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Measuring Business Performance Using Enterprise Architecture Metrics

Information, Communication, and Cyber Security, PDU - Distributed Energy Resources

Abstract

The goal of EA is to enhance business performance. Measuring that performance can be challenging, however. Much of the work in organizational metrics involves weeks-long engagements and thousands of person hours of investigation and, even then, may only measure a proxy for results; e.g. the ability to execute a process consistently.

The EPRI Enterprise Architecture Collaboration Group (EACG) recommends more of a "back of the envelope" approach than is often used by EA teams. The metrics used by EA teams, and other groups such as the Project Management Office (PMO), measure how well processes are executed—or the level of control that is exerted. The back of the envelope approach measures results rather than compliance.

In this white paper EPRI identifies the areas where EA can add value, defines metrics for measuring business performance, and provides a streamlined survey method that can be used internally at utilities to produce results with sufficient accuracy to be actionable. The results of easy-to-answer questions can provide results to identify weaknesses and measure success.

Introduction

Business leaders are most concerned about the organization's ability to execute on its strategic objectives while minimizing cost and risk. Business leaders want to know how Enterprise Architecture (EA) is helping them in those areas.

Any organization should be able to measure its performance in key capabilities and repeat that measurement quickly and easily to confirm that the identified solutions are working. This paper focuses on those areas where EA adds value, based on a meta-analysis of available literature and additional input from the EPRI Enterprise Architecture Collaboration Group (EACG). The group then developed a survey that a company can use to measure its strength in those areas. Rather than focus on the maturity of process and control, these metrics look for the outcomes of a well performing capability. These are not measures of compliance but of results.

Areas of EA Value

A review of existing literature shows overall agreement on the areas where EA can add value [2]. These areas are defined below.

Organizational Alignment

The organization focuses its resources on executing the strategic vision. The organization's capabilities are prepared to, or are being enhanced to, meet the future demands of the enterprise to execute on the strategic vision.

Information Availability

All participants in the enterprise have access to the information and toolsets necessary to do their jobs.

Enterprise Portfolio Optimization

The systems necessary to run the business are optimized for performance and cost.

Organizational Agility

The systems necessary to run the business are able to add new functionality as fast as the business needs them to. New applications can utilize existing shared services in order to minimize integration time and cost.

The Approach

Each metric is described by a series of statements that identify the ideal situation in the various facets of each area. The organization is then measured with a score between 0 and 5 that captures how well respondents feel the organization meets that ideal situation. For example, an important part of organizational alignment is making sure that the organization has the ability to execute on its plan. This concept is captured in the statement:

> *"Strategic Objectives are linked to the business and IT capabilities required to implement them."*

The responder would then estimate, on a 0 to 5 scale with 0 equal to "doesn't meet" and 5 equal to "meets completely" how well they feel the organization meets this ideal. Respondents should have enough knowledge of their area to give a quick and accurate answer to the statement. Answer in whole numbers, providing decimal place precision will not increase the value of the exercise. Likewise, decimal place changes in subsequent surveys won't represent noticeable changes in the enterprise.

Who Should Complete the Survey

As much as possible the metrics should be gathered from teams and individuals outside of the EA team. There is still some subjectivity in these answers but some honest reflection can provide enough precision to be actionable. The EA team (assuming there is one) can facilitate the process; gather and publish the metrics in the same way it does for technology standards.

Once the survey is complete the answers for each question will be averaged to provide a score for each metric.

The Survey

All statements should be ranked from zero to five; zero meaning "doesn't meet" and five meaning "meets completely". The scores are then averaged to provide a metric for each area.

1. Organizational Alignment
    a. Strategic objectives are linked to the business and IT capabilities required to implement them.
    b. Business and IT capabilities are analyzed for gaps between the current and desired strength.
    c. Roadmaps that define the path from current to desired state are used to select and guide projects and purchases.
    d. Projects are reviewed at inception so that redundant, non-strategic or high-risk/low-reward efforts are eliminated.
    e. Key vendors and service providers are included in a shared-enterprise so that their roadmaps are informed by the organizations future needs.
    f. Disruptive business models and technologies are continuously analyzed for threats and opportunities.
2. Information Availability
    a. Information is available to authorized users immediately.
    b. Analytical and graphical tools are available and have direct access to required data sets.
    c. New technologies are investigated for their potential to improve information availability, timeliness, accuracy and analytical capabilities.
    d. Information is only available to identified individuals and with a least privilege approach based on a risk assessment.
3. Enterprise Portfolio Optimization
    a. Purchasing decisions are reviewed to avoid paying multiple times for the same functionality.
    b. Functional duplication between applications and departments has been eliminated.
    c. Software and hardware licensing is rationalized to one enterprise wide license per product.
    d. Hardware and technology standards are defined and followed so that licensing and support costs are minimized.
    e. Exceptions to the standards are tracked along with the additional support costs and risks.
    f. Hardware, software and interfaces are monitored for usage so that under-utilized components can be eliminated.
    g. Applications are shared by multiple groups performing different roles in the same functional area.
    h. Consolidation and purchasing decisions include a risk analysis of vendor viability, support and lock-in.
    i. Investments in people, process and technology are reducing operational and maintenance (O&M) costs for the same functional scope.
4. Organizational Agility
    a. New solutions are reviewed for extensibility; the ability to support change.
    b. Application to Application (A2A) and Business to Business (B2B) Application Programming Interfaces (APIs) can be enhanced without breaking existing consumers of the API.
    c. New applications use existing interfaces to consume data and services.
    d. Application functions are shared with and reused by other applications.
    e. Key vendors and service providers are informed about the organizations objectives so that their technology, development practices and interfaces can respond at the rate required by the industry and the organization.

Conclusions

The initial literature review shows that there is general agreement on the areas where EA can help an organization. There are also very few methods available that can measure an organizations performance in those areas and none that were found that can provide an answer quickly and at very low cost.

The survey that the team built might prove valuable to measure an organization performance in four critical areas. Furthermore, the survey can be used repeatedly to measure the effectiveness of improvement efforts. The group feels that the right answer to weaknesses in these areas is Enterprise Architecture, even if it's by another name.

References

1. How Does Enterprise Architecture Add Value to Organisations? http://aisel.aisnet.org/cgi/viewcontent.cgi?article=3581&context=cais

Contact Information

For more information on this topic, contact Sean Crimmins, 650.855.7901, scrimmins@epri.com. For general EPRI information contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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Electric Power Research Institute
3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com