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IDEA FUSION

Leveraging Contracting Strategies with Private Shipyards for Improving Naval Fleet Availability

Kaitlynn Castelle, PhD, PMP, CSM, Old Dominion University

Joseph M. Bradley, PhD, PE, Old Dominion University

Sanjeev Gupta, Realization Technologies

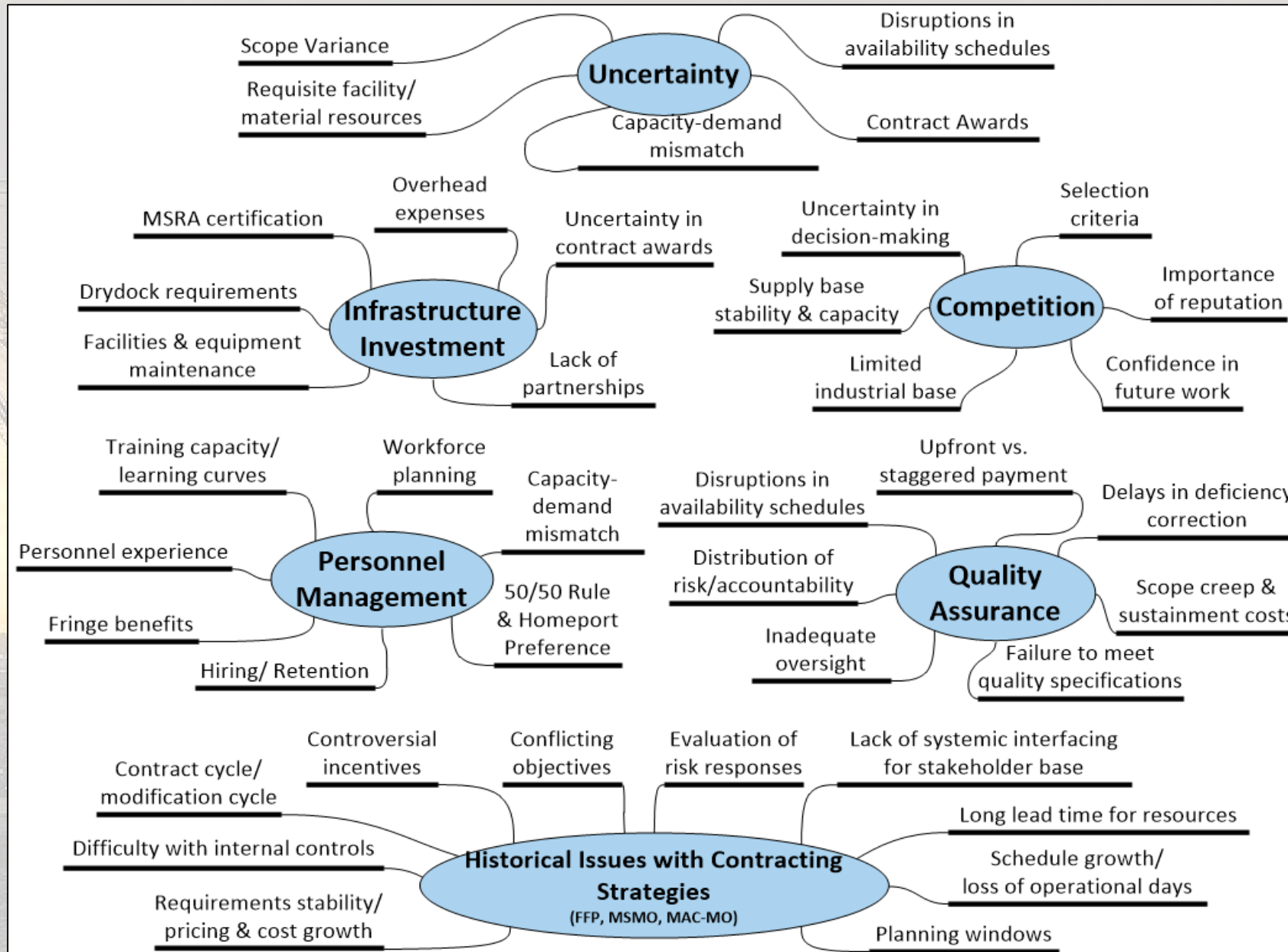
The Problem Situation, unresolved by MSMO or MAC-MO

