Determining The Steps To Reengineer The Navy's Depot Level Repairable Program In Preparation For ERP

Advanced Management Program

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INTRODUCTION

The Navy's Depot Level Repairable (DLR) retrograde system is designed to facilitate the movement and tracking of expensive components that the Navy has deemed more cost effective to repair vice procure. Annually, over 400,000 DLRs valued at over $9.7 billion enter the retrograde pipeline enroute to commercial and/or organic repair facilities.

DLRs enter the system from hundreds of sources and are transported through multiple sites to their final destination. Through each leg of the process, accountability needs to be maintained to adequately track the DLRs movement. Inherent to the retrograde movement processes are multiple software and programming systems that need to reliably and accurately receive and pass pertinent data.

With the advent of incorporating the Naval supply system over the next few years into Enterprise Resource Planning (ERP), it is imperative to make sure the complexity of existing DLR retrograde processes are streamlined in the near term. It is important to feed the ERP group at Naval Supply Systems Command (NAVSUP) headquarters a streamlined set of processes vice the complex, costly, and redundant systems/programs that currently exist. COMPLEX: Currently there are no less than eight computer systems/programs utilized within the retrograde process. COSTS: Life cycle maintenance costs for these systems are expensive. REDUNDANCY: Some of the systems perform similar functions. Reengineering the existing processes and systems prior to the retrograde processes inclusion into ERP will improve efficiencies, reduce life cycle maintenance costs and improve visibility to these critical and expensive repairable resources.

ENVIRONMENT

DLR Movement, a Global Enterprise: The movement of Navy DLRs is worldwide in scope. After being determined, by maintenance personnel that the component is Beyond the Capability of Maintenance (BCM), DLRs are turned into either of the two Advance Traceability and Control (ATAC) Hubs in Norfolk or San Diego or one of the eleven ATAC nodes located throughout the world. On average, over 8,000 DLRs are turned back into the supply system for repair each week.

Existing Process: DLRs physically move through an orchestrated series of handoffs that start with end-use customers that need to replace a BCM'd component. The customer turns the "F" Condition component into the supply system's ATAC program. ATAC is made up of two hubs, located at the fleet concentration areas of Norfolk and San Diego, as well as 11 nodes located around the world. ATAC receipts for the DLR and conducts a Transaction Item Report (TIR) which tells the financial programs (UICP) at Naval Inventory Control Point (NAVICP) in Mechanicsburg, that the customer has turned in a DLR carcass. ATAC technically screens the DLR to confirm the turn-in documentation accurately identifies the component and to determine disposition instructions (i. e., transship to a storage facility awaiting induction for repair, ship directly to a repair facility (commercial or organic) or ship to Defense Reutilization Material

Office (DRMO) for disposal). The vast majority are sent to one of several Designated Storage Points (DSPs) awaiting induction for repair. Once inducted for repair, the component is sent to one of the three Naval Aviation Depots (NADEPs) or to one of roughly 1,300 commercial repair activities. Following repair, the majority of assets, now in "A" Condition, are transshipped back to the DSP and are made available to the component's Item Manager for release to the next requisitioner.

Existing Automation: The average cost of a DLR is in excess of $50,000. Automation is essential to accurately track the physical and financial flow of material through the retrograde pipeline. Accurate tracking is essential, in order to ensure proper billing to fleet customers as well as to have positive visibility of the Stock In Transit (SIT) throughout the repair pipeline. As mentioned in the introduction section above, there are multiple software programs used during different phases of the retrograde pipeline. In at least one case, there appears to be redundant systems that, if eliminated, could save the Government significant dollars in annual life cycle maintenance costs.

Stakeholders: The retrograde process, due to the many physical handoffs as well as various layers of management, has, by its very design, multiple stakeholders. Stakeholders range from the customer (Navy and Marine) that initiate the DLR, to the ATAC organization, to Defense Logistics Agency (DLA) for the temporary storage of the F condition components, to organic and commercial repair activities.

From a managerial perspective, the stakeholders include: NAVSUP Headquarters, where program policy and funding originate and NAVICP in Mechanicsburg, responsible for the execution of the repairables management. Additionally, the Fleet Industrial Supply Centers (FISCs) at Norfolk and San Diego exercise control of the ATAC organization while the Fleet Material Support Office (FMSO) is responsible for much of the systems design internal to the retrograde process. With this many players involved in management decisions that affect the retrograde process, change is inevitably slow. Achieving consensus across multiple commands, frequently with competing agendas, is a challenge.

