

Measuring the Success of a Service-Oriented Architecture

The Problem

A service-oriented architecture (SOA) is a framework for building bridges that enable collaboration across IT islands.

MSIS Research IT has developed the MedBus SOA to eventually service enable over 300 enterprise medical data sources for research purposes.

These UM data services will need to be constructed as reusable units of function that can interoperate with a growing national ecosystem of many thousands of data service endpoints.

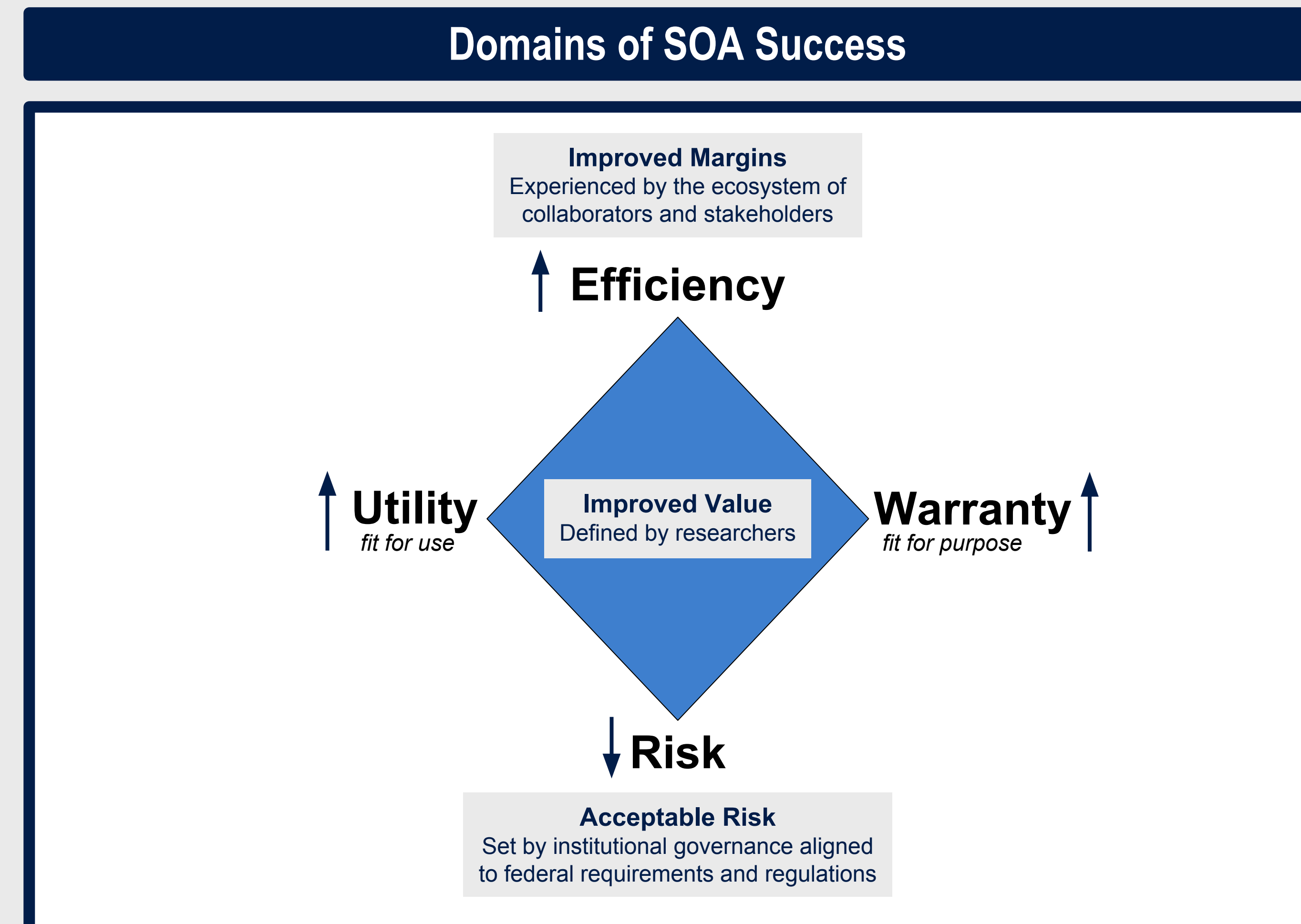
With such a large body of work it can be difficult to identify the high-value data sets to translate into reusable services that do the right thing.

Solution

Key performance indicators (KPI) provide an analytical compass for directing tactical efforts toward the strategic goals of SOA.

Services and dashboards that report on these KPI provide a framework to evaluate the success of MedBus.

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The MedBus Service-Oriented Architecture (SOA) increases the efficiency, utility, and warranty of medical school research data services while reducing the institutional risk associated with researcher access to electronic protected health information.

KPI as FAIR Data Services

- Findable** by defining KPI in the UMHS information management glossary.
- Accessible** as services within the MedBus SOA leveraging Red Hat JBoss Data Virtualization.
- Interoperable** as standard OData REST services.
- Reusable** units of function that can be packaged into multiple reporting environments.

Operational Business Intelligence Dashboards

- Are we meeting our goals as defined by service delivery agreements?
- Are we continuously improving on service delivery?
- Are we building the correct service functionality?
- What is the current state of service delivery?

Results

We have developed KPI that provide actionable metrics of service quality across four domains of success:

- Increase in data service utility
- Increase in data service warranty
- Increase in enterprise efficiency
- Decrease in institutional risk

These KPI currently draw from a SQL store of MedBus request tracking data.

Follow Up

Defining the KPI in the UMHS Information Management Glossary will increase the findability of these KPI.

Provisioning these KPI as OData services will increase the accessibility & interoperability of this information.

Extending KPI inputs to streaming and NoSQL sources will increase our ability to monitor real time service delivery.

Send feedback and ideas to: MSIS-Research-Program@med.umich.edu

More Information on MedBus: <http://medbus-umich.github.io>

More Information on our KPI: <http://tinyurl.com/soakpi>

