



Business Models for Innovation in a MOSA Environment

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DIIG Director: Cynthia Cook

Authors: Gregory Sanders, Leah Matchett, Kasey Welch, Laura Bocek, Alexander Holderness

GSanders@CSIS.org

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CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

DIIG
DEFENSE-INDUSTRIAL
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Photo Credit: U.S. Army

Problem Survey Approach

Goal: Understand how industry views MOSA and the changes it poses to their business case.

Approach:

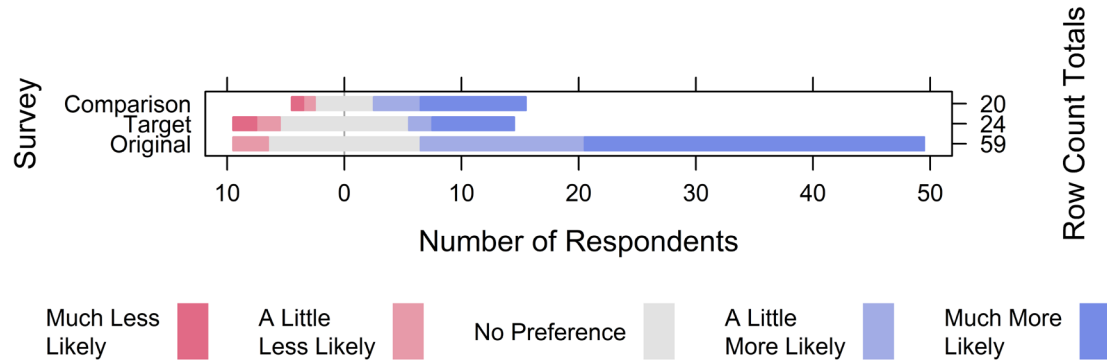
1. In-depth interviews with a range of industry partners (16 interviews) and other experts.
2. Quantitative survey of industry opinion- expanded by the Vertical Lift Consortium (>60 completed responses).
3. Focused quantitative survey of government opinion within the Army (10 completed responses).
4. Follow-on survey focused on a target group of product line and profit and loss managers (7 and 14 completed respectively) and a comparison group that fell in neither category (20 completed surveys).

Key Areas of Focus:

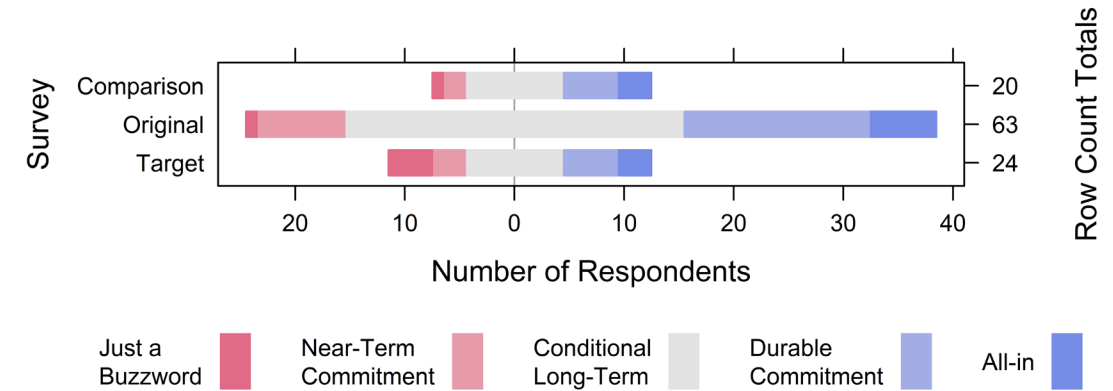
1. Demonstrating government commitment shapes incentives for industry, from MOSA embracers to the hesitant
2. Intellectual Property (IP) and data rights a pivot concern with a potential for new models
3. Extent of modularity a source of division but cross-platform commonality is a key incentive
4. The acquisition toolkit is not decisive but can help tune business models, especially with software licensing

Spectrum in interviews: MOSA embracers see openness as a comparative advantage. MOSA hesitation focuses on implementation choices.