Examples of NAVSEA & Private Shipyard needs not being met	References
Maintenance, repair, and overhaul (MRO) services is a low volume, high variety production business : scope is uncertain when contracts are signed	Verma & Ghadmode, 2004
Unnecessarily long contract modification cycles associated with required approval for underestimated or unexpected work impacts schedules and masks performance reviews	Caprio & Leszcynski, 2012 <i>JFMM</i> , 2017 Graham et al., 2018
Limited available overtime & significant outsourcing lead times required to accelerate delayed projects	Riposo et al., 2017
Uncertainty makes it difficult for industry to maintain the requisite infrastructure & necessary workforce capacity	Buckley, 2015 Martin et al., 2017
Long-term contracts are needed to incentivize investments in manpower & infrastructure	GAO-10-686, 2010

Current strategies → Sub-optimization & Disservice to the Fleet

We need holistic resolution efforts through synergistic contracts between NAVSEA and private shipyards

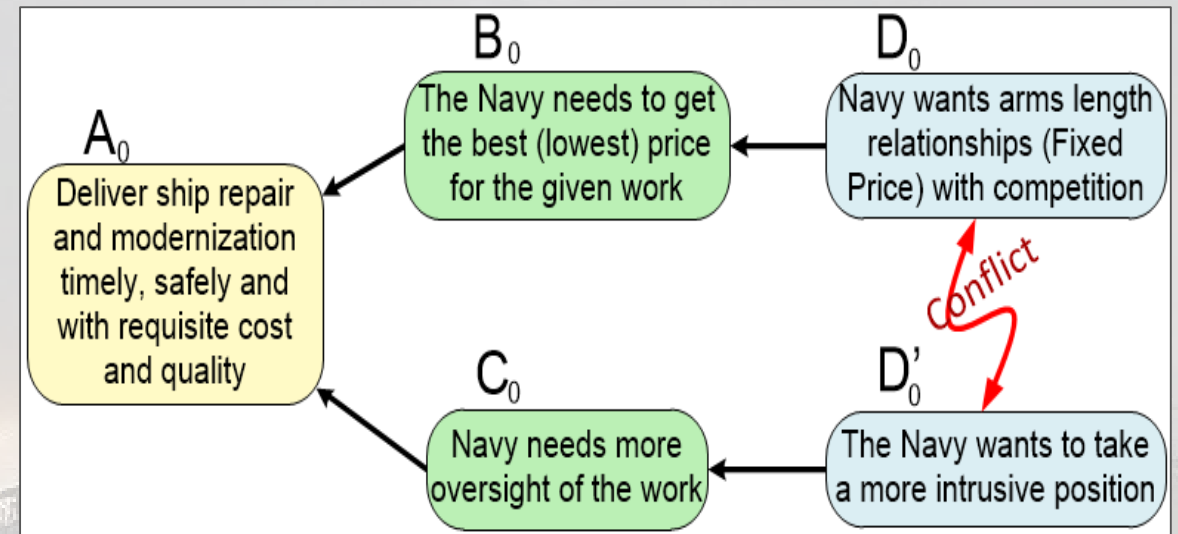
THE REALITY OF SHIP MAINTENANCE & REPAIR OPERATIONS



