



Why should I care about strategic technology planning?

- **Influence** the prioritization of capital spending in support of your organization's mission & vision
- **Communicate** with executives
- **Align** HTM resources – staff, time, budget – with your organization's technology strategy and objectives



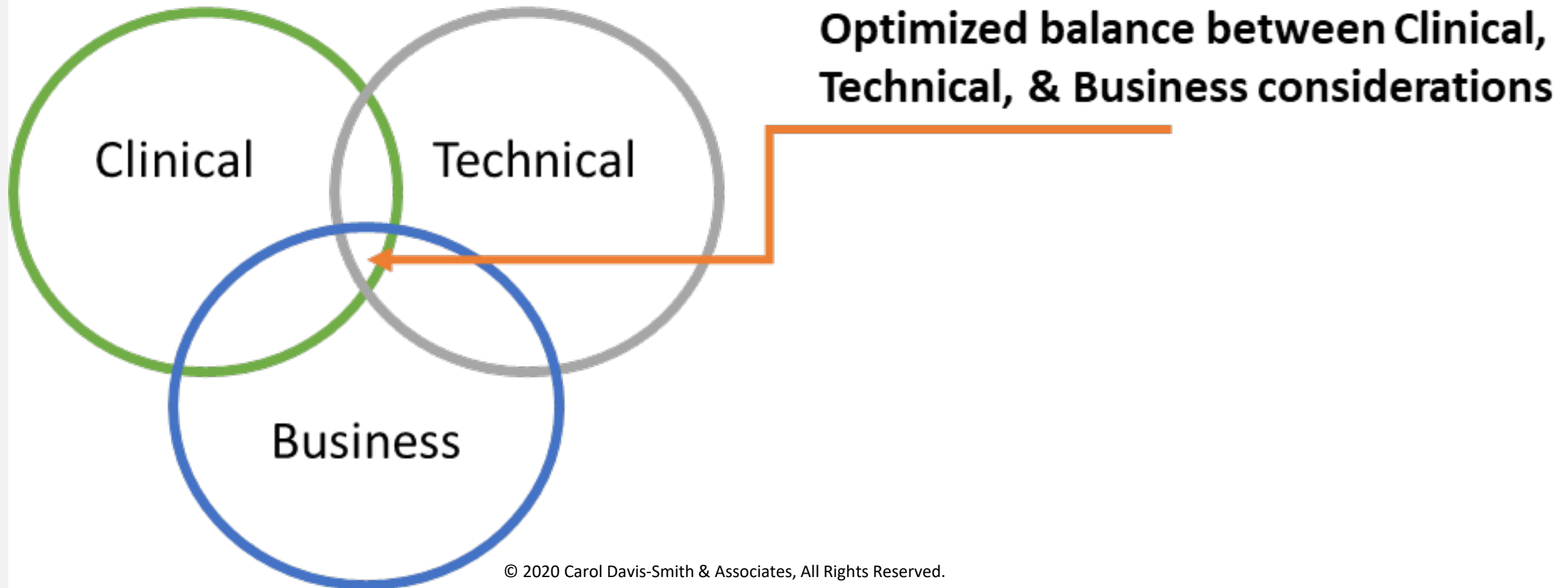
Today's agenda & objectives

Strategic technology planning (STP)

Leading practices and resources

Building / Enhancing the STP





At the highest level, there are three perspectives required for an optimized strategic technology plan – clinical, technical, and business (financial). The most successful plan finds the point of intersect of the three perspectives.

Leading Practices & Resources

Normal

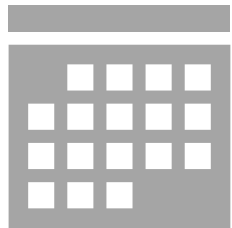
New Normal

Standardizations



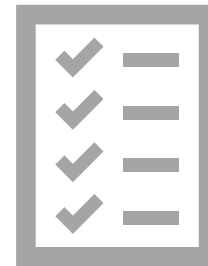
Leading Practices

Policy – Process – Procedure



Plans versus Lists

Discontinued reliance on decentralized “wish lists”
Visibility to needs beyond current fiscal year

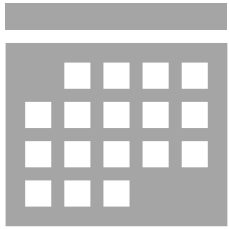


Documented PPPs versus Historical Practice

Business cases that substantiate the requests (plan’s forecast)
Policy to guide standardization as well as account for the on-going operational and maintenance support requirements.

