



Decision Support Methodologies

...facilitating objective, unbiased, and qualitative transition planning support

Current Framework Applications

- investment sequencing
- prioritizing innovations
- investment portfolio rationalization
- transition application planning

Future Framework Applications

- data center prioritization
- time series analysis
- integration to linear programming
- balancing global and local optimization
- reporting and portal functionalities

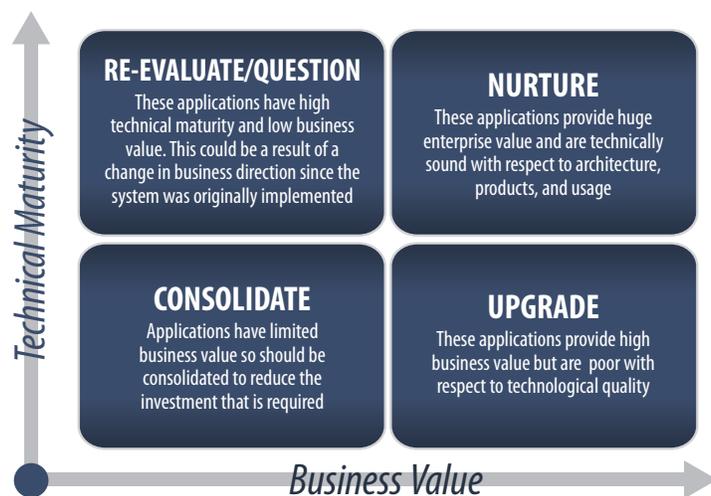
Establishing an Application Healthgrid will enable quantitative prioritization of investments and decisions on IT assets based on their business value and technology maturity.

Today the Military Health System (MHS) has a multitude of applications that are helping to facilitate the clinical, administrative, and logistical aspects of its business needs. Given the complexity of these systems, it is often difficult to interpret and make decisions about these systems in isolation.

Through the OCTO's Decision Support strategic focus area, the MHS is leveraging the Dynamic Business Capability Mapping (DBC) and MIT CSR Application Health Grid methodologies as the key framework for measuring the business value and technical maturity of current MHS and Service-specific systems. DBCM is the methodology used to measure the productivity rendered by an application based on the system's business processes, business capabilities, and enablers/investments. This includes taking into consideration errors in business processes, effectiveness and efficiency issues, as well as the degree to which a program, product, or initiative (PPI) fulfills a specific requirement.

Unlike other investment sequencing tools that exist today, DBCM focuses on quantitative, data-driven decisions, as well as its ability to incorporate qualitative information into its objective framework. This allows for an improved, more encompassing perspective when assessing and prioritizing decisions related to enterprise business value, while also helping to reduce bias.

Application Health Grids compliment the DBCM methodology and help to further reduce subjectivity by measuring and mapping the collective business value and technology maturity of an entire IT Portfolio. Technical maturity of a legacy PPI reflects its level of system availability, maintainability, vulnerability, and flexibility. Based on their scores, applications are divided into quadrants to help aid in portfolio decision making.



CALCULATING BUSINESS VALUE AND TECHNICAL MATURITY

Business value is measured through Dynamic Business Capability Mapping (DBCM) which is the practice of quantitatively measuring and understanding the enterprise value of an enabler by analyzing the impact to the ultimate end user and business processes through a series of capabilities that are performed to achieve the strategic goals and objectives of an organization.

#1 - Business Processes

Business processes are critical to the success of every enterprise and are the primary mechanism through which value is realized and measured. Business value, relative to business processes, may be classified in terms of efficiency and effectiveness. In this calculation, errors in the business processes are analyzed and classified to measure their enterprise value. System transaction logs from Military Treatment Facilities, functional change requests, and externally collected data (e.g., Government Accountability Office Reports) are examples of input data used to collect error statistics.

#2 - Business Capability/Requirements

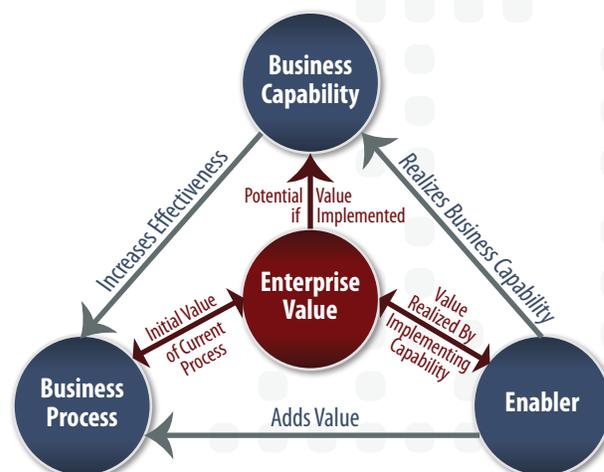
As efficiency and effectiveness issues surface, end-users of business process (the functional community) mandate policies that address these issues. These policies are then manifested as requirements or business capability statements. For a business processes to successfully be executed, it depends on information or data as well as on complex algorithms.

Mapping the requirements to data (or the business logic that the process requires) measures the potential relief provided by requirements for a given business process. This information is cumulated and normalized across all business processes to arrive at a ranking of business capabilities and requirements. Once cumulated, the business capability represents the value or the revenue side of the Return on Investment (ROI) equation.

#3 - Enabler/Investments

Requirements must be realized in order for them to provide the projected added value. This calls for changes in systems that business processes utilize and/or in other initiatives in the realm of "Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities". Applications and other investments are mapped to the requirements to analyze the degree to which the investment will fulfill the requirement.

By ultimately associating requirements to business processes (through the previous step), the final business value for an enabler



is realized. Unbiased analysis of the enabler to the requirements provides an understanding of the cost differential of implementing the solution incrementally on an existing platform as opposed to building it from scratch.

#4 - Measuring Technical Maturity

Technical maturity is measured through the current stability of applications (SCQC), software, and hardware (and the current support for it), combined with open information assurance and availability issues inherent in the application. This measure details the amount of investment required to make the application/system "current" for operational purposes. Four discrete measures evaluate the technical quality of a given application:

- **Internal Stability:** the architectural robustness of the application based on the code that has been written. Stability is measured through the amount of work required to introduce a new requirement into the application and is traditionally done in the software community through dependency analysis.
- **External Stability:** the third-party software that the application depends on, which is not limited to databases and operating systems, as well as whether or not it is still supported by its parent vendor.
- **Information Assurance:** DoD applications are frequently given an Authority to Operate (ATO) based on their ability to satisfy information assurance requirements, ensuring that no vulnerabilities are exposed that would result in information being lost.
- **Other Non-Functional Requirements:** the application is scored based on its availability, service level agreement measures, and other non-functional requirements.