

Defence Acquisition Cooperation Benefits

Puso's Homework

'It says that if it takes one man one hour to dig the ditch, then how long would it take for three men to dig the same ditch? What do you think is the answer to that, Puso?'

Puso frowned. 'It would be very hard for three men to dig one ditch, Mma. They would always be getting in each other's way. So it would probably take longer than it would take one man to do it. Maybe two hours?'

Mma Ramotswa smiled. 'We don't have to worry about practical things when we're doing sums,' she said.

Alexander McCall Smith, The Limpopo Academy of Private Detection

Introduction

In my last article¹, I discussed the costs of cooperation. Now I would like to address some of the issues relating to cooperation *benefits*. Like the previous one, this article is principally a conceptual piece aimed at better framing analysis. Due to space constraints, however, I have excluded questions around methodologies and different organisational forms of cooperation.

Why we don't talk about benefits and why we should

Although various benefits of cooperation are recognised in defence literature, only financial savings are ever analysed in any depth. Also, among practitioners, there is an apparent reluctance to discuss targets for specific projects.

This reticence could be for a number of reasons. Firstly, professionals do not want to be held 'hostage to fortune' on a speculative undertaking. Even cooperation advocates will admit that regular and spectacular failures have occurred. Secondly, there are the usual economic issues of counterfactual evidence ('what would have happened') and the scarcity of empirical evidence on cooperative performance. Finally, and more subtly, at the early stages of a project, the partners need space to explore options – a "constructive ambiguity" – without being constrained by specific benefit targets.

These excuses need to be countered. After 40 years of doing cooperation,

we really should be able to gauge what can be achieved with confidence, rather than accepting a 'perpetual apprenticeship'. Counterfactuals are an issue but also apply in other areas where successful arguments are made. Constructive ambiguity too, becomes destructive ambiguity if it is allowed to linger too long, eroding any motivation to improve project performance.

A more detailed discussion on cooperation benefits would allow:

- minds to be focused on improving performance;
- success to be demonstrated; and
- real value to be added to defence acquisition, particularly if other approaches to gaining value are reaching their natural limits.

The Theory of Cooperative Benefits Benefits Typology

The defence literature² indicates that acquisition cooperation in its different forms offers a wide variety of potential benefits, not just financial ones. As a first step in the analysis therefore, it is useful to develop a typology of benefits, such as that in Table 1. Ideally, a typology should be suitable for the various different cooperation forms and the different organisational levels at which cooperation operates. It should also help to counterbalance any fixation on financial savings. An intuitive balancing of granularity and complexity gives a typology of 7 main benefit types shown in Table 1.

The following is a brief discussion of the issues around each of these benefit types, followed by the proposal of a more advanced model.

Discussion of Benefit Types

Financial Savings

A review of the economic analysis of cooperation ideally needs an article in its own right. Despite being a subject of debate for over forty years, there is still no settled view⁴ and, irrespective of Hartley's seminal work (Hartley : 1983) and strong empirical work by the UK National Audit Office in 2001, there are still those who believe cooperation is 'more costly' or somehow 'inefficient'⁵. These arguments merit a thorough dismantling but this is not the place to do it⁶.

In any case, these calculations assess cooperation in the abstract, detached from the reality that will interest practitioners (Puso's perspective in the opening dialogue). A senior procurement official recently suggested that if there are cooperative benefits, they tend to be "shredded by the system"⁷. It is clear that target savings are difficult to identify in any internal or published report. 'Savings' tend to be assumed in the initial project budget and thereafter forgotten, particularly if the project subsequently overruns⁸. Unless project leaders have higher motivations or organisational support, there is little incentive to choose a cooperative route if delivery to time and budget are the dominant measures of success. Similarly, budget holders who risk having any visible savings 'confiscated' will tend to hide them in their budgets and quite separately. Planners, on the other hand, may not welcome the relative lack of flexibility that comes with cooperative programmes.

Table 1: Proposed Cooperative Benefit Typology

Benefit Type	Description
Political	Strengthening of international relationships so that they can be used to serve partners' mutual interests ³ .
Enhanced military capability	Enhancing equipment effectiveness through interoperability and standardisation.
Financial savings	Reducing programme costs when delivering equivalent outcomes or outputs.
Enhanced industrial capability	Industrial capability sustained, new markets accessed, profits and shareholder value increased, jobs created/sustained.
Improved technology	Access to existing, or development of new technologies and know-how.
Increased export	Opportunities to increase the level of export through an increased number of exportable products and campaign cooperation/support.
Organisational Learning	Exchange of information, synergistic interaction, intellectual property, comparative/competitive interaction.