Leading Practices

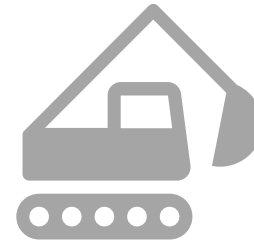
Long-term vs Short-term Planning



Annual capital planning

Long-term: a 3-5 year equipment plan (forecast) that informs the annual capital budgeting process

Short-term: an immediate reaction to an emergent (crisis) situation



Construction project equipment planning

Long-term: a 10-15 year equipment plan (forecast) that informs the facilities master planning process

Short-term: a reaction to an emergent (crisis) situation within the last year of a construction project

Leading Practices

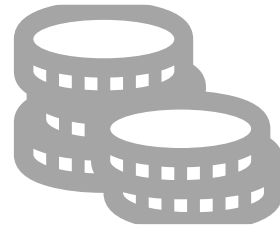
Decision Makers & Funding



Influencers versus Decision Makers

Sometimes difficult to differentiate – Who are the REAL decision makers?

Some participants have different roles at different points in the process

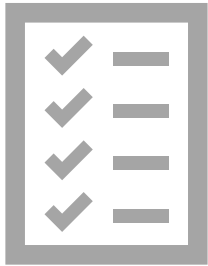


Approval versus Allocation

To further complicate the situation, **funds allocation** does not necessarily result when a request is **approved**. For some organizations, these are two completely separate processes with distinct decision-makers.

Leading Practices

Networking & Cybersecurity



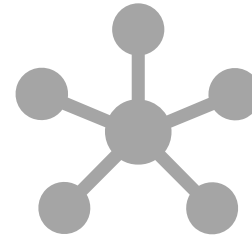
Proactive versus Reactive

Current inventory profile

- Risk assessments
- Impact on 3-5 year strategic technology plan

Sourcing & Contracting

- RFI/RFP – short listing potential suppliers
- Terms & Conditions - deal breakers



Integrated, Cross-Functional Planning

Clinical operations

Network architecture

Cybersecurity risk analysis

Leading Practices in the shadows of a Pandemic



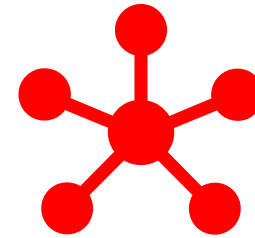
Clinical Protocols

Infusion Pumps – everywhere, all the time

Ventilators – Intensive Care, Med/Surg Units

Patient Beds – everywhere, all the time –
Intensive Care versus Med/Surg Units versus
Emergency/Urgent Care

