Getting Logistics Data Right

Whose job is it? Strategic corporals are wanted in logistics

by Steven A. Pawlow & Kevin J. Kelly

>Mr. Pawlow works in the Studies & Analysis Branch, Cost Estimating & Analysis Division, Operations & Programs, Marine Corps Systems Command.

>>Mr. Kelly is the Assistant Program Executive Officer, Land Systems (Cost Analysis), Program Executive Office, Land Systems Marine Corps.

Every day, thousands of supply and maintenance actions are performed on Marine Corps equipment, and each one requires somebody to do "paperwork," documenting the work done, the parts and supplies used, the amount of labor involved, and the equipment's status. These days, much of the paperwork is done on a website and captured in a central repository that provides data to leaders at all levels for making decisions related to equipment and unit readiness, budgeting, and operational planning. Obviously, the data coming out of the repository is only as good as the data going into it, but who is responsible for the quality of the data entered? In this article, we encourage all logisticians, both Marines and civilian Marines of all grades, to serve as *strategic corporals*,[1] doing all we can to improve data quality in our automated logistics systems.

Then-LCpl Cedric Hargrove enters data into GCSS-MC using a laptop in a motor bay at TBS aboard Marine Corps Base Quantico, VA. *(Photo by Carden Hedelt.)*

Automation and the Human Interface

Our 21st century Marine Corps employs information technology (IT) to perform many administrative, operational, and logistics activities and, likely, will employ it more extensively as it becomes more capable. Someday, our military equipment will be "smart," employing technologies such as autonomic self-diagnostics and robotics for maintenance and repair. Until those technologies mature, however, we will rely on humans to interface with automated systems, performing data capture and retrieval activities. Today, the Marine Corps uses several automated information systems to perform supply and maintenance, inventory control, vehicle dispatch, and other logistics functions, and all of them require human interface.

Among the largest of these logistics systems is the Global Combat Support System-Marine Corps (GCSS-MC). GCSS-MC is used to manage and record many supply and maintenance activities for various commodities and provide periodic reports about equipment accountability, usage, readiness, and costs. In addition, GCSS-MC interfaces with other DOD information systems to exchange financial management and logistics data. GCSS-MC is a key enterprise resource planning system, providing for the logistics community data and reports that had been provided previously by multiple stovepipe systems.

The Need for Good Data

The remainder of this article focuses on observations of GCSS-MC, but the need for good data—data that is timely, reliable, and accurate—is applicable to all automated logistics systems. Because the Marine Corps relies on GCSS-MC to provide the tools and records for many logistics functions performed throughout the Marine Corps, it is

critically important for data entry to be timely and accurate. Every transaction date, equipment serial number, meter reading, disposition code, description of work, and other data element must be entered accurately to ensure that the readiness status of each piece of equipment, the costs of maintenance, the frequency of maintenance, the operating tempos (optempos),[2] and many other types of management information are available to analysts, managers, and leaders throughout the Marine Corps.

Whose Job Is It for Accurate Data?

Marine Corps logisticians, as well as technicians, analysts, and managers in other specialties, all use the data and reports generated by GCSS-MC. They make important decisions about maintenance and repairs, inventory planning, unit readiness, and operational planning. They even use GCSS-MC data to estimate future operations and support (O&S) costs of equipment, unit O&S costs, and the total O&S cost of the Marine Corps for the Department of the Navy budget.

But who is responsible for ensuring that the data provided to decision makers is good, timely, and accurate? The answer is: "Every Marine and civilian Marine who touches GCSS-MC is responsible!" The quality of the data, first and foremost, is controlled by the Marine actually doing the data entry. Regardless of rank or military-civilian status, the Marine doing GCSS-MC data entry affects the accuracy of reports generated by the system and the accuracy of data shared with other DOD Systems. If each Marine in a maintenance management organization ensures that supply and maintenance transactions are recorded properly, including valid National Item Identification Numbers (NIIN), accurate meter readings, timely debriefings of labor hours, and accurate postings of other data elements, then the reports generated for decision making at higher headquarters should reflect actual readiness, optempos, and O&S costs. But if incorrect data is entered, such as a "guestimate" of the time it took to perform a repair, or the posting of a random number, like "999," for a meter reading, then the reports used to manage the Marine Corps readiness, optempos, and O&S costs will be wrong.