Framework Used

Dr. Eli Goldratt's *The Conflict Cloud*

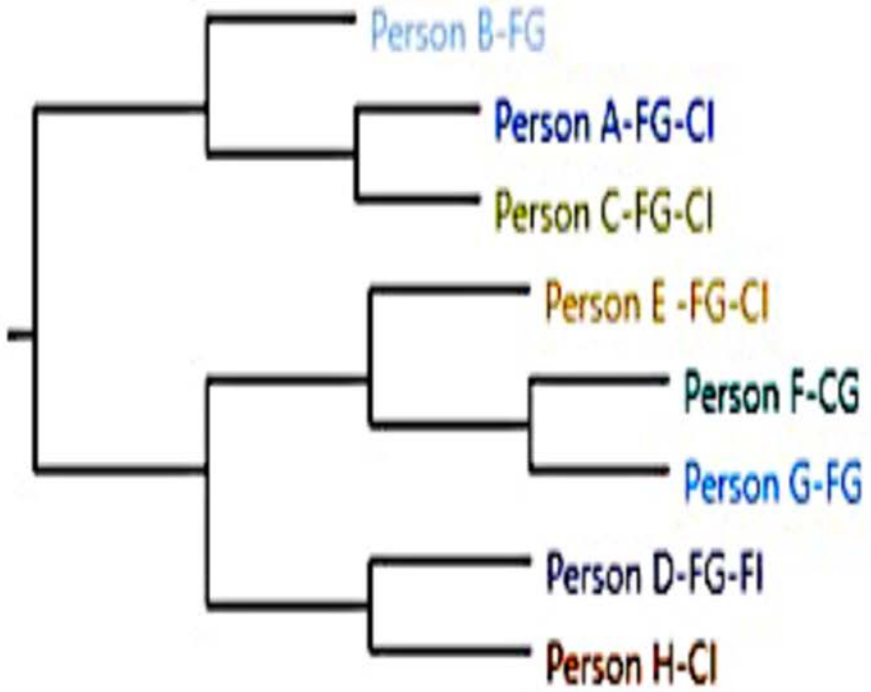
- Approach complex problems by uncovering the **perceived sources of the problem**
- Explores what is preventing organizations from **resolving undesired effects**.



Initial Conflict Cloud Model

Premise	Conflicts are caused by trying to satisfy two valid underlying needs, both necessary to achieve the overall goal, but conflicting with each another.
Approach	Instead of compromising needs, resolve the dilemma by identifying and challenging various assumptions that put those needs in conflict.
Use	Examine from sources' perspectives the conflicts and perceptions of the situation.
Goal	Surface limiting assumptions and change conditions to improve the situation.

