'Beyond the Whole Force: The Concept of the Defence Extended Enterprise and its Implications for the Ministry of Defence', *The Royal United Service Institute*, pp. 6&14

3. Those who enter the profession must first undergo a programme of broad general education as well as further education and training for a career in the speciality.
4. Candidates for the profession undergo an examination to test their qualifications to enter practice.
5. The profession promulgates a code of ethical conduct for members and makes arrangements to enforce compliance to this code.
6. The profession offers a secure career to its members.
7. The members of the profession is qualified through local law and licensed through their authoritative body to practice their profession.

Excluding the seventh point, which has yet to be achieved by the logistics community as a whole, all of the above are satisfied by the existence of organisations such as The Chartered Institute of Logistics and Transport (CILT) who provide for all six points through their Charter and via their standards, qualifications and certifications. The UK military community is currently engaging in a wide range of activities to measure and professionalise itself in line with the rest of the logistics community; qualifying its personnel, accrediting examinations to national standards, as well as the use of a specialised and codified body of knowledge; however, it can be argued that the Defence's logistic community does not take full advantage of one major aspect that a collective body organisation like CILT brings; Commercial Networking and Collaboration. Many of the 33,000 CILT members take advantage of the Institute in drawing together of industry leaders to network and understand each other's business.

The Ministry of Defence vs. The Private Sector

Over the past two decades there has been an intellectual awakening within the logistics industry (Simatupang and Sridharan, 2002); many companies are now aware that in order to move forward they must collaborate with each other. Working in saturated markets, many established companies have moved in to niche disciplines; however, the core principles of their business remains the same, as do the military equivalents. Assets, as always, must be in the right place at the right time. Enlightened business leaders also share insights into their systems with other willing parties, adapting innovative processes that have been developed through experience in other niche areas of the market place. Unfortunately this is where the MOD falls behind the progress of the private sector. It remains, in general, closed to external influences and collaboration; the MOD has largely only opened itself to external assistance in the form of outsourcing. This approach has the unfortunate consequence of restricting management insight of a contractor to oversight of *their* capabilities and innovation. A lack of Defence logistic consideration of leading-edge commercial sector practices denies the opportunity to identify system and process weaknesses through comparison. Furthermore, from an internal view point, the MOD may well delude itself into believing it uses best practice in its military logistics, as it draws no standards to align itself against from the rest of the industry.

If we work more closely with other champions and thought leaders of the logistics community as part of our normal project management processes, the MOD can adopt best practice and innovate more readily. Currently, within the MOD, those who actually operate the logistic processes do not regularly have access to the innovation, advances and best practice of the wider logistics industry.

Subsequently, when the Defence logistics hierarchy reaches down in to the workforce at the daily forefront of logistic operations on front line bases, many ideas and improvements appear to be limited to best practices from within - frequently from other single Services.

The WFC concept has not addressed the way in which we collaborate both internally and externally. No policy has been developed or general approach adopted to aid information sharing. The higher echelons of the MOD may consult with private industry, but the logistics practitioners do not appear to have access to that learning. They are therefore largely only able to improve the systems they operate through personal experience, and there are limits to how far a legacy system can be refined at this level. The MOD should therefore no longer solely operate its historic top down management model when integrating systems external to its own.

Before wholesale outsourcing was introduced, the ownership of Defence production and supply chains sat largely within the State bounds, and less private intellect and resource was required. Stove-piped logistic supply chains and their supporting processes could be changed with complete management insight and full understanding, as the MOD had visibility of all the moving parts. As soon as the MOD opened its doors to contractors and allowed its supply chains, production and support to be outsourced, an element of control was lost from the top of the hierarchy. Collaboration with our private sector partners, allies and whole force is now required in a bottom up approach to fully understand the defence supply base and to utilise the resources available in the best manor possible.

Fundamental change is required in the way that logisticians operate at all levels within the MOD, but this must be undertaken within the WFC-principled bounds of cost-effective operation. It can therefore be argued that professionalisation of the logistic cadre in the MOD must be achieved in-situ and with little extra resource. Defence has already taken steps to match the standards of our commercial equivalents through education and codifying our practices, but across the MOD, we lack the knowledge from top to bottom to really improve our systems. A bottom-up approach for the development of projects, through cultivating grass roots innovations, has been cited as the best way of achieving feasible and efficient working models for the MOD; however, corporate knowledge, in general terms, is still focused in centres of excellence rather than at the local practitioner level. One way to fill this gap would be to introduce a new collaborative software platform. Initially, the system should have the ability to release to all appropriate personnel the corporate knowledge and engagement activity gleamed from the private sector by, say, the senior management (Staff Officer Grade 1 - Wing Commander/Lieutenant Colonel equivalent and above). This engagement and sharing of current and future initiatives with the work force will assist implementation, creating real-time practical solutions to challenges as well as early recognition of threats to success and likely restrictions; with appropriate moderation, the MOD will be able to enter the world of crowd sourcing.

