Metric systems for executive overview

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Presenter Title
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Outline

• Identification of Key Performance Indicators (KPIs)
• Analyzing data collection sources
• Metrics establishment
• Determination of reporting methodologies
• Effective metrics and reporting deployment
• Conclusion
Key performance Indicators (KPIs) identify the health of the business, aligning cross-functional business goals to their corresponding drivers (process and product).

Limited to three to five business objectives (e.g. improved schedule performance, waste reduction, on-time delivery, etc…)

Identify expected product and process threads and validate through interviews of leadership:
- Ensure identification of SMEs and key data input systems
- Understand how the output of the metrics will be monitored
- Identify accountability, at all organizational levels
Identification of KPIs (2 of 2)

- Identify logical metric groupings and prioritize business need based on expected impact (e.g. Waste reduction – Rework, Scrap, DPU, Cost of Quality)

- Map the corresponding key business process identifying data sources, gaps in collection, and accountability
  - Establish sub-teams to address key process deficiencies or system changes to collect all needed data

- Validate understanding throughout the value stream
  - Process flow and system interfaces including actors
  - Expected resultant system values (Rework or DPU are expected to be X)

Effective Metrics Require Cross-Functional Buy-In
Analyzing data collection sources

- Understand the flow of data through architectural diagrams
- Ensure mapping of business data keys (master data), for legacy systems, including programs, parts, suppliers, etc.
- Translate database and system nomenclature to existing business language
- Validate core data elements are meaningful and consistently collected (e.g. Defect and Causal information)
- Means test the data and reconcile results (counts and aggregations are as expected)
- Modify existing systems or processes to ensure actionable information

System’s Thinking Drives Understanding
### Metrics establishment (1 of 2)

- **Measures or counts of activity have limited value**
  - Should only be applied, when driving a burn down plan or if output is at a sustained level, for a period of time

- **Metrics enable actionable data that can be consumed at all business levels requiring normalization**
  - Products and processes are not all created equal and should be conveyed based on complexity, volume, and/or lifecycle stage
  - Basic calculation should be consistent across impacted area
    - Allowing multiple calculation moves the focus, from problem solving to metric interpretation

Normalization Enables Broad Understanding
Metrics establishment (2 of 2)

- Goals must be established, based on the targeted area (defect quantities per defined unit, would generally be higher, in development, than production)
- Baselines are determined based on current performance (e.g. average of the previous 6 or 12 months)
- Targets are based on executive expectations, as a driving factor, ensuring buy-in
  - Achievement of X value across, within a targeted area, or an overall reduction of X percent
  - Align with all levels of management to ensure buy-in and enforcement
Conveyance of metrics will vary between using groups

- Executives are generally focused on areas of concern or high-risk, and the corresponding actions taken
- Middle management is focused on metric trends and forecasting, within their area of oversight (ensures executive goals and expectations are achieved)
- Front line managers drive performance through identification of issue drivers (daily or weekly problem recognition and resolution)
- Engineers are accountable, for their personal quality, schedule, and cost (daily or multiple times per day recognition of areas that exceed control limits or goals)

To enable common objectives, the metric definition and calculation will always roll up, from the bottom to the top

One Size Does Fit All – Reporting Must Match Organizational Role
Reporting methodologies (2 of 2)

- **Executive Level**
  - Focused on and-on, stop light views of exceeded thresholds including trend indication
  - Link to actions taken to meet the established goal

- **Mid-Level Management**
  - Views of metric values over time and their corresponding trends (individual metric level by area of oversight)
  - Ranked bars based on target area, for targeted corrective action
  - View and validation of low-level action plans

- **Front-Line Supervisor**
  - Weekly performance trends and their corresponding drivers, per area
  - Visibility based on statistically derived limits, targeting specific areas

- **Engineers**
  - Daily trends, with granular supporting data, for what-if and root cause analysis
Effective metrics and reporting deployment

- Align metrics to multi-discipline boards and reviews
- Monitor the usage of the metrics and underlying reports across subject matter domains
- Enable cross-function change control boards, for consistency and broad application
- Evaluate trends and goal achievement, at a macro level
- Communicate the metric objective, methods of interpretation, and accountability at all levels
- Ensure metric and data SMEs are identified, to answer data and analysis questions

Communication Success = Metric Success
Conclusion

- Development of Executive Level Metrics requires extensive research, analysis, and validation
- Do not underestimate the need to communicate and elicit buy-in of stakeholders, at all levels
- One size does not fit all – there will be varied metrics and reporting, for various organizations and roles
- Metrics development is a marathon and not a sprint, the metrics requirements will change with organizational maturity