ECMO, BiPAP, Physiological Monitors



Locations & Par Levels

Hospitals

Standalone Emergency &/or Urgent Care facilities

Long-term Care facilities

Surge Capacity

Patient Homes

Leading Practices in the shadows of a Pandemic



Acquisition

Reallocate

Rent

Lease

Borrow

Stockpiles



Supply Chain Management

Consumables

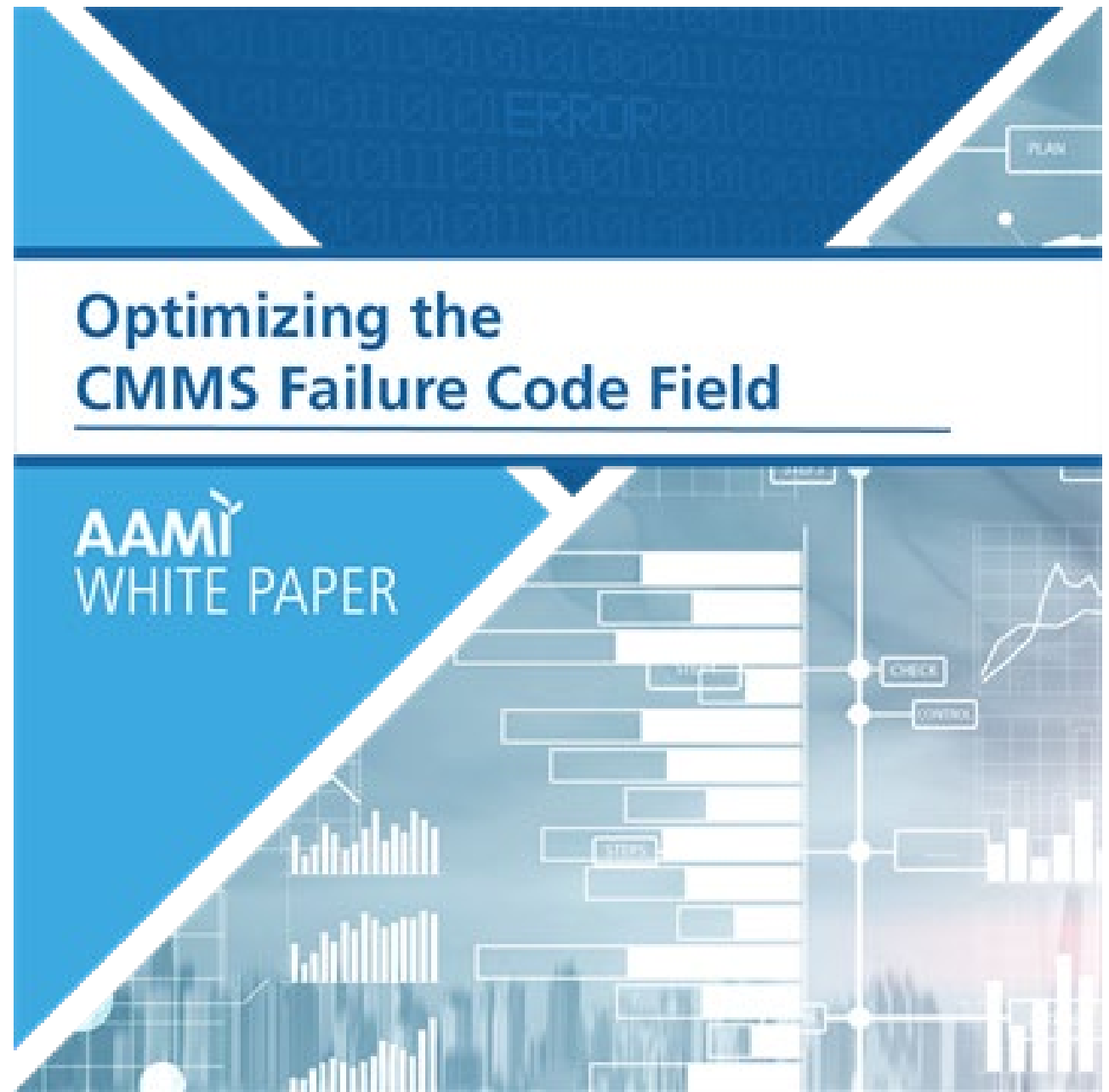
Parts

Service

Enhance Your Strategic Technology Plan with Failure-related Metrics

CMMS Suppliers Unite to
Standardize Medical
Device Failure Codes

October 22, 2020



<https://www.aami.org/HTM/htm-resources/cmms-collaborative-white-papers>

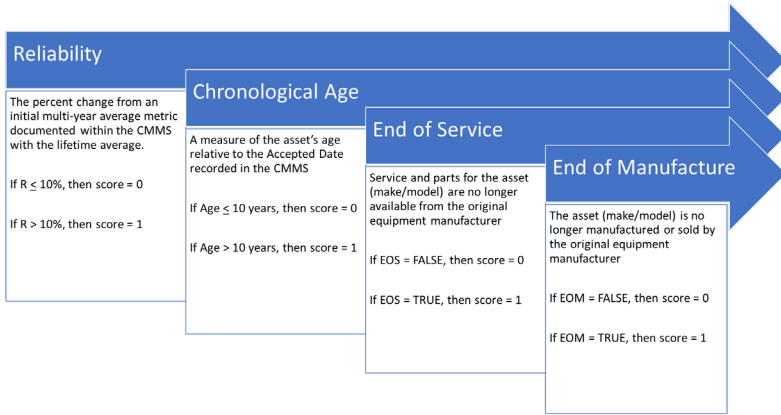
Proposed Failure Codes

- Component Failure (Battery)
- Component Failure (Not Battery)
- Accessory or Disposable Failure
- Calibration Failure
- Failure Caused by Maintenance
- Failure Caused by Abuse or Negligence
- Network or Connectivity Failure
- Software Failure
- Failure Caused by Utility System
- Failure Caused by Environmental Factor
- Failure Could Not Be Identified
- Use Error (Use Failure)
- Failure Not Diagnoses – Device Not Repaired
- No Failure Associated with the Work Order

