

Meaningful key performance indicators: Real or illusory?

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Brian Jordan has been with Sprint for over 21 years. Having led Sprint Real Estate since May 2009, he is presently responsible for over 2,000 facilities, including commercial office, retail and technical facilities, spread over more than 22 million square feet of real estate. Using performance management and quality frameworks, he delivers value to Sprint through many recently developed initiatives. Under his leadership, Sprint Real Estate has twice been awarded the Corenet Global Innovator's Award and Sprint's Malcolm Baldrige Award. Brian is a frequent speaker at real estate industry forums and conventions. He holds a juris doctorate from the University of Kansas.

Abstract

Whether it is measuring the performance of a service provider or providing an accurate picture of organisational performance to senior management, the real estate executive must reconsider how performance is defined, measured and managed. This paper argues that typical portfolio measurements provide managers with little actionable information, and that the specific performance of the organisation is often indiscernible from other influencing factors. To address this critical problem, a framework for implementing a robust performance management system is laid out. The paper discusses the importance of defining critical processes, building effective measures, and balancing the demands of cost, quality and schedule. A structure for linking these measurements to strategy is discussed,

as is the methodology for aggregating the measurements in a way that provides appropriate visibility for the different levels of management. With these principles in mind, a truly useful balanced scorecard can be created. The effort required to build a legitimate performance management framework is extensive but necessary. Organisational survival demands key performance indicators that are predictive, actionable and concise. Simply put, without appropriate attention to performance management, corporate real estate organisations will not survive.

Keywords: *performance management, key performance indicators, process measurements, portfolio metrics, balanced scorecard, service providers*

HISTORY REPEATS ITSELF ... (WELL, ALMOST)

From the enterprise perspective, corporate real estate (CRE) is viewed as the provider of real estate services. CRE organisations can choose from a wide variety of methodologies to provide these services, ranging from in-house provision, supplemented by a few specialised vendors, to almost entirely outsourced, with a small internal group managing functions such as governance and strategy. Yet regardless of the structure, it is the CRE organisation itself that enterprise holds accountable for the service quality, related costs and overall



benefit of the services provided to the core business. To be successful, it is imperative that effective real estate strategies are successfully developed and implemented to provide a competitive cost structure while maintaining critical service levels. Today's CRE executives must be able to manage the performance of real estate services that depend not only on the CRE organisation's efforts, but also the efforts of third-party vendors, in addition to the portfolio and the market environment itself. In so doing, however, they are confronted with a ubiquitous challenge that confronts all service-related industries. Specifically, service providers must be able to measure, understand and describe the effectiveness of their strategies as well as the efficiency of the processes that support the implementation of these strategies.

In just ten years after its introduction, the balanced scorecard was the most popular performance-related framework, with 57 per cent of surveyed companies using it.¹ Service companies were quick to adopt balanced scorecards and other systems embodying the use of key performance indicators (KPIs). Internal support service providers, such as CRE, followed suit. The real estate executive's balanced scorecard quickly developed into an amazingly similar format across the industry, regardless of the mix of asset types, whether commercial, retail or technical, contained in the portfolio. Average real estate cost per square foot, average real estate costs per employee and average square foot per employee became the predominant, and often, exclusive measures. With essentially four data elements (location, location square footage, location headcount, total location costs) an impressive dashboard could be assembled that would presumably demonstrate portfolio performance, including drill-down capabilities into more granular levels of information. When CRE executives first

obtained these views, the need for executive-level KPIs to be displayed within a scorecard seemed to have been met. But, as the results of these measurements changed over time, troubling questions began to arise. Why were the measures moving? What specifically was driving the changes? Were the real estate strategies that had been put into place having the desired effect? Was the performance of the organisation reflected in the results of these measurements? Unfortunately, the value of the three measures in answering any of these questions is directly correlated with the level of effort needed to produce them, namely, very little. Were the cost per square foot of the total portfolio to go down, one might ascribe this to the organisation's performance, and infer that it is effectively executing against strategic direction. However, there are many cost drivers in real estate, including labour, materials, energy, the physical condition of the portfolio, end-user requirements and the lease market. While the organisation has direct control over some of these costs, many it can only influence, and others are beyond its control altogether. By creating a metric through the use of a ratio, it is very difficult to discern the cause of the change. Without adequate linkage between the processes of the organisation and the end results, management is reliant upon supposition and intuition to interpret the results. How can such a widely-adopted set of KPIs, as reflected in the three predominant measures, fail to answer these critical management concerns? Basically, it is because measures such as cost per square foot and cost per employee are not performance indicators — much less key performance indicators. Indeed, they are merely portfolio metrics established through mathematical ratios. These measures reflect the macroeconomics of the real estate industry, customer-driven requirements, as well as the actual per-

formance of the real estate organisation. The purpose of performance indicators and KPIs is to measure the effect that individuals, teams and organisations have on service delivery processes. Performance indicators quantify the group or organisation's effectiveness and efficiency with respect to various aspects of the service delivery processes. While vital for decision support, portfolio metrics are not effective in managing and controlling service delivery processes. These metrics seem to emphasise what organisations find immediately measurable, even if such data are of low value and tend to ignore high-value measurements simply because they seem harder to measure (whether they are or not). This is referred to as the 'measurement inversion'.²