The perennial economic assessment that, “as budgets reduce we will need to cooperate more”, does not materialise in practice. Paradoxically, the less money we have, the less we appear able to cooperate. A number of reasons could be proposed to explain this: greater risk aversion in the face of adversity; a ‘rigidification’ of internal budgets, which deny the flexibility required for cooperative compromise; retrenchment to critical capability programmes which tend to be national and a lack of cooperative momentum developed during better periods (it cannot be turned on like a tap).

The fact that the principal reason espoused for cooperation does not visibly materialise is problematic – at least for those advocating its use and for those in administrations who have to account for positive outcomes. Perhaps financial savings are not the right target for this reason – not because they aren’t real, but because the operation of ‘the system’ means we can’t really measure them. It is interesting that the rapid increase in cooperation between automotive companies, though initially driven by the search for cost savings, quickly migrated to a more value-based approach. Perhaps defence should do the same?

Military Benefit

The military benefits most often cited are interoperability and standardisation. Of the cooperative projects responding to the survey done as part of the 2001 NAO study, 63% said their project would produce enhanced interoperability. DeVore (2013) goes so far as to suggest that it is “collaboration’s most significant *real* benefit”. Despite this, it is hard to identify a link between cooperative development and subsequent interoperability unless the project is aimed directly at achieving that end. Developing a common equipment, system or platform is, arguably, neither necessary nor sufficient to achieve interoperability. A proper piece of analysis should be done on this question, preferably by those who understand interoperability properly.

Cooperation can, however, contribute to military capability in other ways. Good requirements managers involved in cooperation will seek to raise their performance specification to absorb

any apparent savings accrued. Such gold plating is evident in a number of cooperatively produced products.

Industrial/Supply Chain Benefit

Defence supply chain benefits are a question of stakeholder’s perspective. Politicians will take an interest in national prosperity; procurement officials and informed military ‘customers’ will welcome sustainment of critical capabilities. Shareholders and senior industrialists welcome the potential for enhanced order books, profit levels, improved market positioning and shareholder value although these are better served by national programmes, they are preferable to no contract at all (eg where a project is unaffordable nationally) and offer potentially good strategic positioning in the international market.

Hartley (2012) has suggested that industrialists historically have a keen interest in exploiting any degree of incompleteness within cooperative commercial arrangements, to maximise their profits; something that, from an administrative perspective, would be seen as an inefficiency, not a benefit.

Political Benefit

Political benefit arising from acquisition cooperation is an involved and fascinating subject that requires more consideration than is possible here. Some procurement officials suggest that cooperation only exists for political ends and is therefore to be resisted on efficiency grounds. Others suggest that political involvement is necessary in order to use cooperation to achieve those efficiency objectives.

The political benefit of cooperation, the strengthening of international ties, derive from joint activity. Acquisition projects have a strong tangibility, last for a long time and can, once launched, be robust against fluctuations in political mood. They therefore provide sustained political links. Less positively for acquisition professionals is the fact that political interest is better served by higher profile, major projects. This diverts attention away from potentially lower risk, high value medium-scale work⁹. Similarly cooperation may be either spread too thinly across partners – to satisfy a wide portfolio of political relationships – or focused on an ‘ineffective’ partner,

from an acquisition perspective.

Acquisition practitioners want, ideally, to keep the cooperative ‘centre of gravity’ near to the administration, so that a measure of acquisition efficiency can be achieved¹⁰. Linking acquisition and security policy could help, as would earlier engagement with political issues on cooperative opportunities.

Technology Benefits

Technology benefits come in the form of new intellectual property and know-how, often derived from shared research and development but more often from sharing the fruit of nationally conducted research.

One current issue is that cooperation on middle-ground, higher TRL technologies is diminishing. This is a problematic area for cooperation because higher readiness technologies become strategically important industrially and cost orders of magnitude more than low level technologies. On the other hand, it is partly because of this, that it is an area that has high cooperative potential: maturing the technologies required to boost export potential, driving rationalisation, creating a foundation for more ambitious cooperation and providing a reversionary mechanism for continued cooperation when, for whatever reason, a major cooperative project cannot proceed.

Export Benefits

Delpech suggested in 1976, alongside the root-N rule and the cube-root rule (for cooperative cost and time dilation respectively), that the difficulty of exporting a commonly developed product rose with the cube of the number of partners: ie with two partners it was eight times as hard, with three it was ... well, two is near impossible! There is an argument that while states can’t cooperate in defence export, because the offer is always broader than mere equipment, industries can. Jointly developed, high quality components of bids can enable partners to compete more effectively in the world market.