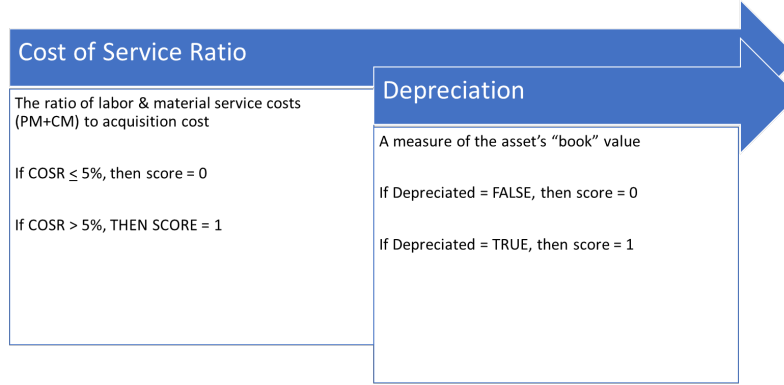
Building / Enhancing the STP

Leveraging leading
practices & resources

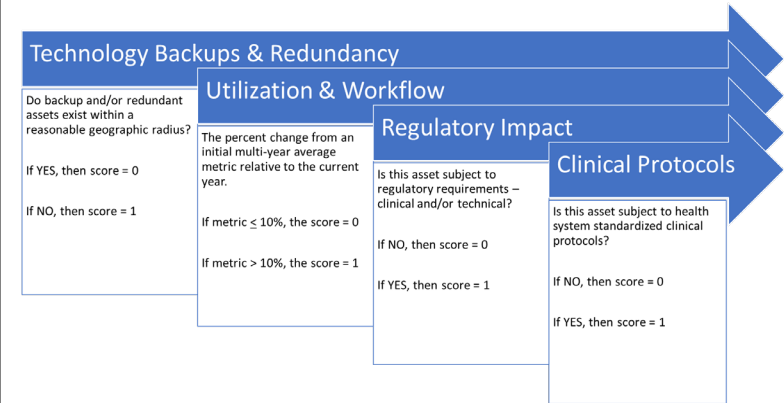




Technical

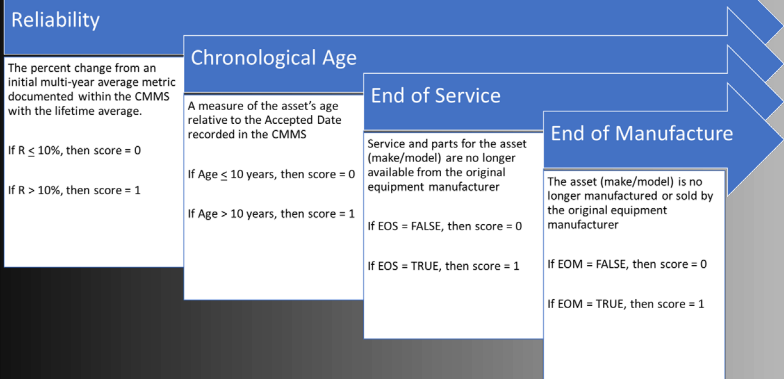


Business

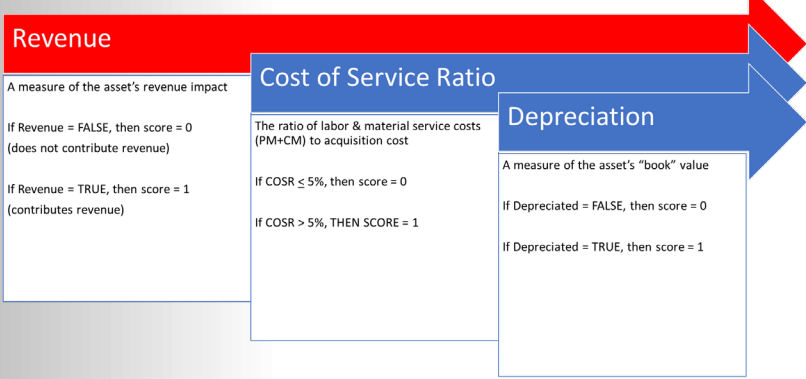


Clinical

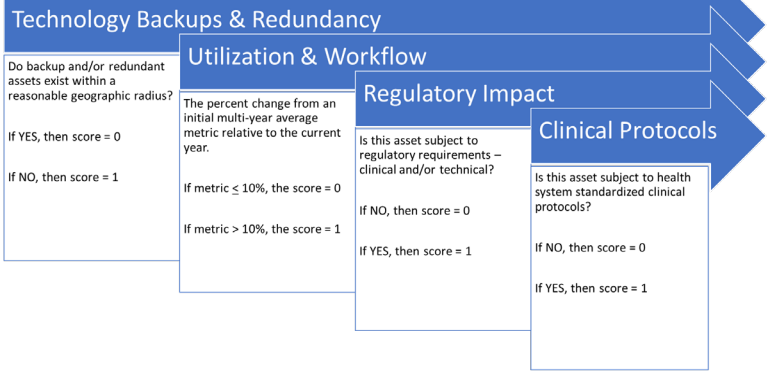
Scoring



Technical



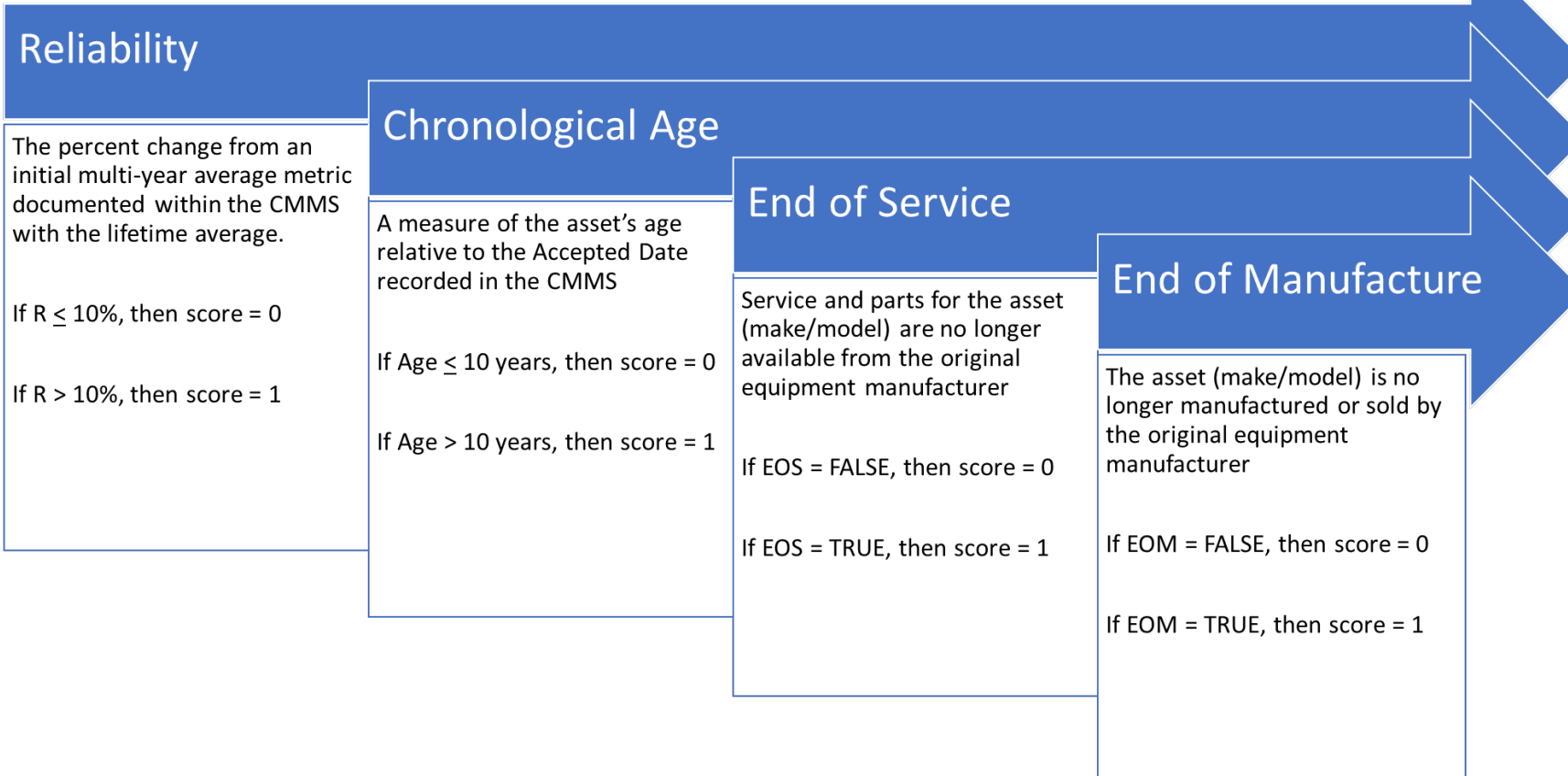
Business



Clinical

Scoring

in the shadows of a Pandemic



Technical Scoring

APPLICATION

Enhancing Your
Strategic Technology
Plan
with Failure-related
Metrics

Technical Scoring

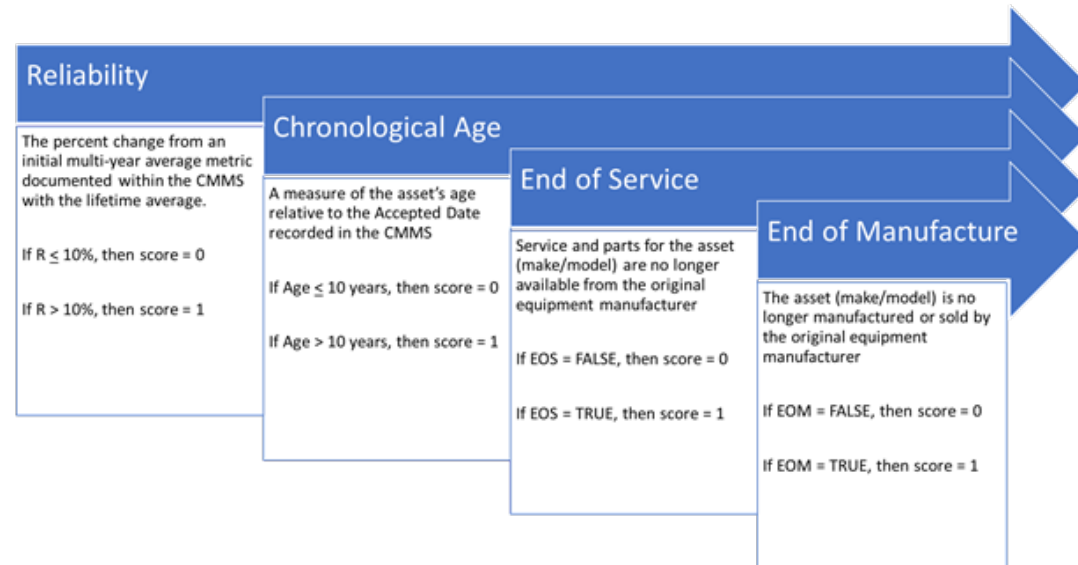
Industry Factors:

End of Life = End of Manufacturing + End of Service

Health System Factors:

Chronological Age = when purchased/installed

Reliability = operational &/or maintenance metrics



APPLICATION

Enhancing Your
Strategic Technology
Plan