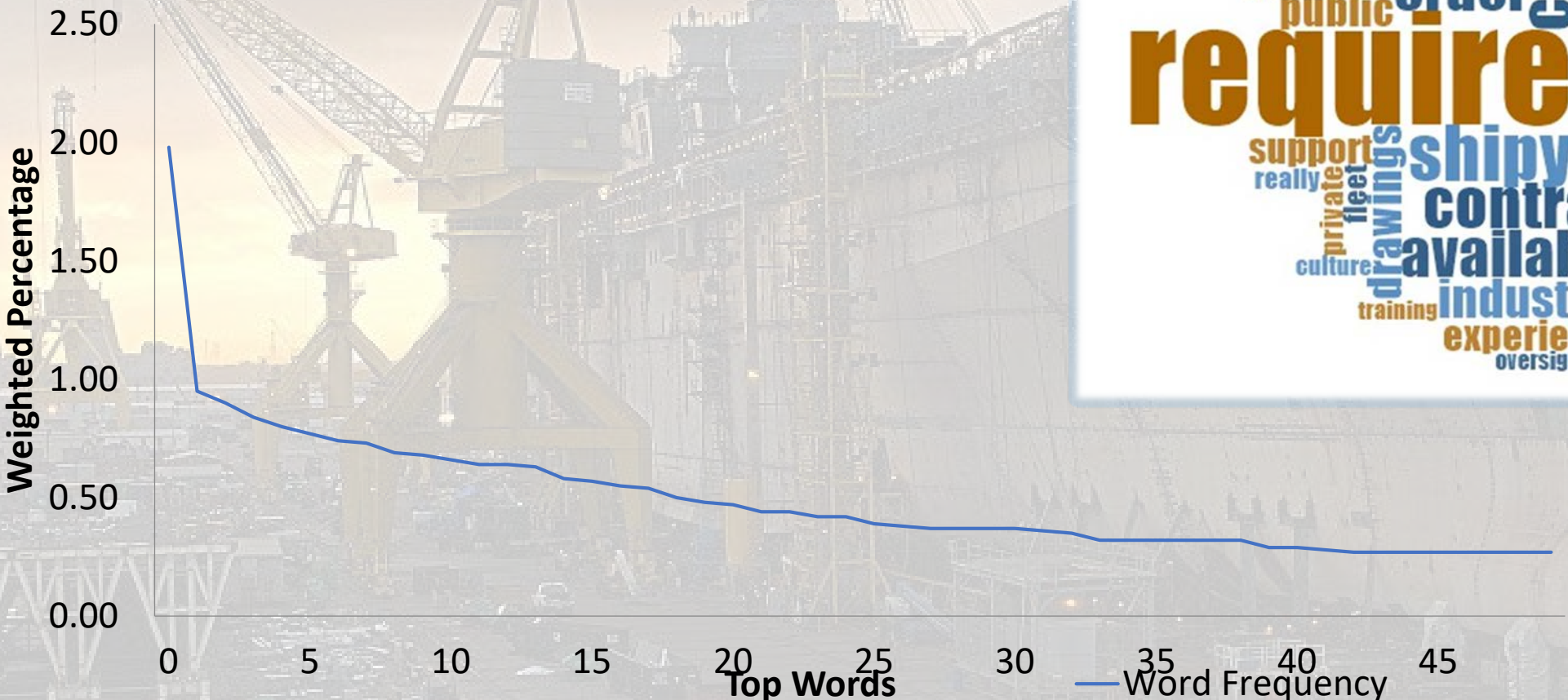
Who we talked to

Sources clustered by word similarity	Legend	
 <p>A dendrogram illustrating the clustering of interviewees based on word similarity. The clusters are as follows:</p> <ul style="list-style-type: none">Person B-FGPerson A-FG-CI and Person C-FG-CIPerson E-FG-CIPerson F-CG and Person G-FGPerson D-FG-FI and Person H-CI	CG	Current Government
	FG	Former Government
	CI	Current Industry
	FI	Former Industry
	A number of respondents have held different positions in both government and industry. Their positions are indicated in the order in which they occupied those positions.	

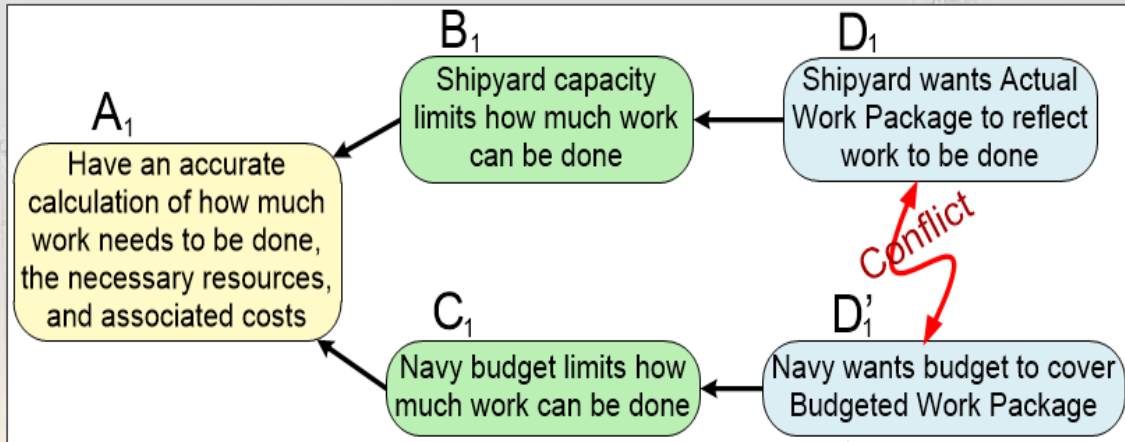
*Average interview length: 45 minutes. *Special thank you to interview participants**

