

# Top 10 Executive Visit Interview Techniques for Equipment Upgrade/Repair Site Access Area Case

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Procurement costs are widely used as the primary-- sometimes only-- criteria for equipment or system selection--i.e. cheap is good. Procurement cost is a simple criterion. It is easy to use, but often results in bad fiscal decisions & operational disasters!

Procurement costs tell only one part of the story. The major determinates for utility of equipment in real-world mobile operations lies in sustainment of equipment & many factors influence success of upgrade/repair sites responsible for sustainment implementation, including supplier capacity.

Remember-- It's unwise to pay too much, but it's foolish to spend too little".

Usually procurement cost is the only value considered when equipment requirements are put in play. Usually, procurement costs are well known & clearly identified—but it's only the tip of the iceberg. But seeing the tip of an iceberg does not guarantee clear, unimpeded passage of your craft around an iceberg. Hidden, underlying, substructures of an iceberg-- similar to the decisions made for bulk execution of limiting sustainment cost/functions for equipment/systems contain the hazards.

Making sustainment cost/use calculations is easier when relevant supplier/field use information is present. The difficult effort is how to resolve the chicken or egg dilemma for finding information predicting requirements for equipment reset & other details involved in sustainment. You need reliability engineering upgrade/repair simulation details from users in field units to find out when reset is required. Time-sensitive upgrade/repair schedules must be converted into simulation model format required for determining reliability profiles for supplier capacity as well as other variables that factor into sustainment operational success.

Not many DoD Executives can brag about their ability to determine sustainment cost/function facts until someone else puts numbers on the table right in front of them—then the critics are numerous for “correcting” the proposed numbers. Follow the scientific method: build equipment reset models to determine use/cost & then test the models. When in doubt about equipment reset requirements, make an estimate and test the estimate for validity by visiting key Upgrade/Repair Sites.

This report presents 10 Step stage assessment technique for equipment repair/upgrade job sites based on a single tour with some Q&A utilising simple, rapid assessment forms. Since its inception, it has been applied to a number of cases, successfully identifying major strength points of the operations.

Scoring high marks on efficiency & effectiveness of repair/upgrade services is a great challenge for work sites responsible for bringing equipment up to levels required for successful missions. As a result, we need to clearly benchmark the quality of operations. However, assessing performance of repair/upgrade job sites can be a tricky business.

Even after we visited a large number of repair/upgrade job sites, it is still difficult to tell after a visit if the job site was a best-in class operation, just above-average, or even relatively substandard in key performance areas. Nevertheless, even short tour visits can reveal a lot of information to the trained eye.

Major functions of repair/upgrade job sites include lining up equipment supplier capacity in order to make assortments for subsequent deployment in critical missions, to assemble orders & add value to orders by customisation activities, organising dispatch of orders in a timely manner.

Repair/Upgrade job site performance consists of multiple dimensions. Inputs are the resources used to achieve the outputs. Often, performance is measured in terms of ratios of output/ input factors:

- 1) Deployed equipment orders, lines & units [output]
- 2) Quality measures such as order completeness, error-free & on-time deployment [output]
- 3) Flexibility to cope with changes in demand [output]
- 4) Agility to meet/adapt to changing requirements [output]
- 5) Innovation-- use of new supply line concepts to yield required mission components [output]
- 6) Number of full-time work hour equivalents [input]
- 7) Investment in modern information systems [input]
- 8) Creation of top-notch physical work sites [input]
- 9) Process organisation [input]
- 10) Assortment of equipment items carried [input]

We have tried to create benchmark tools for repair/upgrade job sites like expressing operational efficiency as a ratio of weighted output & weighted input factors, normalised on a 0 to 1 scale. While powerful, application of this type of tool is usually difficult to obtain required accuracy levels.

Also, for every factor that is included in the efficiency mark-up, more cases are needed in order to produce quality results. Finally, it is difficult to include factors not measured on interval scales, or more subjective assessments like supplier capacity, teamwork & motivation.

This tool is based on a single repair/upgrade Job site tour and can be carried out in a few hours, including some Q&A. It is not necessary to have deep insight in the operations as Visiting Executive.

The main objectives of the tool are to discern strengths of repair/upgrade job sites after some basic training on how to use the tool. The tool can also be used to evaluate operations of logistics service suppliers.

This is not to say that the tool can be a substitute for due diligence when assessing fiscal performance, which is not part of the tool. However, all too often, executives ignore vital visual signals that can be easily acquired in favour of what would seem to be objective requirements, like equipment quantities processed, item turns or subsequent mission success.