with Failure-related
Metrics

Technical Scoring

Reliability metrics:

of Corrective Maintenance work orders

of Corrective Maintenance labor hours

\$ of Corrective Maintenance parts &/or service

Mean Time Between Failures (MTBF)

Reliability (R) = the percent change from a baseline average relative to the lifetime average

$$\text{RELIABILITY} = (\text{Metric}^{\text{LIFE}} - \text{Metric}^{\text{BASEAVG}}) / \text{Metric}^{\text{BASEAVG}}$$

$R < X\%$ Acceptable Score = 0

$R \geq X\%$ Unacceptable Score = 1

Potentially focus on a specific type of failure

APPLICATION

Enhancing Your
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Plan
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Metrics

Technical Scoring

Roll-up of individual metrics:

Simple Summation versus Weighting

Reliability	EOM	EOS	Technical Score
	0	0	Green
	1	0	Yellow
	1	1	Red
0	0	0	Green
0	1	0	Yellow
0	1	1	?
1	0	0	Yellow
1	1	0	?
1	1	1	Red

Technology Backups & Redundancy

Do backup and/or redundant assets exist within a reasonable geographic radius?

If YES, then score = 0

If NO, then score = 1

Utilization & Workflow

The percent change from an initial multi-year average metric relative to the current year.

If metric \leq 10%, the score = 0

If metric > 10%, the score = 1

Regulatory Impact

Is this asset subject to regulatory requirements – clinical and/or technical?

If NO, then score = 0

If YES, then score = 1

Clinical Protocols

Is this asset subject to health system standardized clinical protocols?

If NO, then score = 0

If YES, then score = 1

Clinical Scoring

APPLICATION

Enhancing Your
Strategic Technology
Plan
with Clinical Scoring
factors & metrics

Clinical Scoring

Industry Factors:

