



Aviation Week Roundtable: Program Management

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Aviation Week's Program Management Roundtable was established in 2006 to bring together program managers from across the industry, to discuss challenges and identify actions to improve program performance and leadership.

The 2013 Program Management Roundtable was our largest gathering ever and provided a sounding board for leaders who face program uncertainty, budget cuts and ultimately significant change as the defense and space industry reshape to meet the current market environment.

Sponsored by PwC, the Program Management Roundtable was hosted by Nick Yorio, Director of Corporate Program Management at Northrop Grumman, and Michael Bruno, senior policy editor, Aviation Week.

Participants in the roundtable were from Aerojet Rocketdyne, Aurora Flight Sciences, BAE Systems, Boeing, Defense Acquisition University, General Atomics Aeronautical Systems, Honeywell Aerospace, International Center for Complex Program Management, Lockheed Martin, Moog, NASA, Northrop Grumman, Pratt & Whitney, Rockwell Collins, Sikorsky, Spirit AeroSystems and the U.S. Army.

As is the charter of the roundtables, the discussions followed Chatham House Rules to provide for open, candid discussion concerning issues and actions that, when addressed jointly, will improve overall program performance for the industry.

Participants were asked to identify the most significant challenge and the biggest opportunity facing program managers during the coming year. They also identified what they believed, under their control, would contribute most to program performance during the coming 18 months.

Most Significant Challenges:

- Talent acquisition and retention.
- Budget volatility.
- Managing customer expectations.

Additional challenges cited:

- Managing generational work cultures.
- Managing employee motivation and morale in downturn environment.
- "Better, quicker, cheaper".
- Commercial business models competing with government procurements.
- Managing risk versus cost in planning – understanding customer's tolerance.
- Growth of government audits while industry is shrinking.
- Complex subcontracts.

Biggest Opportunities:

- Growing existing platform/product lines.
- Government pushing work back to industry due to lower government capability/facility pressures.
- Customer buy-in to new ways of doing business; more "out of the box" thinking; strengthen customer relationship.

Additional opportunities cited:

- Utilizing commercial applications.
- Streamline earned value management (EVM).
- “Capitalize on the crisis”.
- Potential opportunity during downturn – R&D, Innovation.
- Request for proposals (RFPs) starting to flow again.
- “Survival of the fittest” – change in competitive landscape – incumbent position at risk opens up new space.
- Restructure/re-baseline – organization, processes, procedures, metric requirements, non value-added costs.

Top factors to drive program performance/execution:

- Communication – consistent, frequent, both internally and externally (i.e.: with the customer and key suppliers).
- Focus on quality, execution.
- Establish and stick to change control process.
- Risk Management discipline.
- People/Talent – rotate, train, motivate and incentivize.

FOLLOWING ARE DETAILS OF EACH TABLE’S DISCUSSIONS.

Table 1

There is inherent tension between the need to invest in new capability to keep a program relevant and the need to sustain legacy systems/deal with obsolescence. What are best practices around striking that balance? Identify best practices in dealing with obsolescence.

Best Practices to maintain program relevancy:

- Develop Product Maturity Roadmap (jointly with customer is best).
- Invest in high priority/capability aspects.
- Customer champion is critical, capture customer imagination – 3-6 year “journey” to implement.
- New starts will be challenging.

Best practices to deal with obsolescence:

- Obsolescence management is not free.
- Don’t accept contract SOW language without funding.
- Demand detailed data to support strategy.
- Concurrent production/sustainment contracting with related SOW.
- Performance-based logistics (PBL) – clear data rights and clear configuration.

Table 2

Identify best practices for program launch (versus proposal or other stages of the program life cycle).

- Identify and clearly define Risks and Opportunities.
- Define unique attributes (where checklist doesn't cover).
- Standard checklist/work products (information management systems, ORG, Requirements flowdown, supply chain management, risk/opportunity register, etc.).
- Apply lessons learned from other programs.
- Have experienced subject matter experts (NAR) participate.
- Ensure company/customer/supplier goals, expectations, success criteria are aligned.
- Resolve requirements volatility early. Change process is identified – and agreed upon with customer.
- Develop an agreed-to “battle rhythm”.
- Training required (building team).
- Resources (staffing, clearances, locations, GFE/CFE, tooling commonality, etc.).
- International issues.
- Start work before contract award – otherwise, you are already behind.

Table 3

Identify best practices in recruiting/retaining talent as we balance the careers of experienced, mid-career and developing program leaders – all in an environment of constrained resources, budget cuts and program eliminations.

Recruiting/retaining talent

- Corporate, objective focus.
- Interns, job fairs, social media.
- Market the “glamour” of aerospace.
- Global talent – opportunity and acquisition.
- Exit interviews when talent leaves (understand causes for attrition and address common themes where you can).
- Employee climate surveys – take action.
- Rewards, recognition, continuing education.
- Know the standard for performance.
- Offer competitive salary/benefits.
- Empowerment, delegation of responsibility/authority, autonomy.
- Allow learning by mistake – risk tolerance, quick win/loss.
- Mentoring and invest in knowledge management to ensure tribal knowledge transfer.