Consequently, these portfolio metrics failed to answer critical business questions, making the CRE scorecard seem ineffective in its primary mission to create competitive advantage by providing the ability to measure and thus improve quality and hence performance. CRE is not alone in this dilemma. In a survey of 2,400 companies conducted by the Hackett Group, it was found that 70 per cent of balanced scorecards were failing to help their companies as much as they should have. The conclusion was that these balanced scorecards were not providing 'concise, predictive and actionable information about how a company is performing and may perform in the future'.³ It seems that the level of frustration has grown so high that the effort to measure services should be abandoned altogether. The abovementioned CRE measurements are examples of *measurement inversion*. That is, it is relatively simple to quantify cost per square foot, cost per associate and square foot by associate. They are immediately measurable, but present multiple shortcomings. While these measures may be *concise*, they are probably too much so — a successful

scorecard needs more than three primary measures. They are not *actionable*, as they lack linkage to the processes driving the results. Finally, they are not *predictive*, as they merely state a result that has already occurred. Yet these three attributes are vital when measurements are used to inform management decision making. In any situation, an informed decision requires the appropriate amount of information — too much or too little impedes the decision-making process as additional effort is required to arrive at the appropriate level of information. If the measurement is not immediately actionable, management is once again effectively obstructed as time and effort are needed to isolate the areas that need to be addressed. Most importantly, after-the-fact or lagging measures do not offer management the opportunity to address the issue, restricting options to mitigating the results and attempting to avoid a repeat of the situation. Predictive measures allow for proactive management involvement, which can result in dramatically improved outcomes.

Many of the measurements used by CRE today have been formulated by executives by determining what is immediately measurable. As discussed previously, selecting measurements that are easily obtained can lead to measurement inversion. It is important to distinguish between performance indicators and other measurements such as portfolio metrics or organisation goals and objectives. Cost per square foot, in the context of dividing total cost by total square footage, is a portfolio metric. Number of facilities, facility costs, number of projects and project costs are all portfolio metrics, *not* performance indicators. They measure things such as how many and how much, but do not indicate how the organisation itself is performing. If these metrics are used to measure the organisation, then high-performing groups are at risk of being categorised poorly if

other factors within the measurement are detrimental, while low-performing organisations could be seen as excelling when in fact they may simply be benefiting from other favourable factors. An organisational goal may be to 'reduce overall costs', while an objective might be to lower average square foot cost from US\$30 to US\$29. While portfolio metrics, organisational goals and specific objectives are all critical to overall success, they are not indicators of the organisation's performance relative to service delivery processes. If properly developed and deployed, an objective with a target of US\$29 per square foot could be a performance indicator, but to do this it is necessary to start at the foundation of the primary processes themselves. To accomplish this, it is first necessary to have a clear understanding of the terminology that will be used in establishing an effective performance management framework.

Performance indicators, KPIs, goals, objectives, measurements, metrics and a litany of other corporate phrases are all used somewhat interchangeably. Often what fits best is used without determining whether the context is right. Regrettably, just naming something a 'performance indicator' does not make it one. What might be a 'key' performance indicator for one organisation might not be 'key' for another. Relative importance is a subjective designation for each organisation. However, it is only subjective in its application of designating a specific performance indicator as 'key'. Performance indicators are *universal* relative to processes. Organisations may decide which metrics they wish to measure, and of the ones they measure, which ones will be 'key', but organisations cannot decide what is and what is not a performance indicator simply by how they 'name' it. Understanding what truly constitutes a performance indicator and using the correct nomenclature is the first obstacle to

clear in creating a robust balanced scorecard of KPIs. Substituting the terms will lead to continued organisational confusion and ultimately, the failure of the performance management framework. If properly implemented, performance indicators allow for control, communication and improvement by identifying gaps between performance and expectations. Performance indicators can also be used as tools for comparison with similar results from other CRE organisations. Such benchmarking is essential to truly understand performance. However, a high degree of discretion is required to assure that any such benchmarking is normalised to take into account the multitude of variables that can exist between the subject companies.