Upgrade/Repair site models should shoot for automated Equipment upgrade/repair platforms to eliminate static, paper-based schedules for reporting of operational parameters, becoming mandatory practise across Fleet Types.

We rewrite supply playbook & redefine playing field by promoting interval scheduling & situation-based, streamlined upgrade/repair operations by better forecasting critical work orders for equipment.

Monitoring work order periods creates schedules for equipment upgrade/repair activities in verified parts supply systems, accomplishing work in timely manner. Automatic alerts for administration of operations highlight overdue upgrade/repair requirements.

Scheduling rules & situations are driven by technical feedback for critical procedures, detecting any changes in periodic or situational equipment upgrade/repair & adjusts schedules accordingly.

Automatic schedule creation is based on applicable supplier situation checks on equipment condition states. Adjusted schedules are always up-to-date, allowing upgrade/repair technicians & supervisors to create accurate forecasts of work order hours, tools, parts, & test equipment requirements.

Inaccurate parts supply schedules are a thing of the past. Interactive & narrated dispatch lessons assign training events & track progress of upgrade/repair operations through consistent updates on status of supplier capacity for critical equipment.

Up-to-date supplier capacity information systems demonstrate utility of performance-based testing. Platforms monitor which actions users perform & recommend applicable training. Training is assigned to users, tracking progress by dispatching master training view functions for mobile operations.

Content is modular in nature so Visiting Executive can quickly determine what training has been completed by each user. New & updated training circuits may be dispatched immediately upon becoming available. Quick deficiency notifications allow scheduling of corrective actions. Notifications are based off minimal input from user.

Operational upgrade/repair platforms gives users personalised to-do-lists, including items such as signing feedback reports, work orders with requirements to be performed by the user, or approvals of supplier alerts, revisions & spot checks. Work order information is filtered based on the role users play in the planned Upgrade/repair simulation, permissions granted & Executive review. Users only see what they need to.

Equipment upgrade/replace action views are provided by platform so planned work orders can be tied to equipment condition, allowing users to add well-formed corrective actions into work orders. Simplified Task Dispatch tactics make it easy to see what users must accomplish in day-to-day operations.

In the past, users tailored work orders to equipment by physically drawing a line through printed procedures that didn't apply. Now, platforms enable users to create repeatable, automatic line-out steps to create library of upgrade/repair procedures, accessible at any time for a specific piece of equipment.

Customised notes can be created for tools, parts & materiel based on localised information like equipment lists, installation of record & supplier capacity. The platform we propose stores all information required to reproduce upgrade/repair requirements at a moment's notice.

During our Executive equipment repair/upgrade site visit, DoD administrators were talking about the money a technician had saved purchasing a particularly expensive piece of equipment:

"I wonder if anyone else knows about this?"

Chances were slim that anyone else at repair/upgrade site knew about that particular deal. At that time, technicians were each responsible for sourcing their own parts & there was no formal or centralised system in place at DoD for sharing information.

We recommended DoD undertake a comprehensive reorganisation of the sites processes & work needed to commence immediately to meet mission requirements. As part of that effort, the entire parts ordering process was revamped & centralised, resulting in huge benefits to the entire repair/upgrade operation.

With technicians spread across multiple installations w/ no centralised parts procurement system at DoD, there was no easy way for technicians to share information about good deals on parts or problems with suppliers.

"One technician may have found a good source in terms of pricing or quality, but that information was rarely shared beyond that one Site."

"Across our system, we had lots of technicians doing the same type of work, but weren't getting the same information."

It was clear DoD had deficits in their repair/upgrade operations & were missing an opportunity to share information.

Beyond that, each technician was doing it all—sourcing & buying parts, plus expediting, tracking, & invoicing-- spending lots of time on the procurement process every day."

Another problem was overstocking of parts.

"Technicians who want to provide as much uptime as possible tend to over-order parts."

"That leads to a huge cache of excess parts at each repair/upgrade site [see recent DoD IG Report on V-22 aircraft excess parts]."

We recommended DoD reorganise its entire upgrade/repair site processes & parts procurement process was a key target for improvement. We undertook a study of the process, which revealed that "big chunks" of technician time per day was being spent on parts procurement.

We found consistent overstocking of parts & fragmented communication among technicians regarding the best sources for parts on both cost & quality.

It was clear that a new process was needed if sustainment operations were to live up to capacity & potential so equipment is returned to users in field as soon as possible for use in mobile operations.