NViVO Qualitative Analysis

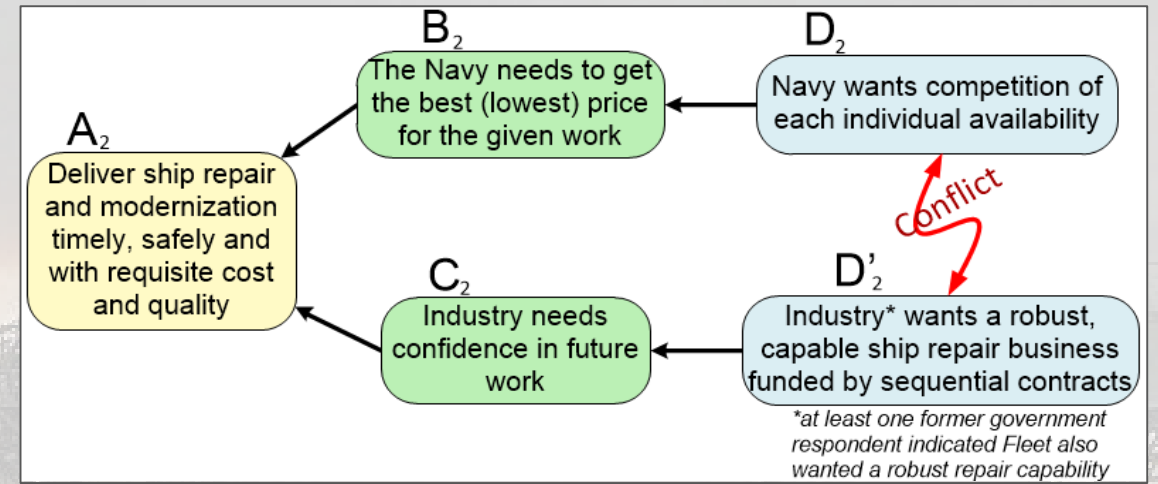
Relative Word Frequency of Top 50 Words



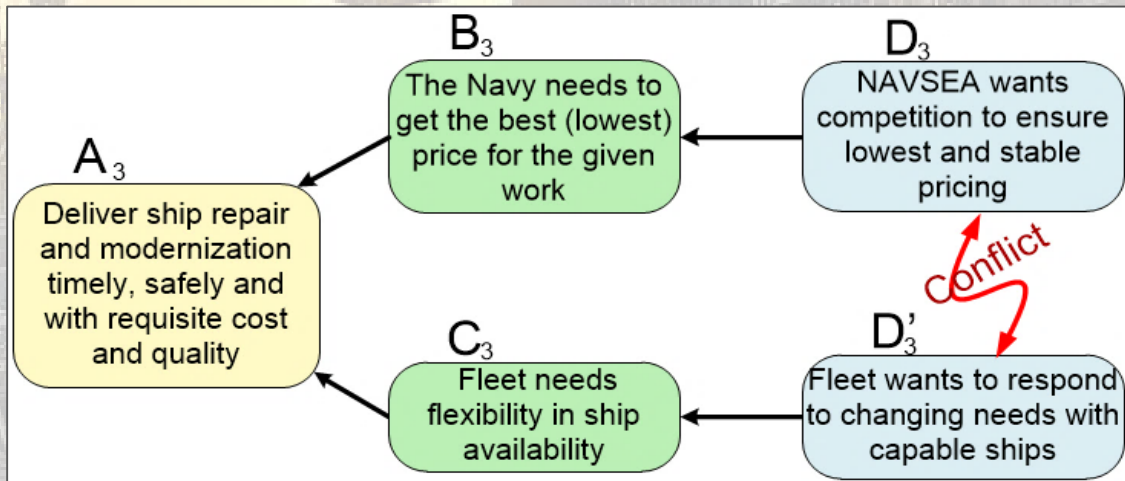
Formulated Conflicts → Core Conflict Cloud



