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Business Execution Series...

Organizational Performance Measures



Types

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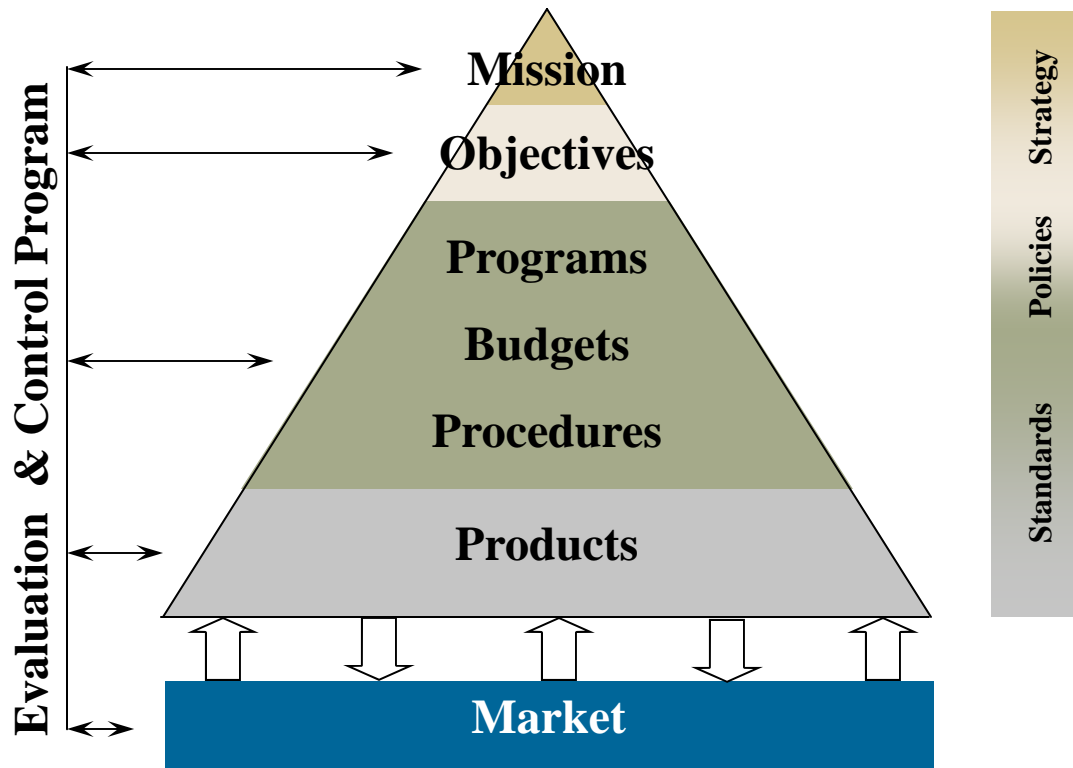
Organizational Performance Measures

Performance measures serve to align an organization's efforts to the achievement of its mission. As part of a company's evaluation and control program (see Figure 1), they quantifiably monitor important characteristics of the company's products and services and the performance of the individuals and processes creating them. Performance measures support managerial decision-making by providing useful information regarding:

- how efficient and effective are the company's processes and the individuals implementing them
- if product or service improvements are necessary
- if the company's customers and stakeholders are satisfied
- if the company is meeting its stated goals (corporate, divisional, operating unit, department, and individual levels)

Performance measures best serve an organization when they are understandable, broadly applicable, uniformly interpreted, and economic to apply. They should cascade through an organization's hierarchy such that achievement of lower tiered performance goals support higher tiered goals that in turn ultimately support achievement of the company's mission.

Figure 1: Strategic Pyramid



Performance Measure Types

Performance measures serve a critical decision-making role because they draw attention to the existence of parameters and/or trends requiring action to achieve desired outcomes. Likewise, they highlight progress made toward achieving an organization's goals and ultimately the fulfillment its mission.

There exists a wide range of performance measures. Situational needs and the added complexities associated with vertical cascading and horizontal sharing

dictate the most suitable type to be used. Understanding each measure's unique applications, benefits, and shortfalls will aid in their appropriate situational application.

categories...

Decision-makers initiate actions to alter organizational performance based on both internal and external environmental changes. Performance measures unique to each of these environments provide leaders with the key information needed to make decisions that best serve their organizations.

Internal

These measures seek to quantify process and product/service information as well as identify critical environmental characteristics. Thresholds are often applied to draw attention to or initiate action in response to changing conditions.

