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# **Humanware Issues In A Government Management Information Systems Implementation**

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## **EXECUTIVE SUMMARY**

A United States Government Defense Agency charged with the acquisition and procurement of weapons systems required a comprehensive Management Information System (MIS). The Integrated Product and Process Management Information System (IPPMIS) was expected to integrate standard procurement functions through a hardware and software application. A defense contractor was 'hired' to design, develop, build, test and deploy an integrated acquisition project MIS, including career development and the management of personnel for program managers. The information system was designed and implemented without due consideration or management of the human side of systems development. The lack of human factors generated cost overruns, time delays and ultimately a partial failure of the system. This case addresses the behavioral, managerial and organizational shortcomings of the MIS process, which ultimately led to a less than effective implementation.

## **BACKGROUND**

### **The Naval Sea Systems Command**

NAVSEA—the Naval Sea Systems Command—is hierarchically linked to the Executive Branch of the United States Government through the Department of Defense, Navy Department. NAVSEA manages 139 Acquisition Programs assigned to the Command's seven affiliated Program Executive Offices (PEOs) and various Headquarters elements. The Naval Sea Systems Command is the Navy Department's central activity for designing, engineering, integrating, building and procuring U.S. Naval ships and shipboard weapons and combat systems. The Command's responsibilities also include the maintenance, repair, modernization and conversion of in-service ships, their weapons and combat systems.

Additionally, NAVSEA provides technical, industrial and logistical support for naval ships and ensures the proper design and development of the total ship, including contractor-furnished shipboard systems.

NAVSEA is the largest of the five Navy Systems Commands. Its FY00 budget of approximately \$14 billion accounts for approximately 16.5 percent of the Navy's total \$84.9 billion FY00 budget. This budget places NAVSEA among the nation's top business enterprises when comparing the value of assets, number of employees and budget using Fortune Magazine criteria. While NAVSEA has approximately 900 officers and 1,300 enlisted personnel, the vast majority of its employees are civilians. The Command's FY99 civilian end-strength—45,821 employees in seven PEOs—manages a number of major acquisition programs for the Assistant Secretary of the Navy for Research, Development and Acquisition, ASN (RD&A). NAVSEA's major resources include its highly specialized professional employees and facilities. Whenever possible, NAVSEA relies on the private sector (defense contractors, Ang & Slaughter, 2001) for a wide range of products and support services including ship design and engineering, production of ships, weapons and other complex technological systems. NAVSEA manages these programs through an organizational structure including Program Management Offices (PMOs).

This case study focuses on the limited attention given to human factors in the implementation of an MIS within a Program Management Office (PMO GOV). PMO GOV is tasked with weapons systems development for sea warfare. A defense contracting organization—*Prime Contractor (PC)*—designed, developed, tested and implemented the management information system. This Integrated Product and Process Management Information System (IPPMIS) was developed under a U.S. Government contract ending in the late 1990s. Additional perspective on the Defense acquisition community and the Defense Acquisition policy are located in the appendix.

This case study is organized into eight major sections: background, setting the stage, case description, current challenges and problems, references, appendix, glossary of terms, and further readings.

## History of the MIS Case

A defense contractor was solicited through the normal government Request For Proposal (RFP) process. The PMO, through a U.S. Government contracting agency initiated an RFP, seeking assistance with the development of an integrated weapons systems MIS to manage all stages of procurement from concept generation to deployment and follow-on support. After a routine bid cycle, the contract was awarded to Prime Contractor and the MIS development process was undertaken.

The Management Information System was initially expected to track, monitor and manage: (1) acquisition logistics; (2) configuration and data management; (3) personnel training and education; (4) integrated product and process development including systems prototyping; (5) manufacturing and production; (6) quality assurance; (7) reliability and maintainability; (8) risk management; (9) systems engineering; (10) software engineering; and, (11) test and evaluation, through an integrated software program. These major system elements were divided into a three-stage linear program: (1) pre-systems acquisition; (2) systems acquisition, including engineering, manufacturing, demonstration and production; and (3) finally sustainment. Concept development included requirements planning and needs assessment by end users (who in this case included operating forces of the United States Navy).

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