Preferring to work with MOSA

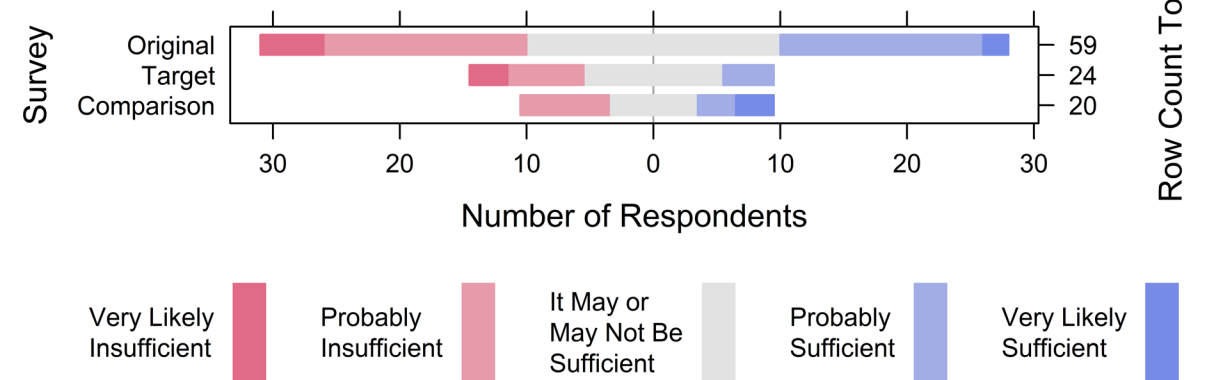


Perceptions of Government Commitment

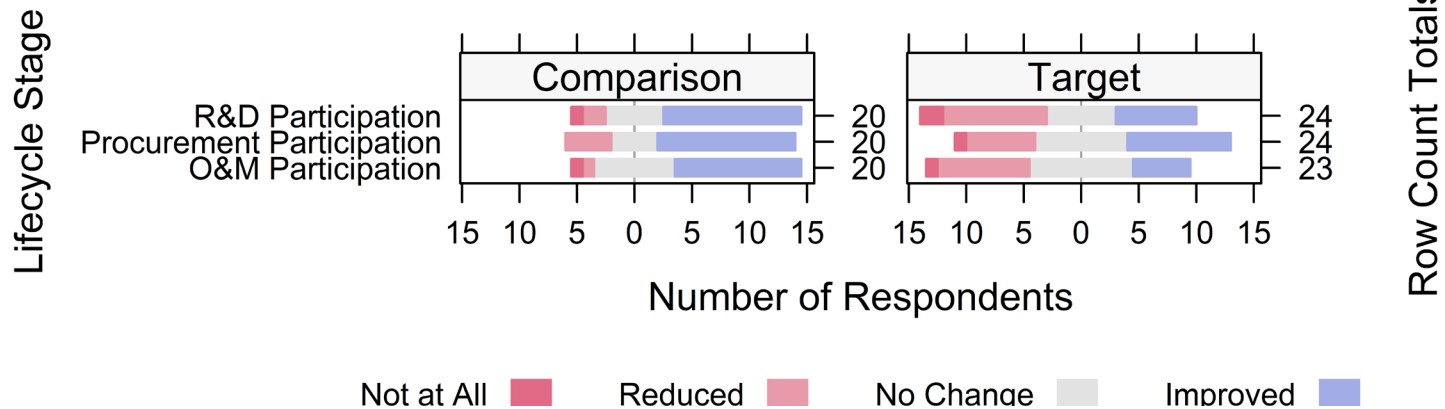


Commitment, on the upper right, is more favorably rated than expertise on the lower right. Key point in interviews from hesitant is desire to know alignment of technical approach with priorities. For embracers, following through on commitments is vital.

