Introduction

- ITIL Measures and Metric course will give a great overview of how to determine what to measure within your organization in order to drive decision making for further growth and improvement.

- This course is designed for Information Technology Service Management practitioners, managers, and executives involved in operation and oversight of products, services, or transformation projects in today's modern digital organizations.

- By the end of this course, you will be able understand not only what to measure, but why you should measure, in your organization to ensure you aren't wasting your money by capturing unnecessary numbers or your time by generating unnecessary reports.

Start with Why

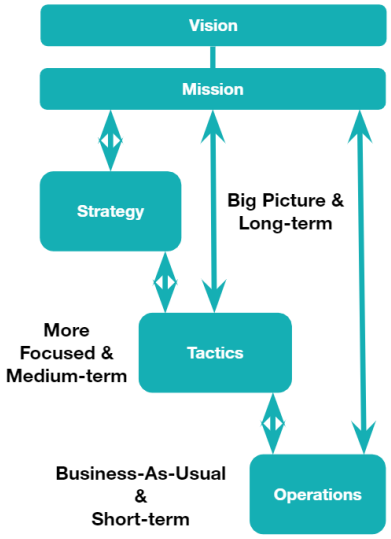
- This lesson discusses the importance of starting with why when determining your purpose and vision for your organization.

- Why does the organization exist and what purpose does it serves?
    - Answering questions What, How and Why
        - What do you do/offer?
        - How do you do it?
        - Why do you do it?

- Think about what your purpose is…
    - You need to understand their purpose and vision to understand an organization
    - Start with why to help you define what your organization's mission and vision

Vision and Mission

- Organizational vision and mission statements can provide direction
- Vision is a defined aspiration of what an organization would like to become in the future
- Mission is a short but complete description of the overall purpose and intentions of an organization
- What is the difference between a mission and vision statement?
    - Mission focuses on today, but vision focuses on tomorrow
- Amazon
    - Mission
        - We strive to offer our customers the lowest possible prices, the best available selection, and the utmost convenience
    - Vision
        - To be Earth's most customer-centric company, where customers can find and discover anything, they might want to buy online
- Strategy is a broad approach or course of action defined by an organization for achieving its objectives
- Tactics are the specific methods by which a strategy is enacted
- Operations are the routine running and management of an activity, product, service, or other configuration item



- Governance is the means by which an organization is directed and controlled
    - Organizations are directed by a governing body (person or group of people) who are accountable at the highest level for its performance and compliance

- Compliance is the act and result of ensuring that a standard or set of guidelines is followed, or that proper, consistent accounting or other practices are being employed
    - Compliance with applicable laws and regulations must be ensured for governance to be effective

- Management is the coordinated activities to define, control, supervise, and improve something
    - Good management ensures adherence to directions provided by the governing body, including compliance with policies, laws, and regulations

- Policy is a formally documented management expectations and intentions which are used to direct decisions and activities
    - Policies direct decisions and behavior within an organization

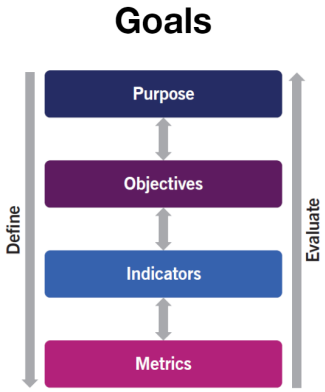
- Control is a means of managing a risk, ensuring that a business objective is achieved, or that a process is followed
    - Organizational or procedural controls
        - Policy, training, process
    - Logical or technical controls
        - Scripting, access control, automated workflows
    - Physical controls
        - Fences, security guards

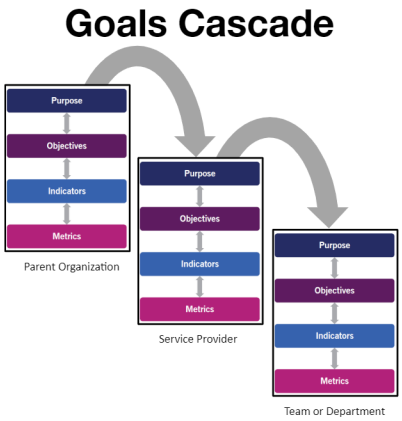
- Guideline is a recommended practice that allows some discretion in its interpretation, implementation, or use
    - Used when no specific policy applies or exists
    - Used when organization does not want to dictate behavior but instead wants to provide the best practices for use

Cascading Goals

- Goals can cascade downward from the larger organizational strategy into individual departments or teams for effective measurements of progress towards a common goal

- Cascading goals ensure that the organization's strategy, tactics, and operations are aligned and allows the reporting of accomplishments through feedback loops
    - Goals may also be objectives, targets, or success factors, depending on the context





Measurements and Metrics

- How will you know if you improved things?