Collaboration and Crowd Sourcing

The benefits of collaborating through a software platform rather than in select groups, or through individual procurement programmes are numerous. Firstly and arguably of the utmost important is the ability to control the sometimes unstructured information flow through a Collaborative Software

Programme (CSP). The process should not be limited to military logisticians. Trusted contractors and academics must be allowed to integrate fully with our systems in order to improve them; however there is inevitably a limit to the programmes that they will have access to and the assistance they can give, either through restricted information or the limits of their contracts. Furthermore, internal sensitivities, as with any other business, will set levels of visibility for practitioners that must be controlled; however, this constraint must be weighed carefully against the need to provide enough information to allow for user growth and effective input. Secondly a CSP should allow the users to develop their own systems, whether they are procurement programmes or sustainment activities, through access to other compatible work strands. For example a repeatable function in one procurement programme could be merged into another similar programme, reducing costs in time and manpower. Thirdly, users could view other similar projects both in industry and across Defence logistics. This alone could improve performance in their own projects and processes, but more importantly would offer access to external expertise, using crowd sourcing solutions for subject matters that lie beyond a team or individual's experience and understanding.

Specialised, controlled information spaces would allow a CSP to provide the above benefits and more if developed correctly. Use of virtual identification tags, derived from individual or team expertise, status, and roles would allow the CSP to administer control, allow the right level of collaboration and insight through the principles of crowd sourcing, seeding and retained corporate knowledge. These could all work together in a scenario such as a Force Head Quarters (FHQ) who may be required to develop a delivery programme for a new aircraft or platform; currently the personnel in the team may not have an in depth knowledge of the platform, or understand the optimum way to provide adequate future support to it. The FHQ team could create a query outlining this scenario, adding virtual ID tags to provide oversight of the task and limiting access to personnel that have the correct expertise and security clearance. The query can then be sent out in to the information space to crowd source experience and knowledge for that particular issue. Furthermore, many of the current MOD procurement programmes include a private sector contractor element; inclusion of the private industry employed by the MOD in the CSP opens up a further external pool of expertise than can help build the best solution for the FHQ team. A CSP would allow programme managers to reach all the way back to the sources of manufacture and forward to the end users, whilst exploring parallel programmes that can inform the delivery of their own.

A correctly developed CSP would facilitate multiple scenarios, from that above to, say, improvement of an inefficient system or process by a logistics practitioner, through to getting commercial advice on the correct funding processes for a project. Oversight by exception by policy staffs would provide assurance in the developmental stages of logistic programmes, and reassurance to end users and Force Commanders that their requirements are being meet.

Conclusion

The WFC has set out the principles for the best cost-effective mix of personnel and culture groups to deliver capability for the MOD now and in the future. It has developed the requirement for a blended employment model of regular, reserve, civilian and contracted personnel and begun to mould the policy around which they will operate together. It has failed, however, to address the

interactions between these parties, especially those between the contractors and the MOD directly-managed personnel. The poor quality of these interactions is highlighting by the lack of knowledge and understanding of wider industrial logistic practices by the wider Defence logistics cadre.

Professionalising the MOD's logisticians and the improvement of the WFC to meeting future challenges is very much a symbiotic relationship. There are many possible routes towards improving professionalism across military logistics; some are economically unrealistic and some have already been realised. One key to improving the professionalism of logisticians, however, is to improve collaboration; internally across the MOD, externally with contractors, and well as allies and other government partners. Collaboration will allow us to better comprehend our industry partners and their own supply chains, and help us rationalise the finance and manpower requirements of our output.

The introduction of a Collaborative Software Platform will enable the next dimension of professionalism required to be able to engage intuitively with the private sector. It supports the principle of the WFC cost-effective, combined workforce. The MOD's logistic cadre already has access to high-standard education and training; the effective use of corporate knowledge in a bottom-up approach will allow managers to develop grass roots innovation and seed creativity that can be further sponsored and cultivated once it is recognised - another role of the Platform. With access to expertise gained from diverse military experience and leading-edge commercial supply chain knowledge, MOD logisticians will be better equipped to meet future challenges.

The implementation of a logistics CSP is not just a contemporary solution, the applications can be developed across the MOD as it moves into the future. Collaboration is at the heart of the UK MOD and military forces the world over. The information space and virtual tagging proposals outlined above could be adopted in other areas to assist, for example, with the placement of the right expertise and talent in to the right roles in the personnel world. Developed further it could interact with other software programmes across the Internet of Things to improve processes as tactical as warehousing and manual stock management, through to interaction with other nations and coalitions for partnered procurement programmes such as the F-35.

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