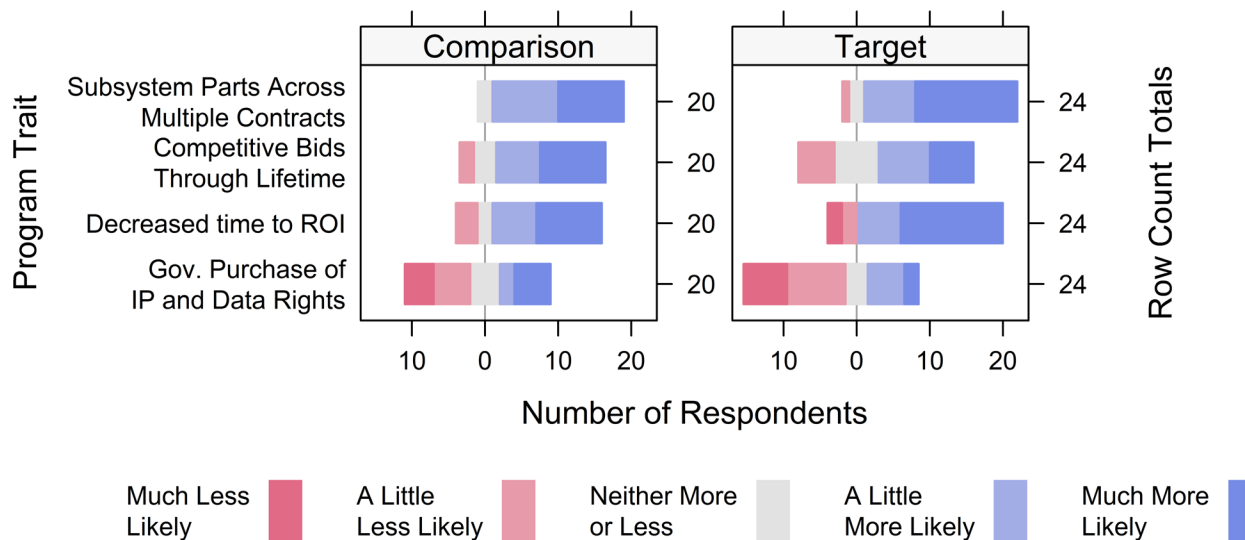
Perceptions of Government Expertise to Adjudicate MOSA



Appeal by Stage and Program Trait



For MOSA hesitant, MOSA-asking industry to not only invest, but also transfer their IP and data rights and face eventual competition, made for a difficult business case.



Reuse of standards across programs, and ideally across services, was important to support of even the more MOSA hesitant target population, but incentives are often not there to achieve it at the program level.