Learning Benefits

Learning benefits are rarely, if ever, mentioned in defence literature, even if there are many examples of cooperation directly aimed at this, e.g. technical exchanges, benchmarking

exercises and conferences. These warrant closer examination because, even if they are intangible, they have high value.

A Benefits Trade-Off Model

Rather than thinking about these seven benefits as independent variables (which they clearly are not), it is perhaps better to think that cooperation creates a trade space.

At the most basic level, cost savings and military capability can be traded against each other, theoretically allowing, at one extreme, the same capability to be procured for less money or, at the other, more capability to be procured for the same money. Industrial capability is added as the third main axis to be traded. For example, some short-term cost increases may be accepted in order to gain longer-term industrial capabilities. This gives the core benefit trade-space shown in Figure 1 below¹¹.

Feeding these increased export should theoretically deliver both financial and industrial benefit and increased technology should feed both military and industrial capability.

Looking at this model, the first observation one can make is that unless there is a strong structure in place focused on harvesting financial savings, these will tend to bleed into enhanced military and industrial capability. Fixing savings according to the root-N rule at project inception means greater potential savings will simply feed inefficiency.

Table 2 Different levels of joint activity

Level	Management form	Form of joint relationship	Benefits Approach
Strategic/Macro	Portfolio	Collaboration	Alignment of strategy
Operational/Meso	Programme	Cooperation	Alignment of interests Value-based
Tactical/Micro	Project	Coordination	Alignment of activities Cost-based

Secondly, with this model, a focus on the interim benefits of increased technology and exportability will increase overall core benefits. They may therefore make good surrogate objectives for achieving core benefits.

Thirdly, trading between partners requires that their representatives have the authority to make such trades; a fragmentation of perspectives or authority within or between the partners will make optimisation much more difficult to achieve.

A final observation is that the benefits trade space shown reflects the core business of national acquisition organisations but these remain linked to political considerations. According to institutional theory, if the political intent is aligned with delivery of the acquisition organisation’s core business, outcomes will be delivered efficiently. If cooperation is imposed by political will contrary to the perception of acquisition efficiency, there will be an institutional ‘decoupling’. This merits further consideration as it is a potential partial explanation for why cooperation is not more widely adopted.

The Operation of Benefits at Different Levels

A benefits framework can be helpfully applied at different levels of organisation. For example, the aggregate financial savings at project level may fall short of what can be achieved at a portfolio level, where more strategic shape can be given to shared activities over time. The different levels of engagement also link into different approaches and forms of relationship which may have the potential to unlock significantly greater benefit, albeit for a higher level of strategic risk (see Table 2).

A simple example may be used to demonstrate that greater benefit can be achieved by a joint portfolio approach. Consider Figure 2 and Figure 3 where two partners have done their prioritisation on a national basis with the result that they exclude potential cooperation on projects ‘C’ and ‘T’. With joint prioritisation, cooperation is enabled on both projects and greater value can be obtained. It is a simple example – possibly guilty of ignoring practicalities – but Figure 2 is, in the author’s experience, typical of the sub-optimal outcomes created with ad-hoc, project-level optimisation.

The principal challenge to improving cooperation performance is whether partners can operate above a project level, with its implication of strategic alliancing and joint portfolio management. Historically, something like this was undertaken with the UK/French cross-purchasing of helicopters in the 1970s but competition law, a dominant top-down approach and traditional administrative reluctance to accept that the whole can be anything more than the sum of its parts, makes this difficult.

One further structure-related issue that benefits analysis highlights is whether the authority to cooperate or not coincides with where the benefits fall. Any serious attempt at high level