- Data is collected on products, services, practices, value chain activities, teams, individuals, suppliers, partners, and the entire organization

- Measurement is a means of decreasing uncertainty based on one or more observations that are expressed in quantifiable units

- Metric is a measurement or calculation that is monitored or reported for management and improvement

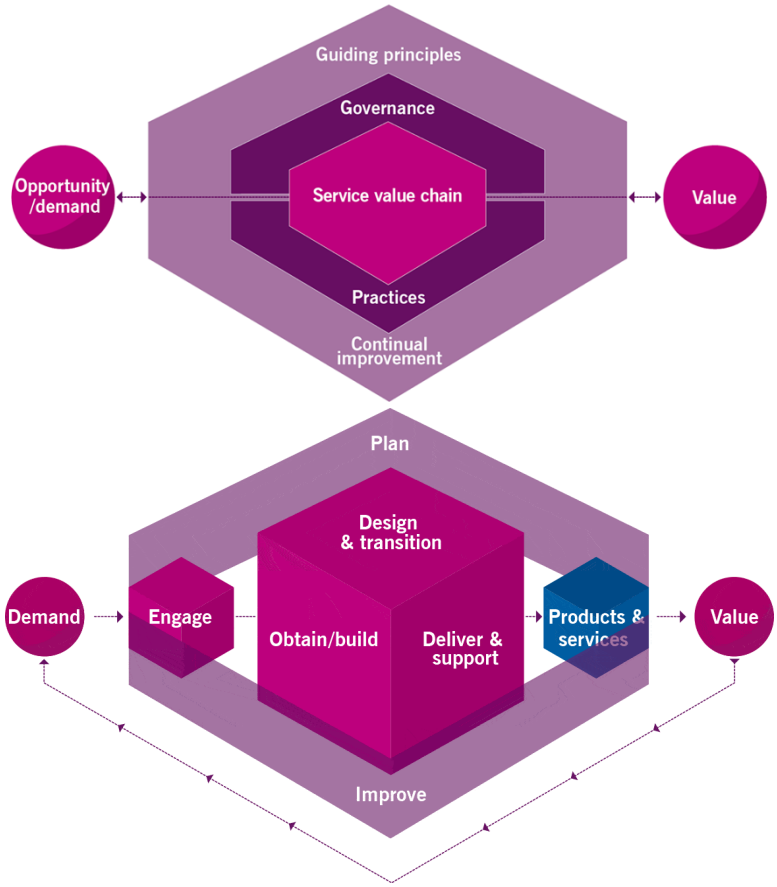
- Indicator is a metric that is used to assess and manage something
    - A target trend and value must be assigned to a metric before it can be used as an indicator
    - Metrics alone don't tell you much but combining them with a trend can
        - A metric is just a number…

- Report is a detailed communication of information or knowledge about a topic or event
    - Reports are only useful if they are accurate, complete, and well-organized
    - Data must be interpreted to have true meaning

What should we measure?

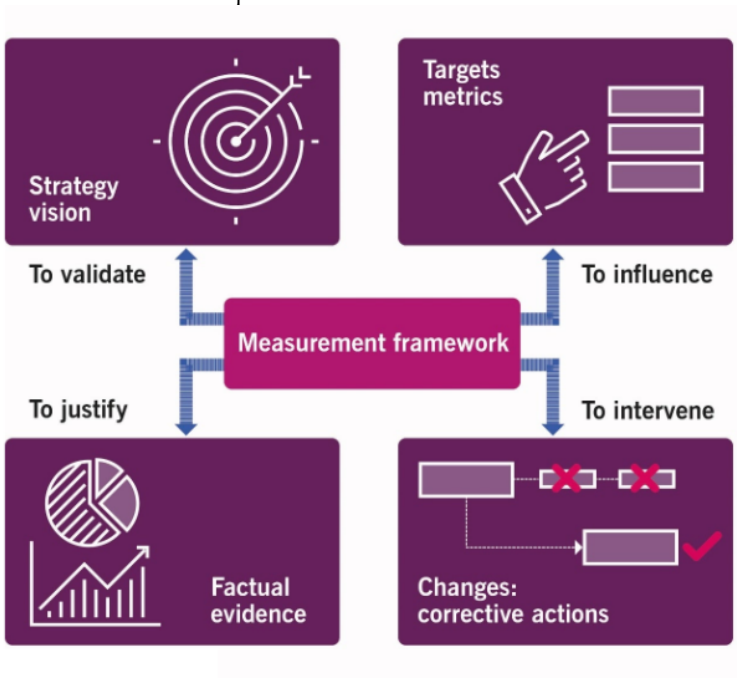
- It is important <u>not</u> to measure everything…
  - Measure each part of your service value system
  - Periodically review what you are measuring
  - Adapt your measurements over time and ensure they align to your organizational goals

- The data you collect has a cost associated with it
  - Every piece of data must be stored, processed, analyzed, and reported



Why do we measure?