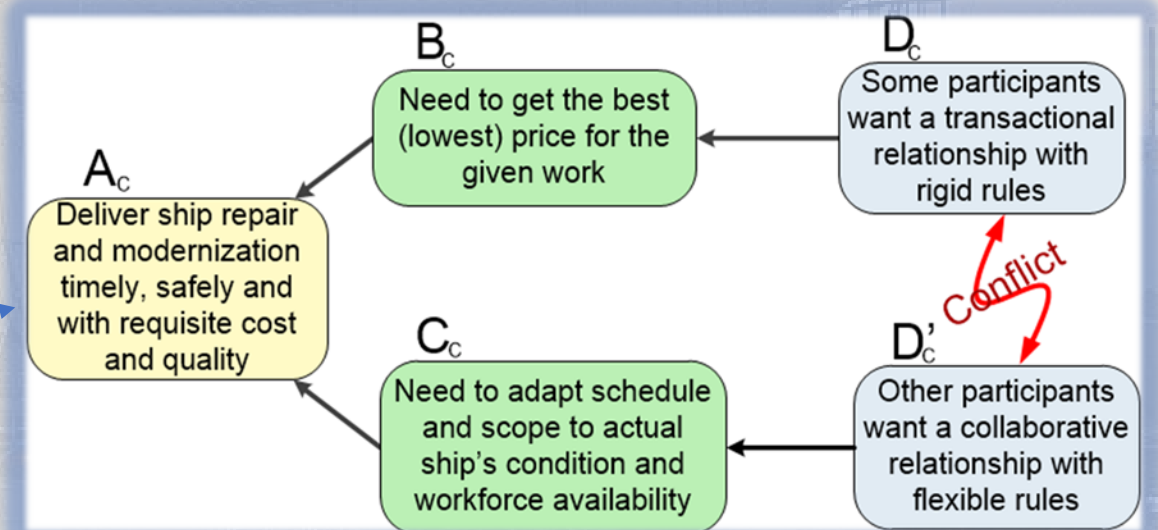
Work Packages Conflict



Pricing vs. Robust Industry Conflict



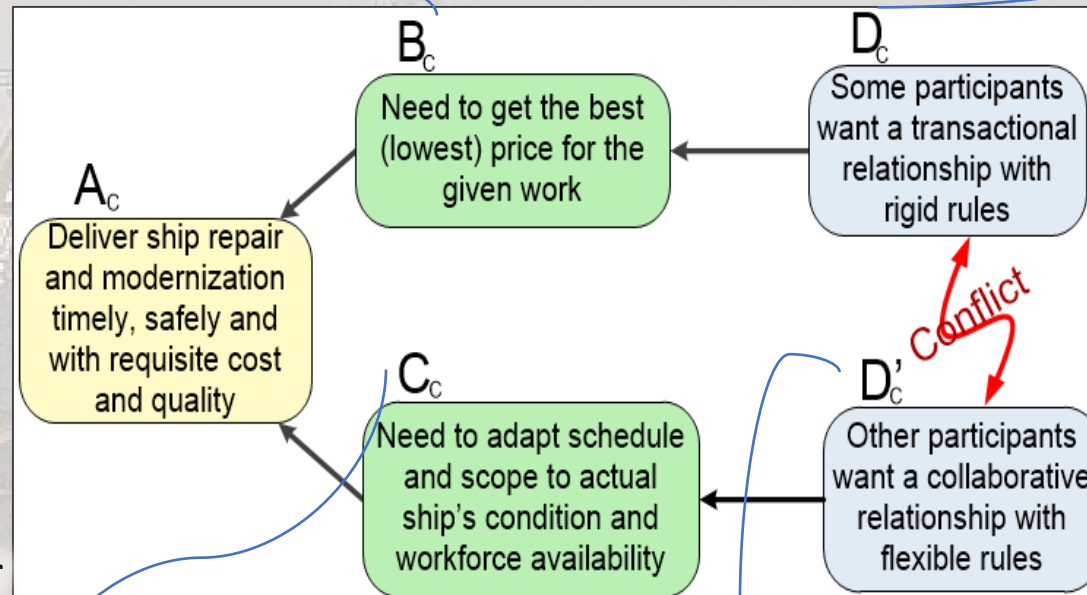
Pricing vs. Fleet Availability Conflict



Core Conflict Cloud

Challenge Barriers & Assumptions

Core Conflict Cloud



- Are we supporting the supplier base stability and capacity?
- Are the requirements manageable?
- Is it possible to provide quality, manage resource availability, and avoid cost growth in a complex environment without sheer luck?

- Can we better accommodate planning windows & contract modification cycle?
- Are incentives mutually acceptable for avoiding operational days?
- Can we improve systemic interfaces for stakeholders?

- Can our ability to plan be improved?
- Are barriers to entry reasonable?
- Can requisite internal controls improve?
- Is our approach for appropriate oversight realistic?

- Have we learned from attempts at establishing and improving partnerships?
- Is accountability appropriate?
- Do we facilitate responsive deficiency correction?
- What are mutually beneficial objectives?

Recommendations

Participant & Role		Their Recommendations for Contracting Strategy Reform	Our Recommendations:
A	Former Government Current Industry	Provide stability and predictability, but also compromise and negotiation with hybrid contracts – some elements of fixed price, some elements of T&M or cost-reimbursable.	<ul style="list-style-type: none"> • Explore conflict-enabling assumptions • Learn from mistakes while considering the complexity underlying the “causes” • Agility needed in procurement & acquisition to improve: <ul style="list-style-type: none"> • Requirements definition & stability • Data records sharing • Flexibility with access to contingency/management reserves • Management of risk & change at appropriate levels (empowerment) • Policy collaboration • Contract responsiveness
B	Former Government	<i>(none provided)</i>	