The responsibility for accurate data extends beyond those Marine personnel doing data entry into GCSS-MC. HQMC Installations & Logistics staff, the GCSS-MC Program Manager, Marine Corps Systems Command, and Marine Corps Logistics Command all influence data accuracy by shaping policy associated with GCSS-MC. Furthermore, personnel and organizations at all levels influence data accuracy by way of existing policies, obtaining resources, or creating a good environment for Marines to do their jobs. The Program Manager, GCSS-MC, is responsible for designing, procuring, fielding, and updating GCSS-MC. System users are responsible for implementing GCSS-MC processes and procedures, per their training, and recommending improvements to them, and leaders are responsible for providing Marines and civilian Marines the right resources to do their jobs effectively and efficiently. Leaders and logistics staff personnel should be sensitive to the needs of the system users who interface with GCSS-MC every day. They need to ensure that there are enough Marines assigned to do data entry, that they have sufficient terminals, have received proper training, and are receiving timely GCSS-MC software updates. In short, they need to make sure that for the type of technology fielded by GCSS-MC, they also field the most effective organizational structures and processes so that Marines can do their jobs well.

But who is responsible for ensuring that the data provided to decision makers is good, timely, and accurate? The answer is: "Every Marine and civilian Marine who touches GCSS-MC is responsible!"

A Fictitious but Realistic Scenario

Cpl Jimmy Johnson is a maintenance clerk at Camp Swampy. Camp Swampy is home of the 99th MEU. The MEU commander, Col Davis, recently informed his staff and subordinate commanders that the intensity of training will increase significantly in 2019 and tasked everyone to begin planning for it. He told them to expect up to a 40 percent increase in optempo, a measure of the amount the 99th operates its equipment annually, measured in miles driven, hours operated, etc. The planning would include developing good estimates of the increased resources the 99th will need to perform at the increased level of intensity. He expressed particular interest in developing accurate and defensible estimates of the MEU's supply and maintenance costs. He wants their budget requests for operation and maintenance funds to be realistic—not too high and not too low—and based on actual, historical costs.

In order to accomplish this task, Col Davis' budget officer, S-3, and S-4, and their staffs will have to coordinate closely. The Maintenance Management Officer, CWO4 Hughes, told the S-4 that he could pull historical data from GCSS-MC for 2016, 2017, and 2018 to determine the total supply and maintenance costs and the total optempo for each piece of MEU equipment. CWO4 Hughes further explained that for each Table of Authorized Material Control Number (TAMCN), his team could determine an actual optempo cost factor by dividing the annual total supply and maintenance costs by the total annual optempo. The optempo cost factor would represent an average cost per mile or hour operated. Because these factors would be based on recent, actual data from GCSS-MC, it would be "as good as you could get it" for budget estimating.

Based on CWO4 Hughes' recommendation, the S-4 informed Col Davis

that they had a solid plan. It would start with the increased optempos for 2019 forecasted by the S-3. The S-4 staff would then develop 2019 cost estimates by multiplying the S-3's 2019 optempo for each TAMCN by the optempo rates calculated from recent GCSS-MC data. These estimated costs would be given to the budget officer for updating the MEU budget submission.

What Could Possibly Go Wrong?