Figure 1: Cooperation Benefits and Trades¹²

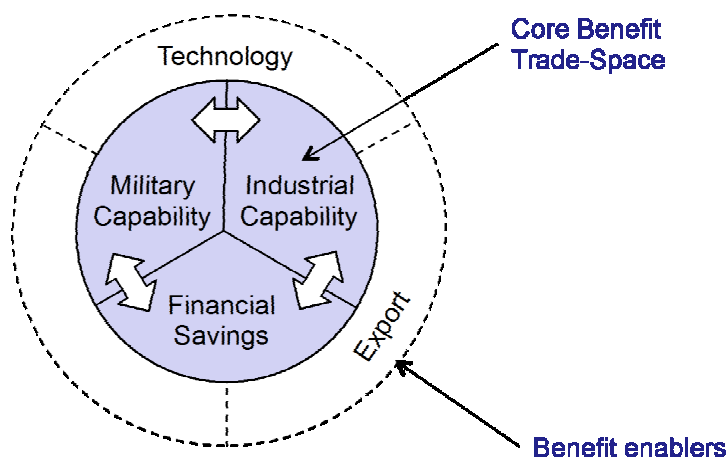


Figure 2: Post-Prioritisation Portfolio Optimisation

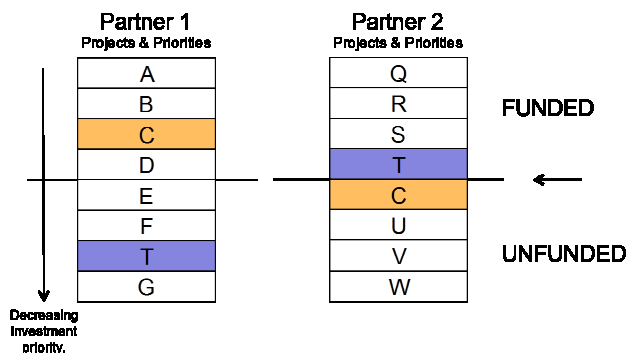
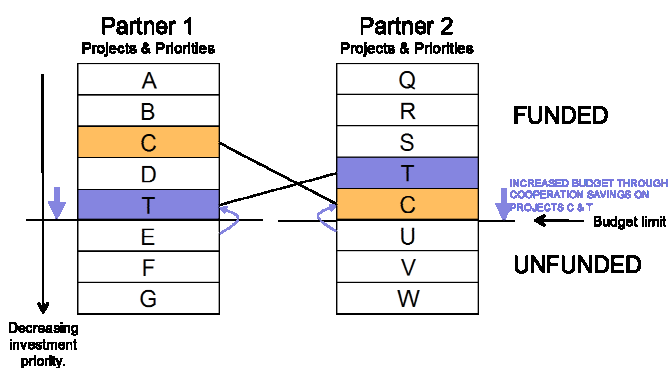


Figure 3: Pre-Prioritisation Portfolio Optimisation



cooperation would want to ensure the two were strongly bound together.

Concluding Observations

Hopefully this article has highlighted some of the subtleties involved in obtaining cooperative acquisition benefits. The usual proposed purpose of cooperation – cost saving – turns out to be difficult to pin down owing to the practical realities of administrative behaviour; things missed by abstract economic analysis. The complexity of benefits trade-offs is a strong argument to adopt a broader, value-based approach, but this might be difficult to achieve within accountable government administrations. Similarly, shifting cooperation towards a supra-project level offers the chance for greater optimisation but is problematic for commercial, legal and organisational reasons.

It could be hypothesised that what we have previously called ‘cooperation’ is merely ‘coordination’; characterised by an ad-hoc, opportunistic approach where partners seek to optimise on a

national basis within inefficient cooperative structures. A shift towards true cooperation – involving the alignment of intent, joint portfolio management and pan-partner optimisation would involve a big leap to a very different approach, but may be the only way to significantly increase the level of benefit achieved through cooperation.

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The views represented in the article are those of the author only

Notes

1. Ford, R. “Understanding the cost of cooperating”, FRS Défense et Industries, No 4 June 2015.
2. Eg NAO:2001, Heuinckx:2008.
3. Not to be conflated with party or departmental political gains.
4. One is reminded of the suggestion that if all the economists who’ve ever lived were laid end to end, you still wouldn’t reach a conclusion.

5. It is a strange world where one author can dismiss 26.5% savings on multi-billion programmes as ‘meager’ [sic] (DeVore, 2013).

6. The question of what level of saving is required to change behaviour is also one for later consideration.

7. Interview with author as part of a recent study.

8. Critics can identify then identify it as a ‘cooperative overrun’ despite the net saving.

9. Affordability imperatives also push cooperation towards the large-scale projects.

10. DeVore (2013) suggests that “the prerequisites for political viability are intrinsically opposed to the ingredients of economic efficiency.” makes the point that

11. Though developed independently, this conception equates strongly to Overhage’s defence expenditure ‘trilemma’, namely the emphasis put respectively on security, national sovereignty and resource efficiency (see Overhage:2013), where national sovereignty, in the context of acquisition, equates to industrial capability.

12. There is a space in the model but the only activity that achieves financial saving and military capability I can think of is privatising. Last used in the Franco-Prussian war, it is unlikely to be revived as a new cooperative mechanism.

13. The increased strategic risk is mitigated by high levels of trust.

14. Heuinckx (2008) suggests cooperative project performance is no worse than national performance, once launched.

References

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