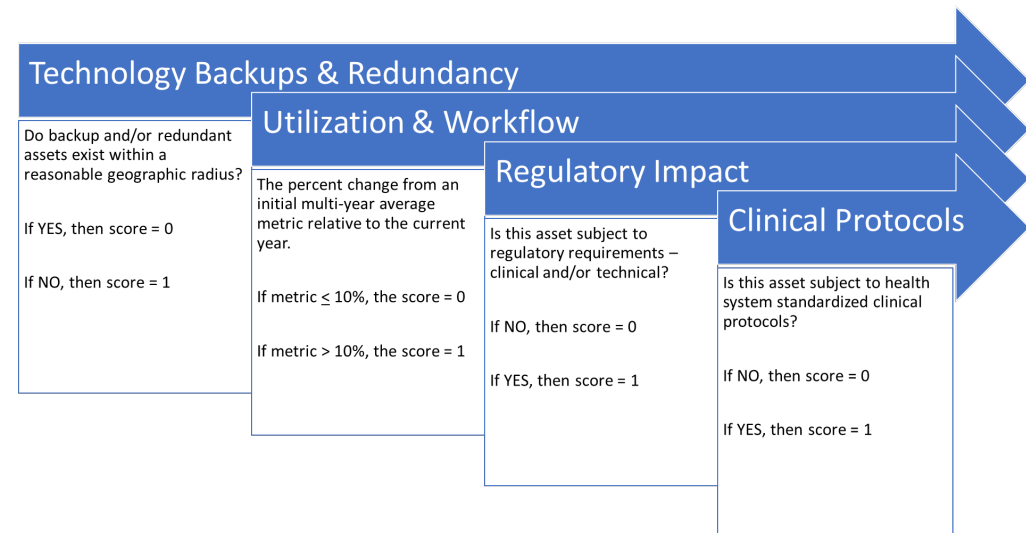
Clinical Protocols ... CMS & professional societies

Regulatory Impact ... CMS & state gov't

Health System Factors:

Utilization & Workflow

Technology Backups & Redundancy



APPLICATION

Enhancing Your Strategic Technology Plan with Clinical Scoring factors & metrics

Clinical Scoring

Roll-up of individual metrics:

Simple Summation versus Weighting

Technology Backups & Redundancy	Utilization & Workflow	Regulatory Impact	Clinical Protocols	Clinical Score
0	0	0	0	
0	0	0	1	
0	0	1	0	
0	0	1	1	?
0	1	0	0	
0	1	0	1	?
0	1	1	0	?
0	1	1	1	?
1	0	0	0	
1	0	0	1	?
1	0	1	0	?
1	0	1	1	?
1	1	0	0	?
1	1	0	1	?
1	1	1	0	?
1	1	1	1	

Revenue

A measure of the asset's revenue impact

If Revenue = FALSE, then score = 0
(does not contribute revenue)

If Revenue = TRUE, then score = 1
(contributes revenue)

Cost of Service Ratio

The ratio of labor & material service costs
(PM+CM) to acquisition cost

If COSR \leq 5%, then score = 0

If COSR > 5%, THEN SCORE = 1

Depreciation

A measure of the asset's "book" value

If Depreciated = FALSE, then score = 0

If Depreciated = TRUE, then score = 1

Business Scoring (Financial)

APPLICATION

Enhancing Your
Strategic Technology
Plan
with Business
(Financial) Scoring
factors & metrics

Business (Financial) Scoring

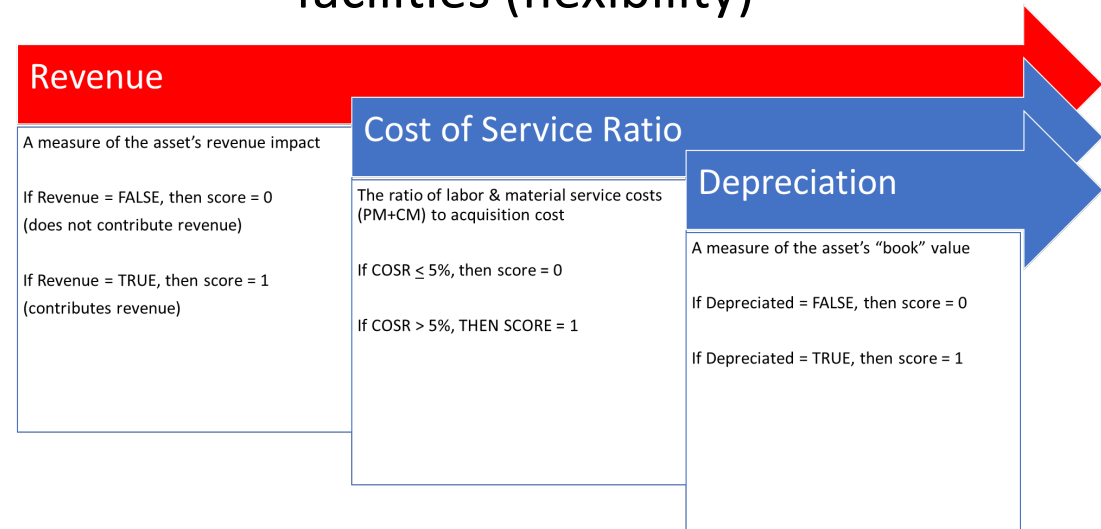
Industry Factors:

Depreciation

Health System Factors:

Cost of Service Ratio (COSR)