This sounds like a great plan! What could possibly go wrong? Well, do you remember Cpl Johnson? He's one of the Marines who is at the point of data entry into GCSS-MC, the "frontline" of GCSS-MC, so to speak. On any given day, Cpl Johnson may enter data for 150 or more supply and maintenance actions. For each transaction he enters, Cpl Johnson is supposed to post an accurate "meter reading" for most items of equipment. Usually, he has more work to do than he can accomplish in a normal duty shift, especially when GySgt Grigsby, his boss, assigns him to special details, mandatory training, and physical training. Cpl Johnson's problem is compounded by having too few terminals in the maintenance facility. So, in order to complete entering all of the supply and maintenance transactions into GCSS-MC, Cpl Johnson sometimes neglects to go out to the piece of equipment to get an accurate meter reading. Sometimes, he just uses the same mileage or hours reading that was recorded for the previous maintenance action. And sometimes, he simply posts "999" for the meter reading. There can't be much harm in that—right? After all, he did complete all of the transactions, and he's reasonably sure he correctly recorded the NIINs of the consumables used.

Wrong! Cpl Jimmy Johnson is the most important person for ensuring that Marine Corps supply and maintenance actions are recorded correctly! In this scenario, the numerous meter readings he "fudged" throughout 2017, in order to complete his daily workload, have caused the rollup of total miles and hours for 2017 to be wrong. The total number of optempo hours and miles were under-reported, so it appears that vehicles were operated less than they actually were operated. Because the optempos were too small, the calculated maintenance cost per mile or hour (the optempo cost factor) is too high. Consequently, when the S-4 provides the budget officer an updated estimate of maintenance costs for 2019, when the optempos will be increased by 40 percent, the estimates will be too high. The problem is that, because of the defective data entered into GCSS-MC, nobody can be sure how wrong the cost estimate will be.

Lesson Learned

Fortunately, after learning about how his recorded meter readings would be used, Cpl Johnson told Gunny Grigsby about the anomalies in his GCSS-MC data. Despite their embarrassment, Cpl Johnson, Gunny Grigsby, CWO4 Hughes, and the S-4 did the right thing—they revealed the recent anomalies in the GCSS-MC data. Since then, the 99th MEU S-4 has initiated training, procedures, and inspections to ensure that all of GCSS-MC will be accurate in the future. He also obtained some additional laptops to serve as GCSS-MC terminals. Meanwhile, the S-4 and budget officer developed a revised budget estimate for 2019, but their confidence in their estimate was much lower than it would have been if they had been able to use more accurate GCSS-MC data.

But more improvement is needed—every Marine and civilian Marine who works in maintenance management needs to be a strategic corporal.

Conclusion

Although the scenario in this article is fictitious, the circumstances are real throughout the Operating Forces. Since GCSS-MC was fully deployed in 2015, the accuracy and completeness of supply and maintenance data has improved dramatically. This improvement is the result of several Marine Corps initiatives and numerous improvements made to GCSS-MC. Today, GCSS-MC is delivering better maintenance management information for the Marine Corps to maintain and account for our warfighting equipment. But more improvement is needed—every Marine and civilian Marine who works in maintenance management needs to be a strategic corporal.

Notes

1. The expression, strategic corporal, was coined by Gen Charles C. Krulak, 31st Commandant of the Marine Corps (1995–1999), in the title of an article in *Marines Magazine* (January 1999), to describe the high level importance of decisions made and actions taken by lower ranking leaders. Decisive action taken by a corporal could potentially have strategic importance for a campaign. Similarly, actions taken by Marines and civilian Marines of any grade, including such seemingly mundane tasks as data entry, can have significant impacts on decisions made for the entire Marine Corps.

2. In this article, operating tempo, or optempo, is a measure of annual equipment usage. Typically, the optempo of an item of military equipment is defined as the number of miles driven, the number of hours operated, or the number of rounds fired during a one-year period. The average optempo for an entire inventory of vehicles or other equipment can be calculated from historical records, and when married with the total costs of maintaining and operating the equipment, an optempo cost factor is created. That cost factor can then be used for estimating future operations and preparing future operations and support budgets.