PROPOSAL

Enterprise Resource Planning: For decades the military has been run utilizing stove piped organizations that not only do not communicate well, but, because of differences in their information technology systems, can't communicate at all. Currently, in the management of DLRs, there are at least eight different software programs tracking and managing these critical, high dollar value parts that neither work efficiently nor effectively as one unit. Because of this, the Navy loses in-transit visibility, accountability, time, and in some cases, the part. It is now the 21st Century; the information technology being utilized by private industry is leaving us behind. With the current trend of repair part funding shortfalls and downsizing of our shore based infrastructure, we must grow, adapt, and remain flexible if we are going to keep pace with high tech business solutions that are now available. ERP is just such a solution.

ERP is in part a response to doing things "smarter" by designing or modifying current business processes. It is a set of commercially available packaged business software solutions

that enables an organization to transform its business processes, share data and processes across the entire enterprise, and produce and access information in a real-time environment. An ERP enabled environment provides consistent and timely information for decision-making and performance measurement.

There are numerous tangible and intangible benefits for all members of the supply chain for implementing an ERP program. Tangible benefits include inventory reduction, productivity improvements, Information Technology (IT) cost reduction, on-time delivery, and increase in sales. Intangible benefits are improved information, customer responsiveness, and flexibility.

What does this mean for the workforce? They will see faster document processing time; shared data; easily accessible status of orders, turn-ins, and claims; more time to analyze data; and visibility into corporate skill requirements. Further, what this means to the team is standardized business processes, the ability to make better business decisions, reduction in inventory, improved customer service, cycle times shortened, lower total costs, improved productivity, and the ability to stay competitive.

One byproduct of reengineering a business process is a changing workplace due to the identification of new job skills. This will not be accomplished without growing pains, because change, and specifically business process change, directly affects the daily activities and behaviors of the work force. For instance, a warehouse worker who previously managed inventory spreadsheets could now be forecasting customer demand and making critical business decisions. The challenge of ERP is not so much gaining acceptance and "buy-in", but to help the workforce deal with fundamental job makeovers.

As with any dramatic change in work processes, ERP stands out as a business process that, if implemented incorrectly, could be a colossal failure. But, if done right, can keep the Navy on the cutting edge of today's leading technology. EDS has been hired by the Navy to deal specifically with the issue of change management. Change management is defined as "the process of bringing the right people together to discuss the real issues in real time, assisting them to reach agreements that lead to action and improving probability of success." An organization's inability to deal with change has often been cited as a major cause of ERP failure. In light of this, it is imperative that we develop a change management plan that includes a communication strategy to create awareness, understanding and eventually commitment and action of the work force that will make ERP in the Navy a success.

ERP is the central business process that can bring to the Navy the necessary tool to manage both its DLR and wholesale inventory assets more efficiently and effectively. Although it is the central business process, we feel that deeper analysis of Supply Chain Management and incorporation of current Best Business Practices can make the Navy a **LEADER** in managing the logistics process vice trying to **FOLLOW** as quickly as technology changes.

Best Practices: Analysis and incorporation of applicable industry best practices is critical to successful DLR reengineering effort. Product returns are big business in the private sector, particularly the retail industry. Product returns in the retail industry have grown from around $40 billion per year in 1992 to well over $65 billion today. The industry standard of accepting product returns as a competitive weapon has resulted in huge reverse logistics challenges. In simple terms, reverse logistics can be defined as the process of moving goods from their typical final destination for the purpose of capturing value or final disposal. Industry has discovered that

reverse logistics is an integral segment of the supply chain and that effective application of best practices is critical to efficient supply chain management.

Process standardization, Centralized Return Centers (CRCs), and outsourcing are increasingly common to industry reverse logistics functions. Product returns are efficiently managed from Point of Sale (POS) to final disposition. Leading retailers effectively integrate CRCs, Third Party Logistics (3PL) providers, new technologies, and customer incentives to optimize the product return link in the supply chain. Target Stores, for example, centralized its returns program and outsourced returns-center management to 3PL provider GENCO Distribution Systems. GENCO implemented an end-to-end solution that revolves around a GENCO-operated CRC that uses a license-plate concept and sophisticated software to direct, track, and trace all merchandise returns, from the minute customers arrive at the in-store service desk to the final disposition of each and every item.