Table 4

Identify best practices in adjusting earned value management (EVM) processes and data as programs are reset around new priorities, volumes, and timelines.

Adjusting EVM processes and data:

- Leverage EVM to increase revenue for organization – increase award fee.
- Reduce overhead by lightening system requirements to value functions only.
- Performance tracking down to shop floor.
- Emphasize forward-looking, anticipatory metrics.
- DoD compliance – improved variance accuracy/levels, use for scope management, corrective action plans to get back on track, increased training and recertification.
- Internal – manage reporting thresholds, reduce contract deliverables as part of negotiation, centralize reporting for cost visibility.
- Issues – findings from DCMA as only way to make observation (CAR), increased cost of compliance – need to validate value as we review.
- How to reduce cost – more scope management and baseline control, stop findings against minutiae (make DCMA better, use EVM as strategic not tactical).
- Balance pain of detail planning vs rolling wave plans.

Table 5

Identify best practices in aggregating risk across portfolios of programs, at the business unit level and for the overall enterprise.

- Portfolio risks
 - Development (separate from production), people/skill assessment first against program complexity.
 - Structured/manage approach to identify and capture risks – assess to develop top portfolio and make them quantitative and manage against MR.
 - Culture plays a factor – open to reporting, risk adverse.
 - Absolute metrics vs. net risk.
 - Create a communications system / vehicle that promotes the sharing of risks across programs (ie: 1 plus 1 may equal 2, or 3 or actually zero (ie: offsetting risks)), and up and down the program including customers and key suppliers.
- Business Risks
 - Diversify portfolio to balance risk among portfolios.
- Managing Blind Spots
 - Market trend assessment and necessary actions.
 - Learn from experiences and apply risk-based assessments prior to moving to next steps.
 - Customer risks – approval cycle time.

Table 6

We know the industry has strong research centers at various locations, but also there is significant innovation capability embedded – trapped as some would say – in the programs. Identify best practices for how we can identify this innovation capability/capacity and assure it is not lost.

- Innovation around knowledge management/transfer.
- Innovation around organization structure – don't go with status quo.
- Innovation cells – free talent to work entrepreneurially, put talent in different environment, go to “shark tank” and come out with new strategies/ideas.
- Feature innovations in webcast/media center.
- Incentivize senior leaders.
- Give responsibility to 5-10-year person, with a mentor.

Table 7

Among the challenges faced by the industry is preserving the tribal knowledge associated with program leadership and how best to convey this knowledge to leaders who are moving into new positions.

- Identify best practices used to identify trusted senior people to fill in the discipline gaps on program teams and the characteristics that make this practice a success and assure team members learn from their experience without damaging the needed leadership dynamics.
- Identify best practices around detailed planning – when is enough, enough? Are their markers for when analysis has become paralysis? Is there a distinction as to when your gut should override what the metrics tell you?

Concern – generational knowledge gap

- Mentoring – identify the talent, identify the knowledge gaps – knowledge transfer from willing subject matter experts.
- Best practice – “white pages” for SMEs/subject specific – leverage people with a desire to transfer knowledge, structured knowledge transfer, pair with senior leaders, build readiness for the next position.
- Failure mode – although recognized as a best practice, it may not be proliferated throughout the organization consistently.
- Best practice – make it part of culture and assigning specific goals for mentoring at the senior level.
- Insight – difference between those assigned and those who seek mentoring.
- Best practice – business/mentee relationship driven by self/seekers.
- Best practice – level of maturity within the organization tied to mentee assignments. Need to have a base level of business acumen or technical knowledge to be most effective.
- Structured learning – individual learning, community learning (knowledge sharing through storytelling), team performance/critique.
- Deputy positions – required to support programs with specific responsibilities.



- Engineering knowledge evolution step.
- Mentees need to be trained how to be good mentees – deliverable requirement.
- Recurring training may be required on social skills, especially in engineering-heavy organizations.

Metrics and need for planning

- Need for more and more data is directly tied to level of risk aversion.
- Once a metric is established, it is impossible to get rid of even if it is obsolete. Planning thresholds of risk based on product/program implication of failure.
- Metrics drive significant time in meetings to understand and influence... sometimes impeding time to correct – ensure those requesting meeting drive to better/faster results.
- We tend to focus on the failures versus celebrating successes.
- Lagging indicators are not always a good indicator of the future. Drive culture to ask/balance need for data to cost (drive cost reduction).
- Many people are so stuck in adhering to the process they lose the ability to drive creative change. Need ability to work in gray area.
- Balance internal and external pressure to collect data – the burden of non-value reviews, the lack of acknowledgement of the costs associated with data collection and reviews.
- Manufacturing companies tend to focus metrics on production vs development
- Metrics need to be tailored to specific requirements – not one size fits all.
- Life Cycle cost analysis is critical.

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