- Measurement Frameworks and its quadrants



Five Types of Measures

- Five types of measures
  - Progress
    - Demonstrate the degree of achievement relative to defined milestones and/or deliverables
  - Compliance
    - Demonstrate the degree of adherence to governance and/or regulatory requirements
  - Effectiveness
    - Demonstrate the degree of fitness for purpose of any part of the SVS, a product, or a service
  - Efficiency
    - Demonstrate the degree of fitness for use of any part of the SVS, a product, or a service
  - Productivity
    - Demonstrate the throughput of a system (a value stream, a process, a service, a component) over a period of time
    - You must balance what you want to achieve in terms of productivity

What is measured gets done…

- Measurements can lead to unintended consequences

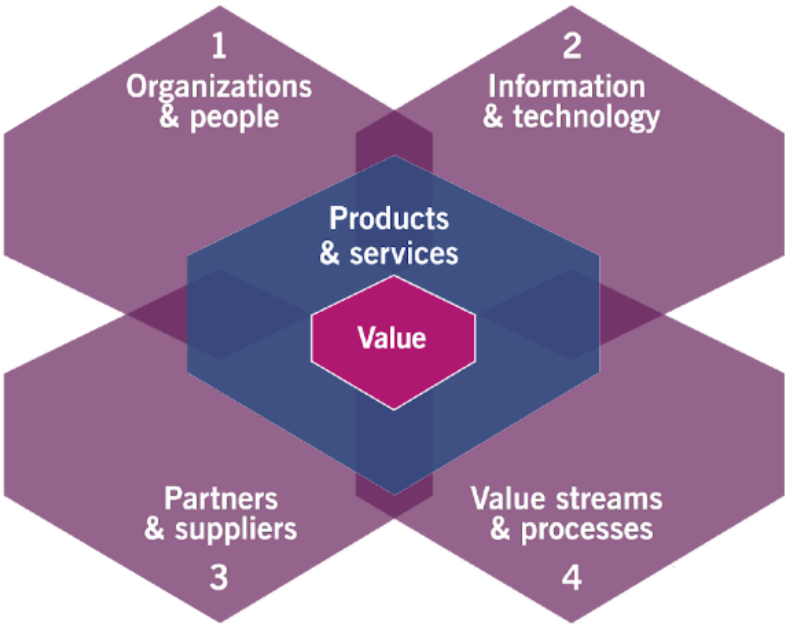
- Organizational objective
  - Increase customer satisfaction
  - Less than 2 minutes for first level ticket resolution

- Shouldn't customers be happier if their tickets were resolved quicker?
  - Not always…

- Service desk objective examples:
  - Average time is less than 2 minutes for first level ticket resolution
  - Ensure to align your metrics to proper behaviors

Success Factors and KPIs

- Success factors and KPIs define what needs to be measured in an organization
- Success factors describe a condition or characteristic that must be achieved for something to be considered successful
- Practice Success Factor (PSF) is a complex functional component of a practice that is required for the practice to fulfill its purpose



- Example Using the Continual Improvement practice in ITIL 4
  - PSF 1 - Establishing and maintaining an effective approach to continual improvement
  - PSF 2 - Ensuring effective and efficient improvement across the organization
  - What is our intent behind these PSFs?
    - Effectivity or efficiency
  - Key Performance Indicator (KPI) is an important metric used to evaluate the success in meeting an objective
    - KPI 1 - return on investment and value on investment
    - KPI 2 - percentage of successful improvement initiatives
    - KPI 3 - percentage of improvement initiatives realized in line with planned timelines, costs, and other plans

- KPI 4 - percentage and effect of improvement initiatives for which negative outcomes and realized risks outweighed planned positive outcomes
- KPI 5 - continual improvement productivity index

- KPI Example
  - 200% Return on investment (Higher is better)
  - Your organization can choose what specific levels to set these KPIs

- Smart KPIs
  - Specific
    - Should be clarity on what is needed or intended to be achieved
  - Measurable
    - Should be possible to measure the characteristic or factor either directly or indirectly
  - Achievable
    - Must have a realistic objective set
  - Relevant
    - Ensure that any factor being evaluated makes sense in terms of what you are trying to achieve with your overall outcome
  - Time-bound
    - Every KPI should be measured for a specific period of time and not be open-ended

- KPIs can also be binary in nature (yes/no)