Navy retrograde functions have some commonality with private sector reverse logistics processes. The ATAC System is conceptually similar to industry CRCs. Additionally, Navy activities are incentivized to return DLR retrograde items based on the two-tier price structure (Net and Standard pricing). Despite these similarities, however, shortcomings in Navy reverse logistics processes are evident when benchmarked against industry standards. Fragmented information systems, customer disincentives (such as the carcass billing cycle), and an organic retrograde chain (that could arguably be outsourced to a third party reverse logistics provider), all contribute to sub-optimal performance of the overall supply chain.

IMPLEMENTATION STRATEGY

Why Reengineer?: Reengineering the processes that support the DLR retrograde pipeline will be beneficial to the Navy on several fronts. First, the length of days a repairable component remains in "F" condition will be shortened. Shorter repair lead times equates to less components needed in the overall pipeline to support existing weapon systems. Less inventory requirements means less overall life cycle maintenance costs. Second, it is anticipated that a thorough review of the existing automated systems and programs will uncover unnecessary redundancies. Elimination of redundancy will streamline the data handoffs and improve data integrity. Third, with fewer systems and programs involved in the movement of retrograde material, life cycle maintenance cost for these systems will be reduced. It is anticipated that these in excess of $1 million dollars annually can be saved through this effort.

Steps To Reengineer: In determining which steps are required to successfully reengineer the retrograde process, Team Six utilized its corporate knowledge of existing processes. The team, through a brainstorming session, broke the reengineering steps into four phases. Each phase is supported by multiple secondary steps. For the purpose of brevity, only the major phases are discussed here. The detailed list of steps is being used to create a Statement of Work (SOW) that will be used to hire a contractor to: 1) study existing systems and 2) provide reengineering recommendations and schedule and cost proposals to NAVSUP.

Phase 1: Obtain top management support. Without support of top management, including the necessary funding, the project will never get off the ground. Reengineering the Retrograde Process has received top management support. A NAVSUP strategic objective and objective

owner have been identified. Additionally, NAVSUP has authorized $600k to be used at the start of Fiscal Year 2002 (FY02) to hire the aforementioned contractor. Phase one also includes gathering of existing performance metrics (i. e., cost, days) to be used as a benchmark from which to compare the reengineered process. The last step in Phase 1 is to provide a contractor with a SOW describing the reengineering requirements.

Phase 2: This phase entails learning everything there is to know about how the current processes work. The physical movement of DLRs, the financial tracking of DLRs as well as studying all publications and/or regulations pertaining to DLRs will be addressed in Phase 2. The contractor will be required to "lean map" the physical, financial and policy related aspects of retrograde management.

Phase 3: Once the contractor has lean mapped the existing process, Phase 3 will provide the contractor a list of specific objectives to use as a basis for the reengineering efforts. Reduction of the retrograde pipeline by two weeks and elimination of redundant systems are examples of objectives that will be provided to the contractor. To date, the specific objectives of the reengineered process have not been determined.

Open communication among the contractor, the NAVSUP strategic owner for the reengineering effort, and the NAVSUP ERP team is critical during this phase. The fulfillment of the contractor's SOW obligation will be completed when the deliverables of reengineering recommendations (lean mapped), timelines, and associated costs are provided.

Phase 4: The final phase of the reengineering efforts will include securing the necessary funding to execute the reengineering, and monitoring the performance against the original benchmarked metrics.

Support NAVSUP's Mission: It is important that this reengineering effort directly support the mission, vision, and goals of NAVSUP. Funding is provided to projects only if they directly support the overarching goals of the Command. NAVSUP created a specific strategic objective to reengineer the retrograde process in direct support of the strategic goal, "To streamline processes which reduce costs and cycle times for delivering products and services".

RECOMMENDATIONS

One of the benefits of AMP is to afford a diverse group who has experienced the DLR Retrograde Process from different perspectives to brainstorm steps to reengineer it. The detailed list of steps that were generated need to be utilized as the foundation for the reengineering SOW.

A second recommendation from this project is to ensure the reengineering takes pace prior to the Retrograde Process being incorporated into ERP. This will prevent ERP from simply incorporating a complex and flawed existing set of systems.

The last take-away from the project is to make sure industry best practices are researched and included in the reengineered retrograde pipeline (i. e., focusing on perfecting the processes that impact the retrograde pipeline vice direct management of DLRs per se).