Findings on Demonstrating Commitment

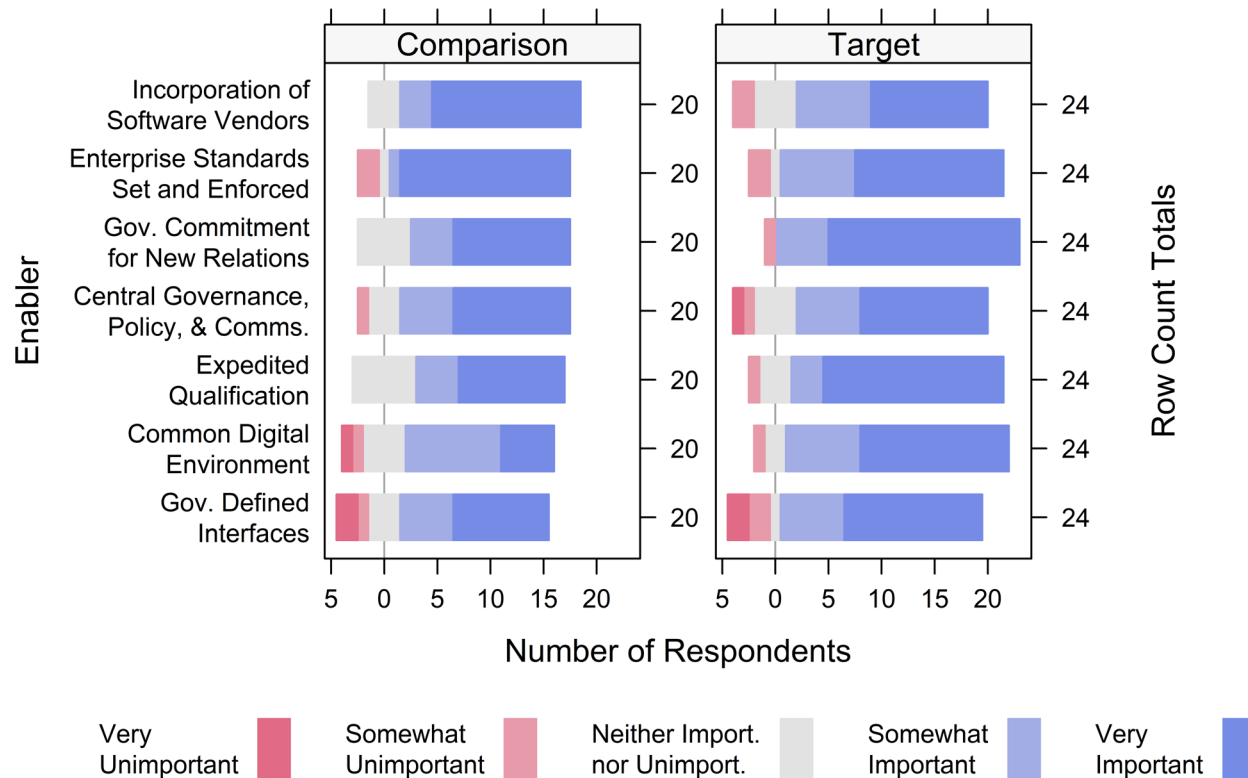
- Open system adoption is a coordination problem offering shared benefits but transition costs and risks.
- Especially for MOSA hesitant, a desire to know priorities for MOSA to guide investments and to build case for tailored IP and data rights arrangements.
- For MOSA embracers, a chief concern is that the government will defect from stated MOSA commitments, undercutting their process reforms.
- Effective conformance measures, cross-vendor feedback mechanisms, e.g. Architecture Collaborative Working Group, may enable creativity elsewhere.

Findings on IP and Data Rights

- Common concern is that government “wants it all” even developed at private expense or when not in support of a clear goal.
 - Specific concern that even when leadership embraces a MOSA oriented model, much of the workforce still will seek maximal rights to keep options open.
 - Desire for source code especially rankles unless accompanied by license.
- Especially for commercial products, industry wants to know “can I still sell this?”
- Interviews reinforce literature: Modules compatible with open interfaces enable replaceability in a way that makes a wider range of IP and data rights viable.
 - Specially negotiated licenses and support for depots were raised as ways to support government purpose
 - Business model impacts for interfaces and architectures are more challenging. Deeper interfaces implicate more sensitive data rights.