Dependent on the condition being monitored, internal measures may be of any type. Internal performance measures are comprised of:

- *input measures*: show the amount of personnel and financial resources used for a product, service, or operation (example: material costs per unit produced)
- *efficiency measures*: show the cost, often in terms of dollars or time, per product/service produced or operation performed (example: waste per units produced)

- *output measures*: show units of product/service created or number of operations performed and their quality compared with predefined standards (example: number of defects per million units produced)
- *explanatory information measures*: highlight internal business environmental factors that may impact/influence the organization's performance (example: employee turnover rate)

External

External performance measures quantify and monitor receptivity and impact of the company's products/services on the business environment as well as the many parameters of the business environment itself. These measures indicate whether or not the business is succeeding in achieving its goals or if action is warranted. Thresholds are often applied to draw attention to or initiate a response to changing conditions. Depending on the parameters being monitored, these measures may be of any type. Typical external performance measures include:

- *outcome measures*: show results or impact and effectiveness of products/services provided or operations performed (example: product market share)
- *explanatory information measures*: highlight external business environmental factors that may impact/influence the organization's performance (example: prime interest rate)

frequencies...

Performance measure updates should occur within an operationally relevant timeframe. These timeframes are defined to allow sufficient opportunity to recognize and react to adverse conditions without imposing unnecessary maintenance costs. Typically, higher parameter changes rates or more consequential the impacts associated with exceeding an absolute threshold require more frequent performance measure updates.

Periodic

Periodic performance measures are characterized by their less frequent parameter sampling rate; often weekly, monthly, or annually. These measures are used to quantify and monitor slowly changing conditions for which management decisions and follow-up actions to alleviate adverse conditions and avoid undesirable consequences can be made in an intermediate period of time.

Decision-making in an intermediate term implies that management has time to gather and analyze additional information in response to identified trends prior to taking action. Given the additional reaction time, less specific aggregated measures, such as indices and window indicators, often serve as periodic performance measures. These measures are commonly used at a workgroup or higher organizational level.

The following are common characteristics of periodic performance measures:

- *Organization Level:* operating crew, department, division, corporate

- *Application Examples:* human error rate, corrective action backlog, average customer satisfaction rating
- *Frequency:* weekly, monthly, annually
- *Common Graph Types:* bar graphs, window indicators, and indices
- *Benefits:* reduce monitoring costs
- *Shortfalls:* higher development and maintenance costs

Frequent

Frequent performance measures are characterized by their almost constant parameter sampling rate. These measures are used to quantify and monitor rapidly changing conditions, typically of an operational nature, where a response to adverse trends must be almost immediate to prevent achievement of undesirable consequences.

Rapidly changing conditions complicate decision-making because they limit the amount of time to recognize the adverse condition, identify the appropriate response, and take the corrective action. Under these circumstances, decision-makers are often provided with procedures having a predefined set of actions to take once an adverse condition is recognized. Properly defined frequent or trend measures compliment these procedures by reducing the adverse condition recognition time enabling a timely response. Frequent or trend measures are typically used at the operational level in the organization.

The following are common characteristics of frequent performance measures:

- *Organization Level:* operating systems, business processes, operating crew
- *Application Examples:* system operating parameters, deviations from business processes
- *Frequency:* continuous, per minute or hour, shiftly, daily
- *Common Graph Types:* line graphs, numeric
- *Benefits:* enable rapid response
- *Shortfalls:* high monitoring cost

predictives...

By their very nature, all performance indicators are measures of past occurrences. How then can these lagging indicators reveal a need for action or be used to predict future performance?

Triggers

In the first instance, performance measures are used as triggers for predefined actions. Operational measures trigger the implementation of operating procedures in response to equipment parameter changes. Environmental measures trigger the execution of business initiatives because the parameter monitored, such as interest rates, reaches a value that makes the initiative financially attractive.

The following are common characteristics of trigger measures:

- *Organization Level:* all – operational through corporate
- *Application Examples:* interest rates, market demand
- *Frequency:* continuous or periodic
- *Common Graph Types:* any
- *Benefits:* highlight the need for action
- *Shortfalls:* incorrect triggers may drive inappropriate action and unnecessary cost

Leads

In the second case, one set of behavior and/or result measures is used as an indicator of the probable outcome of another measure. These indicators are commonly referred to as leading performance measures. They are characterized by their strong correlation to the measure for which they serve as a predictor. To make productive use of leading performance indicators, managers must be willing to preemptively act based on their output, often before an adverse trend or result is realized. Failure of an organization to use leading indicators can often result in delays of managerial actions to prevent adverse outcomes. In these cases, managers assume a reactionary position, responding to adverse performance trends rather than seizing a proactive position where action is taken based on leading indicators of performance to ensure adverse outcomes are not realized.

The following are common characteristics of leading measures:

- *Organization Level:* all – operational through corporate
- *Application Examples:* training correlated to work efficiency, human performance error rate correlated to consequential human performance accident rate
- *Frequency:* continuous or periodic
- *Common Graph Types:* any
- *Benefits:* enable proactive action resulting in the prevention of adverse results
- *Shortfalls:* imperfect predictor may drive inappropriate action and unnecessary cost

intelligence...

Performance measures can be grouped as those presenting refined and unrefined information. In their simplest form, performance measures present data as it occurs without added intelligence. More complex measures relate sets of data to further refine it and create additional meaning.