“We were mandated to take advantage of those opportunities to cut costs, free up wrench time for our technicians & have specialists focusing on parts procurement.”

Here is the solution: Centralise the parts procurement function.

“Step one in the centralisation process was to recruit & hire a quality Executive who knew DoD sourcing/sustainment business as a direct result of extensive reviews of the organisation & was excited about Visiting Equipment Upgrade/Repair Sites so Evaluations could Start.”

“Step two was to collect, catalogue, and centralise our spare parts”

Initially, front-line technicians resisted this centralisation, particularly those in long-standing upgrade/repair regimes.

“We had to go back multiple times to get the stuff that techs did not have tracking processes in place.”

DoD must identify the upgrade/repair simulation work order space and set up information systems with high fidelity, creating a central cache of parts that is now accessible across the system.

DoD had to look at the equipment parts system as a whole to determine what was still useful, what to throw out & what to move to other installations.

We recommended setting up centralised systems where techs would no longer allowed to order on their own. Most requests go directly to purchasing & are immediately approved; only questionable items are flagged for administrative review.

“We didn’t want to create a supplier capacity bottleneck. It’s critical to get parts ordered & turned around, so we’ve made the Upgrade/Repair process as streamlined as possible.”

Supplier Capacity Parts modules were created to provide an interface between disparate information systems.

The new process has the technicians enter the required part directly on their work order, ensuring that all parts & associated sustainment costs are captured.

The parts request, identifying the urgency, then goes directly to the parts team who communicates back to the technician with notification at several steps of the purchasing process.

This flow of information cuts technician follow-up time and keeps everyone in the loop on parts status. At any point in the process, parts details are available on the central work order screen to anyone needing an update on equipment status.

The new information systems allow technicians to plan their time more efficiently, resulting in huge productivity gains with clear benefit to executing sustainment missions.

Automated systems let the team track & trend supplier capacity details on equipment parts, which can then be applied to making better sustainment decisions.

“We’re able to monitor sustainment costs & identify which technicians are ordering parts & not installing them right away. These lead to opportunities for retraining our technicians.”

Entry into new information systems allows for identification of problems with suppliers in terms of speed, specialisation & quality of parts. For example, suppliers whose parts are routinely not in good order are removed from the supplier list.

“Our preferred supplier lists are very fluid. We may have particular supplier at the top of a list, but if we encounter problems, they may not stay there.”

The parts procurement specialists monitor the work order screen for new part requests, process a part to be moved from the working cache, or create a purchase report.

For specialists, level of parts sourcing expertise has grown with experience. They are able to predict the need for parts in high demand based on upcoming periodic upgrade/repair work site checks & service history, keep stocks of key items for immediate use.

Specialists are also learning to consolidate purchases & reduce the total number of purchase orders processed, leading to even greater mission success critical for sustainment missions.

“We have proven that a centralised system works.”

Since implementing the programme, DoD has seen consistent advances in parts operations & significantly increased technician satisfaction & productivity. Plus, results show better parts tracking contributes directly to increasing subsequent equipment uptime so critical mobile field operations can be executed in theatre.

Much of the wrench time saved is due to the more efficient parts ordering process. While technicians initially had a hard time letting go of their procurement tracking responsibilities, they now trust the system.

“I need a part, I find it the next day. I just request a part, and it shows up. We have seen equipment downtime greatly reduced due to centralised sourcing policy.”

Increased collection of key supplier information made possible by the centralisation was of clear benefit to scheduled sustainment operations.

We recommended DoD address the need to share information among the technicians, including information on lowest cost suppliers, best quality & best delivery time.

“By collecting and evaluating supplier information, we can make better decisions & that effort will help us continue to get better at the critical equipment upgrade/repair work orders we have been tasked with.”

In all, our revamp of the parts ordering process is part of the overall aim to allow technicians to focus on their core competencies essential to sustainment missions.

“Is their core competency fixing equipment, ordering parts, generating reports, or answering phones? We want to optimise our investment in the technicians. By centralising the parts function, we’ve been able to do exactly that.”

We will present written 10 Stage Reports utilising this Sustainment Evaluation Tool Box in subsequent memos. We first discuss the areas in more detail & then present results as well as further validation of the technique:

1. Satisfaction of Equipment Mission Agents
2. Use of Work Order Job Space
3. Condition of Technical Installations
4. State of Materiel Contact
5. Teamwork & Motivation
6. Storage & Order Picking Tech
7. Equipment Inventory Strategies
8. Supply Line Coordination
9. Level & Use of Information Systems
10. Commitment to Quality Services