- Watermelon Effect
  - Occurs when all your KPIs are assessed as green but in reality, value in not being created
  - If you measure the wrong things, then your KPIs can indicate success even though your service is failing to deliver outcomes

Utility, Warranty, and Experience

- What is in an SLA?
  - Service
    - Defines the scope of the agreement
  - Level
    - Defines the characteristics of the services and agreed metrics and targets for each characteristic
  - Agreement
    - Covers the terms and conditions of the service provision and consumption

- Level section of an SLA includes the agreed upon service level targets for utility and warranty

- Utility is the functionality offered by a product or service to meet a particular need

- Warranty is the assurance that a product or service will meet agreed requirements

- Utility characteristics of services describe functions performed by people and other resources of the service provider, or service actions

- Utility is binary… (either works or doesn't)

- Some utility is based on integration of multiple characteristics and can be measured as a percentage
  - Smartphone Example:
    - Do you have a connection to the global voice network? (yes/no)
    - What percentage of calls had connection interruptions? (<2%)

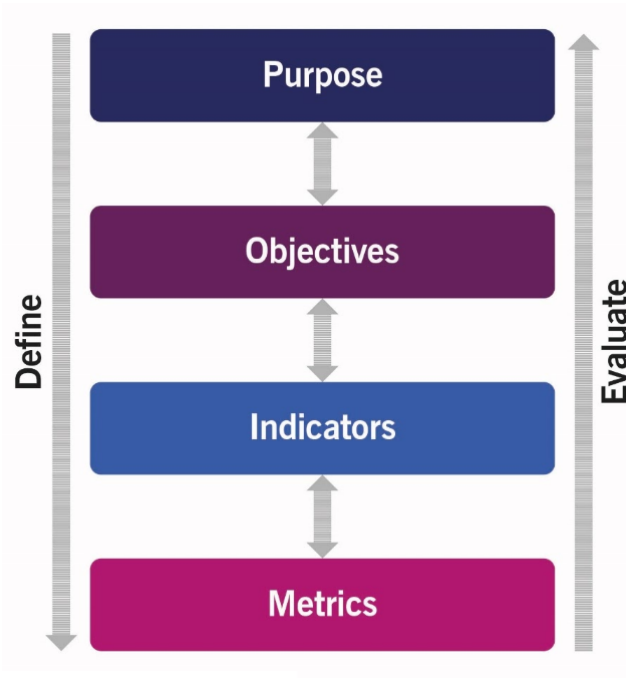
- Warranty characteristics of services describe the level of assurance that the agreed utility will be provided in the agreed conditions

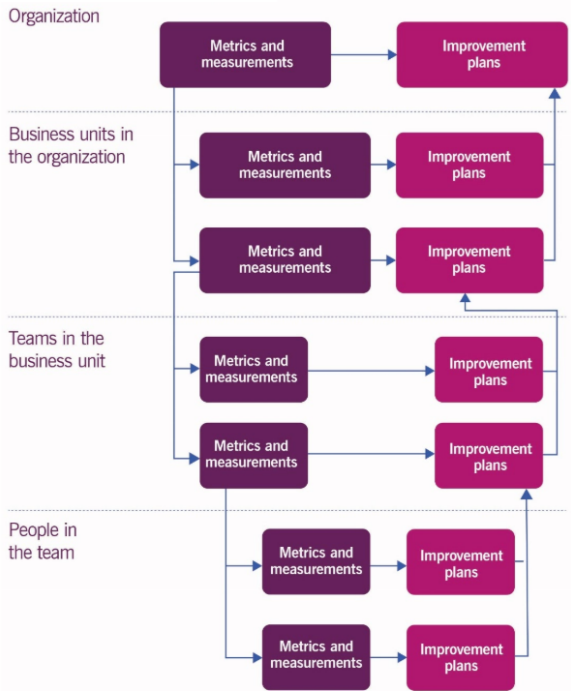
- Level of assurance means that within the agreed conditions, certain levels of availability, performance, capacity, continuity, security, usability, compliance, and other service quality characteristics
  - Smartphone Example:
    - What is your minimum download speed? (> 5 Mbps)
    - What percentage of availability was experienced over one month? (>99%)
    - What was the maximum service restoration time in the case of a major network disruption? (<12 hours)