Indicators

Indicators are the simplest, most common form of performance measure; being unaltered, graphic representations of data. They often illustrate counts of event

occurrences or display a numeric representation of system or process parameters. Since there is no prior manipulation of data put into these indicators, human intelligence must be applied to the indicator interpretation to gain meaningful information.

While some indicators can be used individually to drive an action response, groups of indicators are frequently used to describe the overall situation and drive action based on integrated performance trends. Groupings introduce intelligence to indicators by implying relationships between them. Appropriate actions are then associated with various combinations of indicator trends. Common performance indicator groupings include sets of system performance parameters, collections of operational function indicators, and process or project control measures.

The following are common characteristics of performance indicators:

- *Organization Level:* all – operational through corporate
- *Application Examples:* system operating parameters, units produced, number of deficiencies identified
- *Frequency:* continuous or periodic – dependent on the data acquisition rate
- *Common Graph Types:* bar or line graphs
- *Benefits:* simple to construct, easy to maintain, broadly applicable
- *Shortfalls:* lack intelligence, often requiring interpretation

Indices

Indices are a special kind of performance measure that aggregates a collection of often dissimilar data to provide a unique perspective representing an overall condition. The aggregation of data adds complexity to indices beyond that of performance indicators. This challenge comes from the need to create a data combination scheme that supports the generation of credible, meaningful numeric information.

Indices are often accompanied by performance indicators representing the various component inputs to facilitate decision-making. When an index's value or trend suggests a need for action, the component performance indicators readily reveal the driver; giving decision-makers insight to the appropriate course of action.

The following are common characteristics of indices:

- *Organization Level:* equipment system, operating crew, department, division, corporate
- *Application Examples:* human performance index, consumer price index
- *Frequency:* continuous or periodic – dependent on the data acquisition rate
- *Common Graph Types:* bar or line graphs
- *Benefits:* easy to read, provide a quick overview of performance including trends
- *Shortfalls:* require supporting data or indicators to reveal drivers of performance, greater difficulty to create and maintain

Windows

Window indicators are a less specific form of index. They are unique in that a color, associated with a qualitative performance summary, is used instead of a specific numeric value. Subsequently, there is a need for accompanying explanatory information to reveal the drivers of a window indicator's color. Whereas indices have the ability to show data trends, the more generic, valueless window indicators don't readily provide trend information. To compensate, a series of window indicators will be used to provide limited trending in some instances.

Window indicators drive investigatory rather than corrective actions. Therefore, window indicators are used to characterize slowly evolving conditions where sufficient time exists to perform an investigation and select and implement an action prior to realizing adverse outcomes.

The following are common characteristics of window indicators:

- *Organization Level:* equipment system, operating crew, department, division, corporate
- *Application Examples:* equipment or system health, overall project performance
- *Frequency:* monthly, quarterly
- *Common Graph Types:* single or multi-window
- *Benefits:* easy to read, provide a quick overview of performance
- *Shortfalls:* lack trends, require background data to reveal drivers of indicated performance

Summary

In addition to driving organizational alignment, performance measures provide leaders with the critical information needed to make timely decisions. Selecting performance measures that support vertical cascading, horizontal sharing, and timely decision-making is not only difficult but vitally important to the overall success of the organization. Ultimately, a well selected and structured system of performance measures is key to delivering maximum value to stakeholders.

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About the Author

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Nathan A. Ives is a highly successful manager with over fourteen years of energy industry and consulting experience. During that time, he has served as a trusted advisor to senior managers at numerous Fortune 500 companies; helping them define organizational needs and develop and manage the complex, mission critical projects needed to improve operational effectiveness and lower costs. Mr. Ives is currently responsible for development and execution monitoring of a mid-size consulting firm's long-range and annual business plans, annual budget, and resource and project management programs.

Previously, Mr. Ives held the position of manager, strategy and operations at a big four consulting firm. During his tenure, he lead teams of experienced utility professionals at Fortune 500 and mid-sized, regional utilities in the design of integrated fleet asset management processes including strategic asset and resource planning, online and outage work management, engineering change and configuration management, document and records management, and corrective action programs. Prior to this role, Mr. Ives served as a trusted advisor to numerous Fortune 500 companies providing senior managers with actionable recommendations in the areas of organizational alignment, managerial decision-making, plant operations, and risk management.

Mr. Ives attended the United States Naval Academy in Annapolis, Maryland, earning a bachelor of science degree in physics. Later, he received a master of

business administration degree from Kennesaw State University and was elected to membership in the Beta Gamma Sigma and Phi Kappa Phi honor societies.

Mr. Ives served on the Nuclear Energy Institute's New Nuclear Plant Executive Taskforce and the Graduate Student Advisory Board at Kennesaw State University's Coles College of Business. He is a member of the Project Management Institute and the American Management Association.

Mr. Ives received national recognition for business planning including the AT&T *Best Use of the Internet* award in 2003.

questions...

For questions regarding this topic, please contact Mr. Ives at:

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