C	Former Government Current Industry	Evolve transactional/local optimization perspective; replace with a mutually compatible, win-win approach to total system value.	
D	Former Government Former Industry	Partition a flexible reserve from the overall reserve, managed close to the waterfront for emergent work, to mitigate lack of scope understanding at the front end.	
E	Former Government Current Industry	Improve trust: allow a threshold above a fixed price to prevent 30-45 day delays to execute contract changes.	
F	Current Government	Implement backlog to enable confidence in industrial investment for horizontal building of industrial base	
G	Former Government	Contract for a level of effort each year with Option Years for good performance (similar to Naval Shipyards) to generate a backlog to sustain workforce, training, and facility improvements.	
H	Current Industry	Hybrid approach FFP/T&M/CR. Level playing field by using pilot projects with independent teams to identify work needed, including implied but not articulated, to improve requirements analysis.	

Win-Win outcomes are possible while addressing the needs of both sides

Next Steps...

- **Future Work**

- **Build on Core Conflict Cloud model** by expanding stakeholder feedback by including contracting officers and Congressional staff
- **Inquiry of recent Navy efforts** and potential impact on conflicts:
 - Private Shipyard Optimization Initiative (PSO)
 - Private Sector Improvement Program (PSI)
- **Leverage improved data availability** to explore defense contracting geometry strategies with data-driven approaches (Braxton et al., 2017).
- **Explore Workshops** to validate cause and effect and formulate effective resolution strategies and tactics



Discussion/Questions

josephbradley@leading-change.org

kcastell@odu.edu

sgupta@realization.com



thank you 😊

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