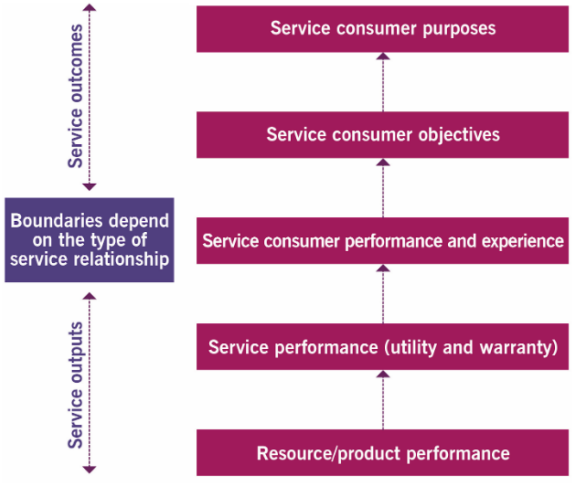
- Experience metrics are increasingly being included in SLA since CX and UX is important (often termed XLA)
  - Measurement of these can be integrated in digital services

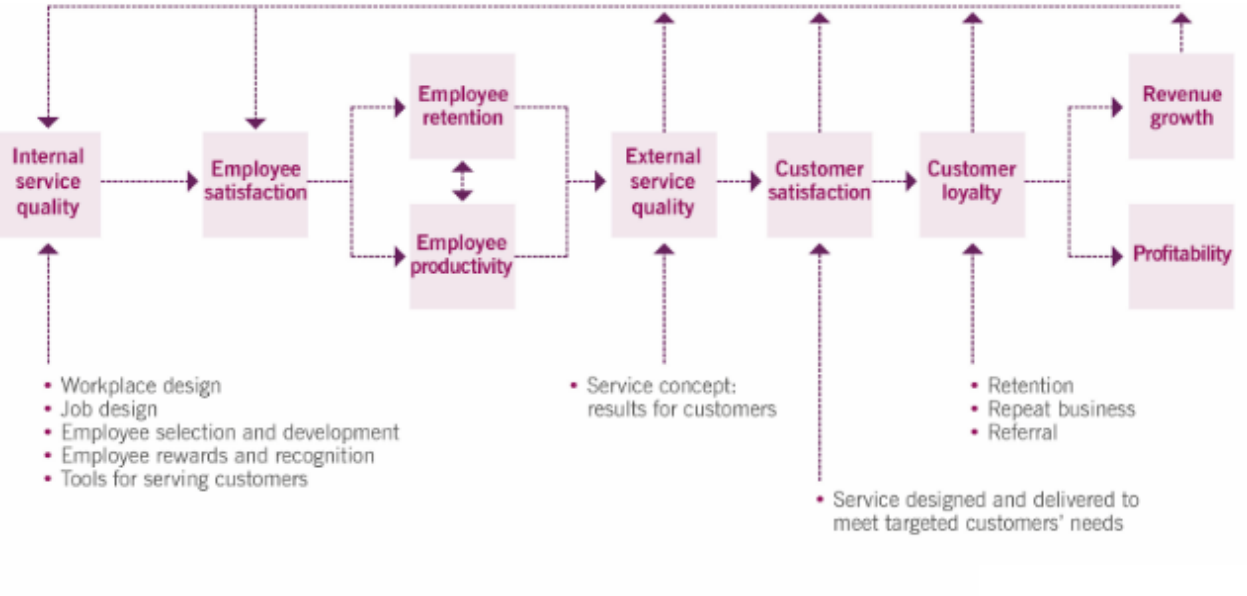
- Errors
  - What is the number and frequency or user errors?
- Drops
  - What is the number and frequency or dropped actions?
- Churn Rate
  - What is the number of users who cancelled a subscription?