Revenue ... equipment, procedures & physicians,
facilities (flexibility)



APPLICATION

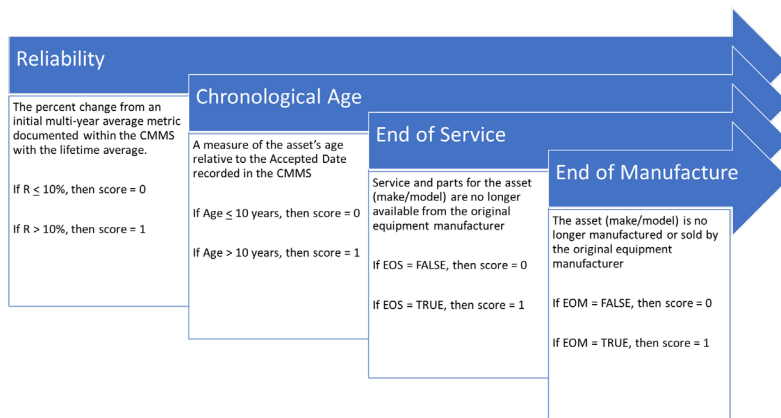
Enhancing Your
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Business (Financial) Scoring

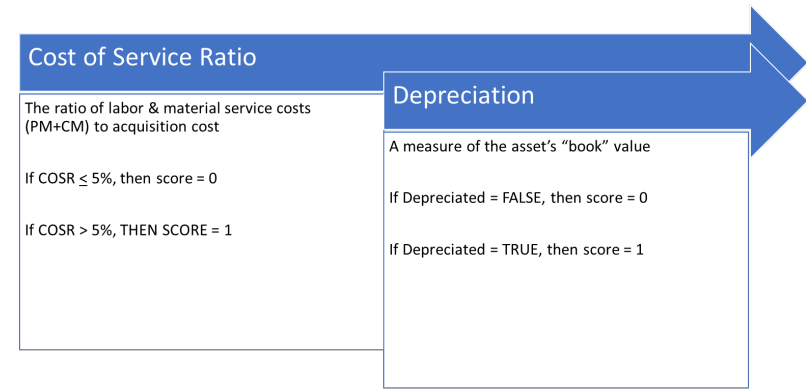
Roll-up of individual metrics:

Simple Summation versus Weighting

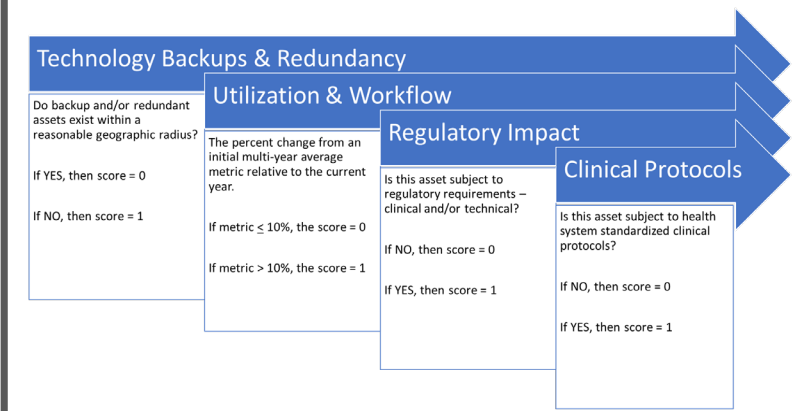
Revenue	Cost of Service Ratio	Depreciation	Business (Financial) Score
			Green
			Yellow
			Red
0	0	0	Green
0	0	1	Yellow
0	1	0	Yellow
0	1	1	White
1	0	0	Yellow
1	0	1	White
1	1	0	White
1	1	1	Red



Technical



Business



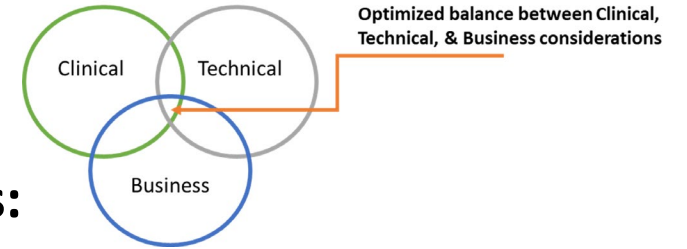
Clinical

Comprehensive Scoring

APPLICATION

Enhancing Your
Strategic Technology
Plan
with Comprehensive
Scoring

Roll-Up Scoring



Roll-up of individual metrics:

Simple Summation versus Weighting

Technical	Clinical	Business (Financial)	Comprehensive Score
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Questions

Thank You

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