Findings on Standards and Interfaces

Importance to MOSA Success

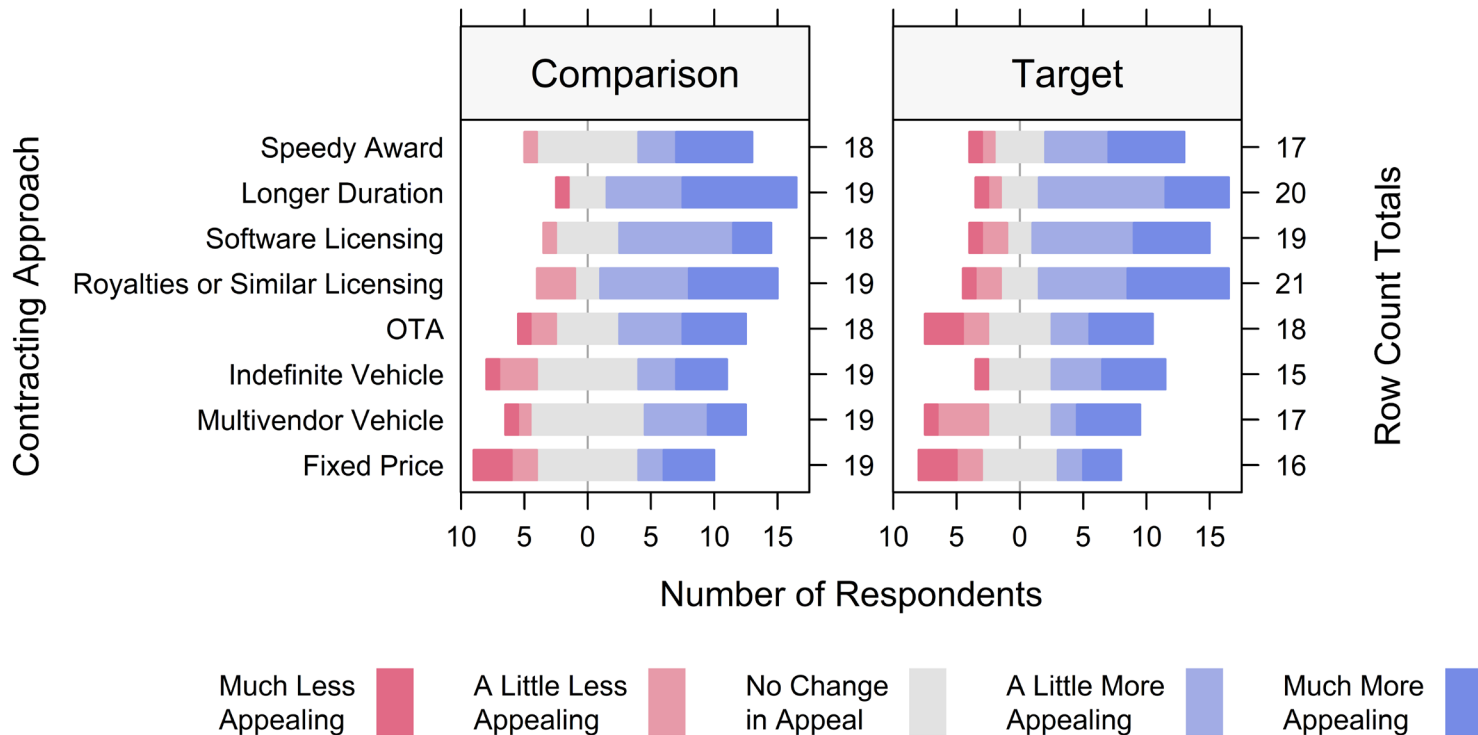


- Widely adopted standards and interfaces expand the potential market and are a key incentive.
 - Cross-platform commonality is an opportunity to address unit uncertainty and fluctuations.
- Depth of interfaces are a dividing line. More granular interfaces may bring benefits of multi-functionality and more advanced components, but MOSA hesitant see integration risks and loss of incentive to invest.
- Adopting or following commercial open standards where possible is desirable but requires upfront thinking on cyber security.
- Enterprise mechanisms to build commonality are a good investment
- Assigning responsibility and accountability for integration and considering airworthiness certification are worth upfront attention.

Source: CSIS interviews and VLC Survey

Findings on the Acquisition Toolkit

Contracting Approach and MOSA



- Situational appropriateness is key for choosing a contracting approach.
- This versatility is important to addressing diversity of vendor interests.
- Software licensing deserves more attention and use, especially for source code access, but will bring complexities.
- The mix of business models will be demanding on acquisition workforce.
- Diversity of methods can help round out restraints in other areas.
 - Beyond incentives tied to metrics, more exotic approaches such as royalties or minimum duration or quantity guarantees could help close difficult business cases.

Source: CSIS interviews and VLC Survey

MOSA's appeal from an industry perspective will depend on:

1. Divisions within and across organizations between the MOSA hesitant and MOSA embracers.
2. Demonstrating commitment and credibility, is MOSA enough to accept trade-offs with other acquisition priorities, most notably up-front costs.
3. In addition to programs that reach production, commonality across programs is key since industry business cases rely on the ultimate scope of unit sales.
4. The depth and detail of interface standards and IP/data rights requirements: the sweet spot will vary between business units, but industry wants to know the overarching logic.
5. A range of acquisition tools will be needed to address diversity. Handling of software and commercial technology requires special attention.