Measurement Models



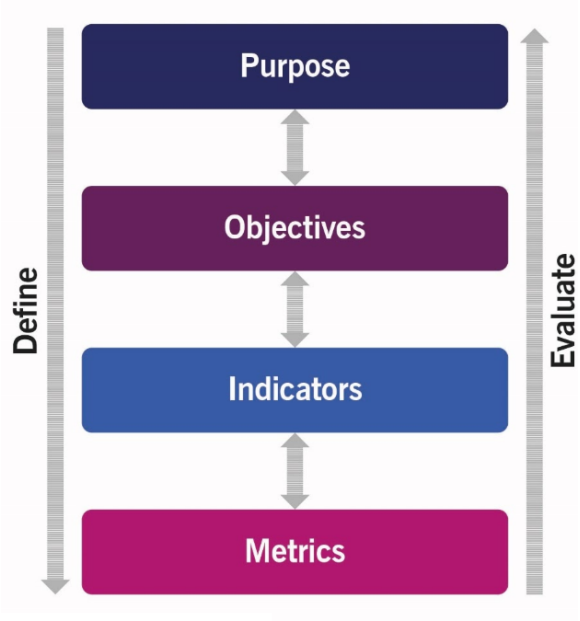


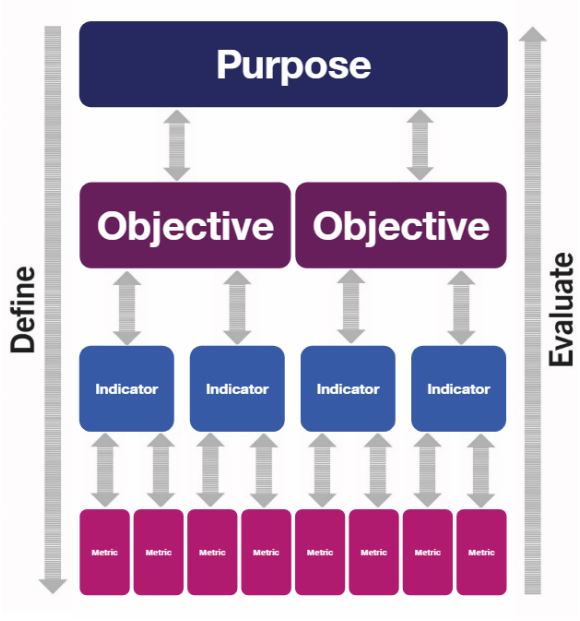




Planning and Evaluation Model

- Measurements and metrics must align with higher-level requirements
- Organizations must measure the right things to make good decisions





- Consider the following metrics we have in regards to our student's watch time:
  - 3,000,000
    - minutes watched
  - 50,000
    - hours watched
  - 2,083
    - days watched
  - 5.7
    - years watched

- These metrics aren't tied to an indicator since they don't drive decisions

- Remember these guiding principles
  1. Progress iteratively with feedback
  2. Think and work holistically
  3. Keep it simple and practical

Objective 3.2: Balanced Scorecard

- Balanced scorecard is used to define measurements and metrics and is used as a framework for planning and management

- Customer Perspective
  - Recognizes the importance of customer experience and customer satisfaction

- Financial Perspective
  - Focuses on the traditional management of finances that every organization should include within their scorecard

- Internal Perspective
  - Helps to understand the health of the organization's internal workings and business processes

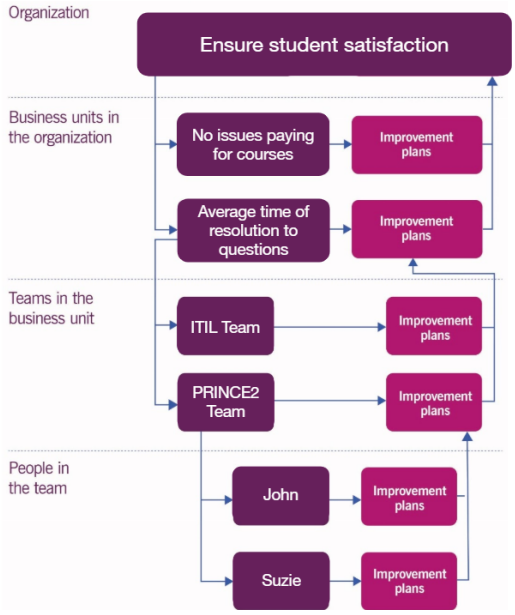
- Innovation Perspective
  - Closely linked to your continual improvement ability, learning, and growth

- Example of a balanced scorecard

Perspective	Objectives	Measures	Operational Definition	Target	Initiatives	Cost
Customer	Increase satisfaction with support received	Lead: # of DR exercises per year Lag: Satisfaction	*Operational Definition in Appendix B*	≥ 5 *per year by* 2020 $\geq 80\%$ *by* 2020	-Disaster recovery exercises -Cyber response embeds -Customer conferences -Familiarization tours	1M
Financial	Decrease cost per incident response to $100K by 2020	Lead: # of incidents identified Lag: Cost per incident	*Operational Definition in Appendix B*	≤ 2 *per year by* 2020 $\leq \$100K$ *per incident by* 2020	-Increased resourcing for remote forensic capabilities -Decrease acquisition time for automation of network anomaly detection software	650K
Internal Process	Decrease network downtime required during incident response to <30 minutes by 2020	Lead: Network availability during normal operations Lag: Network availability during incident response	*Operational Definition in Appendix B*	$\geq 99.9\%$ *uptime by* 2020 ≤ 30 *minutes downtime per incident response by* 2020	-Establish standards for increased redundancy in design of networks -Establish standards to require virtualized networks -Establish standard procedures for conducting incident responses -Exercise incident response plans	55K
Org. Capacity	Increase the staff's ability to conduct defensive cyber operations	Lead: % of qualified applicants Lag: Ability	*Operational Definition in Appendix B*	$\geq 50\%$ *qualified by* 2020 $\geq 80\%$ *ability by* 2020	-Hire staff with cyber security experience, degrees, and/or certifications -Train staff annually to retain proficiency	7M

