Developing an Information Systems Strategy

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In the mid-1990's, a new term was introduced in the field of information systems or IT management called enterprise resource planning. Macris (2011) defines an enterprise resource planning system as "a set of highly integrated applications, consisting of applications modules, which can be used to manage most of the business functions within an organization" (p. 1450). Although the benefits of implementing an enterprise resource planning system can be significant, Macris claims that the training requirements for the users may present a steep learning curve. Beyond training challenges, the successful system implementation phase, in itself, is often a major roadblock to the success of an enterprise resource planning system.

Many companies around the world were eager to implement an enterprise system to enable shared data across departmental lines. While this can be helpful, particularly for a global operation, it can also present significant technological and operational challenges. As stated previously, many global IT or information system implementations fail

miserably (Clegg, 1988). An enterprise system has the ability to solve the gap in proprietary systems and enable streamlined efficiencies, but only if the implementation strategy is well-developed and communicated across the organization. As a result of studying several large companies, Pollais (2003) supports similar claims stating that IT-intensive organizations can only be successful if information system strategies are carefully integrated across all functional areas.

According to a study conducted by Chen, Mocker, Preston, and Teubner (2010), IS strategy is a term routinely used among organizations, but its meaning is not clearly articulated. Davis (2000) states that there are multiple components collectively addressed by an information system strategy which include the IT infrastructure, data, software applications, and IT personnel. Other research indicates that the information system strategy must also address the planning, design, and implementation of the systems, themselves (Davis, 2000). Somewhere between these two ideologies, it appears that the information system strategy must not only address the technical side, but the business process aspects of information systems, as well. Following their

research, Chen et al. (2010) define an information system strategy as "the organizational perspective on the investment in, deployment, use, and management of information systems" (p. 237).

Davenport (1998) claims that organizations must consider the business impact of implementing an enterprise system. If the technology changes the operation, the enterprise system may not be well-received by the people using the software. Another major consideration when implementing an enterprise system is how legacy systems will be affected. If the enterprise system will replace legacy systems, leadership and technologists must collaboratively address how this will impact business operations. Davenport further states "if a company's systems are fragmented, its business is fragmented" (p. 123). Although an enterprise system may appear to be a panacea, businesses implementing an enterprise system may have to modify their business processes to fit the system, which may not be the desired effect (Davenport, 1998). Within the Marine Corps, an enterprise system may help to mitigate some of the challenges presented by several proprietary, legacy systems that do not adequately share information across the warfighting

functions. If the Marine Corps were to make this consideration, its leaders must prioritize the operational impacts over technological capability.

In 2004, U.S. General Accounting Office (GAO) chartered a study to evaluate effective IT training practices among leaders from private industry. Powner (2004) found that "agencies reported that the most common obstacles to effective training are funding and the time that training takes away from normal work hours" (p. 2). This becomes an issue of priorities and time available. As IT increases in complexity, there is a direct correlation with the required time to train. If users do not know how to operate the application, its utility will most certainly be diminished. How can this problem be addressed? Powner (2004) found that there were several training management practices that were widely used by private industry. Of those, organizations of the federal government centered around five key IT training management processes. These processes included the following:

- aligning IT training with strategic goals;
- identifying and assessing IT training needs;

- allocating IT training resources;

- designing and delivering IT training; and,

- evaluating/demonstrating the value of IT training.

During the assessment stage of determining IT requirements, an organization could gain by incorporating these guidelines. To truly understand the costs associated with implementing the appropriate training plan, a training expert must be included in the decision-making process. If this is overlooked, a major adjustment to the budget should be anticipated to correct training shortfalls. If not, an organization should expect limited utility of the IT solution.

In a study conducted by Strassman (2003), DoD IT spending was evaluated. Citing a GAO report, the 2002 IT budget exceeded $26 billion. Problem areas were cited stating that DoD tends to develop one application at a time, which typically results in redundant, stove-piped applications, meaning they are planned without considering interoperability (Strassman, 2003). Strassman further claims that investing in a better IT infrastructure would improve the success rate of application development and implementation. Strassman went on to say

that there are three primary areas for the improvement of the DoD acquisitions process, which included: 1) determining what applications can be delivered immediately; 2) aligning business processes with goals of improving infrastructure; and 3) developing a strategy for transition from legacy IT applications. If these goals are not met, the DoD will continue to make IT decisions independent of one another, driving up costs, and undermining warfighter capability. It appears that most industry experts believe that an enterprise IT strategy is more cost effective over time. While independent efforts may solve a temporary problem, they may result in long-term challenges across the enterprise.