Organizational Improvement Cascade

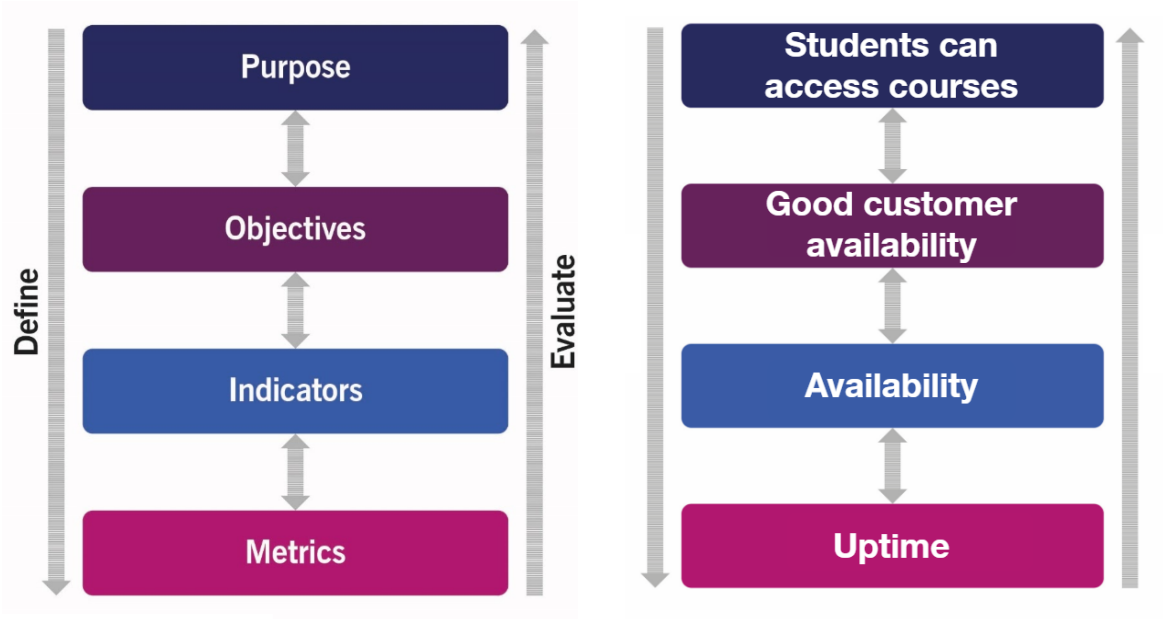
- Organizational improvement cascade is used to help us measure performance at multiple levels in the organization



Measuring outcomes

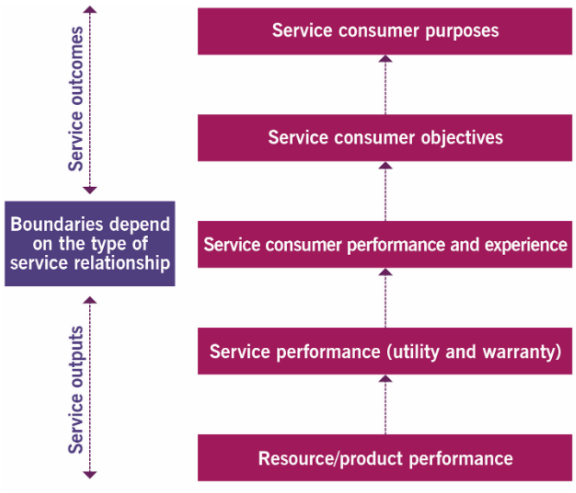
- Service value indicator is a measure that either directly or indirectly indicates the situation or level of a specific aspect of service value
    - Indicators reflect achievement of an objective

- Metric is an important characteristic of value that can be expressed in quantifiable units based on data
    - Identifying the direct and indirect indicators of service value and the links between them
    - Defining and measuring the underpinning metrics
    - Capturing measurement data

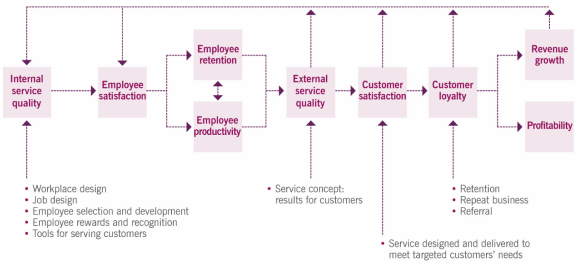


- Measuring in different environments
    - Simple Environment
        - Contains predefined service level reports
    - Complicated Environment
        - Collaborative measurement, or clear mapping to clearly defined customer outcomes
    - Complex Environment
        - Environment that uses experimentation and hypothesis testing in an agile manner where KPIs are set/checked during each sprint
        - Difficult to directly measure outcomes

- Value Driver Framework Model is used as a basis for linking performance and output indicators to outcomes where lower layers are the value drivers for higher layers



- Service Profit Chain



- How do you measure outcomes that cannot be measured quantitatively?
  - Knowledge and capability
    - Accumulated knowledge may lead to improved capabilities and improved capabilities may lead to faster, better, and cheaper task completion
  - Attitude, behavior, and culture
    - Assessment of an organization's culture and behavior patterns can be made using narrative-based techniques (hybrid of qualitative and quantitative)

Assessments

- Maturity Assessments are used to evaluate the capability of something, usually a process or an organization, compared with a maturity framework, model, or scale

- 5 Different types of assessment methods
  - Choose the assessment method based on the outputs you need to produce
    - Gap analysis
    - SWOT analysis
    - Customer/User Satisfaction
    - Benchmark comparison
    - Maturity assessment
  - It may be necessary to perform these assessments iteratively

Gap Analysis

- Gap analysis is an assessment that is used to compare a current state with a desired future state
  - The delta is the difference between the two states

- A gap analysis should be conducted periodically
  - Not the most economical method of assessment
  - Areas conducting duplicate functions may not be included

SWOT Analysis

- SWOT analysis is an assessment used to identify the strengths, weaknesses, opportunities, and threats
    - Internal
        - Strengths and Weaknesses
    - External
        - Threats and Opportunities

Provides a focus on the strategic, management, and operational levels

- SWOT analysis can provide a single process regardless of planning level being considered

- Lack of prioritization
    - SWOT Analysis is prone to subjectivity based upon the people and personalities involved

Customer/User Satisfaction

- Customer/User Satisfaction Analysis is used to identify the current levels of customer or user satisfaction with a service or product

- Important to determine if satisfaction increased as expected after a change was made
  - Provides insight into the value of the products or services
  - Monitors the customer or user's perception of the service provider's commitment
  - Allows organizations to measure how perceptions are changing over time

- Customer's may perceive follow-up emails/surveys as too salesy

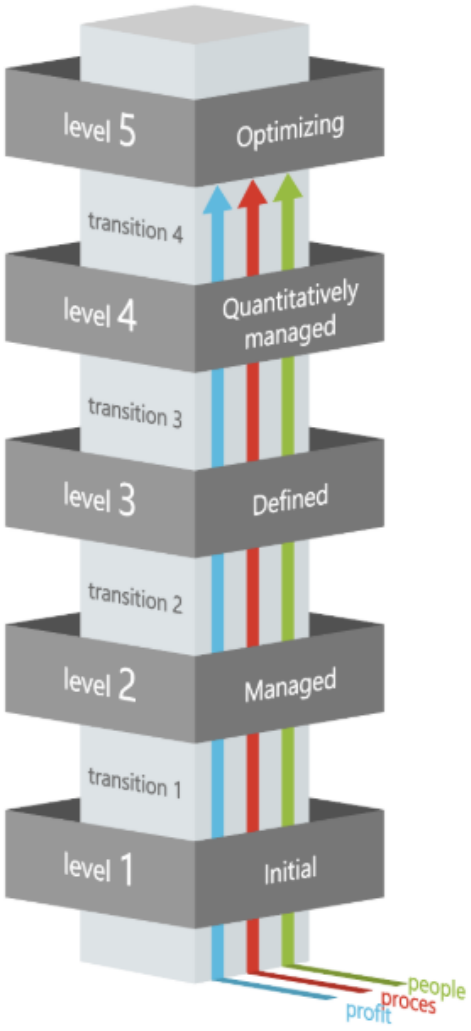
Benchmarking

- Benchmarking is the act of measuring the performance of an organization's products, services, or practices against those of a similar organization
    - Can be a motivating factor for culture change
    - Can be done at the organizational or operational level
    - Can be used to find ideas for improvements
    - Can be used to compare similar practices across different industries
    - Does not transfer well without the appropriate context

Maturity Assessments

- Maturity Assessments are used to evaluate the capability of something, usually a process or an organization, compared with a maturity framework, model, or scale
    - Provides a maturity rating alongside descriptions of the supporting evidence

- Only valuable if it drives improvement
    - Prioritization of resources
    - Baseline for improvement



Reporting

- Report is a detailed communication of information or knowledge about a topic or event
- May include formal service reviews or information meetings between service provider and the customer
    - ROI
    - Achieving strategic objectives
    - Process performance
    - Satisfaction measures
    - Service levels
    - …and much more
- Service provider should try to map service performance metrics
- Customer should link service level with its strategic objectives
- Consider the audience for your report
    - Measure what matters and then report on this to enable decisions