MANY PROCESSES, ONE PERFORMANCE MANAGEMENT FRAMEWORK

To have an effective performance management system, it is necessary to measure processes. According to the ISO 9000:2000 standard, a process is 'an integrated system of activities that uses resources to transform inputs into outputs'. The US General Accountability Office provides the following definition:

'Performance measurement is the ongoing monitoring and reporting of program accomplishments, particularly progress towards pre-established goals. Performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs) and/or the results of those products and services (outcomes).'

Input indicators are used to understand the human and capital resources used to produce the outputs and outcomes. *Process indicators* are used to understand the inter-

mediate steps in producing a service. *Output indicators* are used to measure the services provided by the system and delivered to the customers. *Outcome indicators* evaluate the expected, desired or actual results of a given process by an organisation. Performance indicators are therefore measurements of processes executed by the organisation or on behalf of the organisation by process partners.

Many frameworks to develop and document performance indicators are premised upon the formal establishment of specific processes. For example, Total Quality Management (TQM), the brain-child of W. Edwards Deming, is often associated with the development, deployment and maintenance of organisational systems required for different business processes. Another business management strategy is Six Sigma, originally developed by Motorola. Six Sigma extends the concepts in TQM to make it more applicable to service processes. Six Sigma and its various offshoots, such as Lean Six Sigma, are being increasingly deployed in service industries such as real estate. ISO 9000, maintained by the International Organization for Standardization, includes a set of procedures to cover all key business processes, which is also applicable to services. These systems for measuring business processes can be used to define, develop and deploy meaningful performance indicators.

By their nature, these frameworks require considerable analysis and effort to evaluate and substantiate a process that is capable of producing meaningful performance indicators. Process design, engineering and implementation can be extensive. These efforts often fail as a result of management attempting too many process changes at once. Typically, processes are at different maturity levels throughout the functional areas of the organisation. It can take years to bring all processes to the

same high level of maturity necessary for a comprehensive platform. Yet, consistent maturity levels are not necessary for an effective performance management programme. What is necessary is the identification of those mission-critical processes necessary to achieve the organisation's goals. Once these are identified, then the second step is to put a measurement system into place. To do this, it is not necessary to standardise the entire process, but rather to standardise the aspects of the process that are critical to obtain the required measurements. What is required in the interim is not a comprehensive process re-engineering effort, but rather:

- the identification of each critical process;
- the identification of at least one critical set of performance indicators for that process;
- the subsequent development and deployment of a measurement system to capture the designated performance indicators.

Typically, the *output indicator* is an effective choice in determining a set of performance indicators for the process. In the initial stages of developing a programme, measuring the process output will probably yield the greatest impact. This does not need to be an extensive system. It can be managed from a spreadsheet in which the data are manually collected and recorded.

BUILDING FROM THE BOTTOM UP

An effective CRE scorecard creates the need for a somewhat paradoxical approach, namely, building from the bottom up but organising from the top down. Performance indicators are premised on the axiom commonly attributed to Peter Drucker: 'You can't manage what you can't measure'. In the context of

a service, measurement refers to a specific result obtained from the service delivery process. In business, literally thousands of things are 'measured' each day. Every time an invoice is paid, the work is measured to check it is complete and if the billing amount is correct. Whether tasks get done on time is measured, as is the degree of quality needed to fulfil project requirements. Within this environment, units of measurement are essentially subjective or self-defined. For example, in almost every business endeavour, one will determine the appropriate amount of time to complete a specific task, the level of quality for a given output, and the value realised by the deliverable. All of these thousands of subjective measurements are necessary for the normal functioning of a service delivery process. Yet certain measurements are more critical to the business than others. These metrics demand the application of a uniform approach to measurement. A *standard* or a formal establishment of uniform criteria must be invoked before any given measurement can be consistently applied. Once a standardised measurement is defined, the process can be managed at an organisational level as opposed to an individual level. Such control is a critical element of management. 'Controlling is the measurement and correction of performance in order to make sure that enterprise objectives and the plans devised to attain them are accomplished.'⁵ Unfortunately, however, the creation of standards pertaining to a select group of measurements is no guarantee that those standards will be consistently applied by the organisation. Individual managers will apply the standards differently within the realm of interpretation, and others may not apply the standards at all. To achieve consistent deployment throughout the organisation, it is therefore necessary to document, record and report those select measurements that are of highest value to

the organisation. One of the critical elements of a performance indicator is that it is a standard measurement established by the organisation, which is recorded and regularly reported to management.

Many performance indicators are fairly familiar to the CRE executive. For example, percentage of work orders closed within a specified time, number of lease transactions completed per negotiator and numbers of completed construction projects within budget, are all examples of process measures, and therefore performance indicators. In many instances, these will be referred to as operational metrics or operational performance indicators. It is important to distinguish between operational metrics and performance indicators. For instance, number of work orders is an important metric in order to understand demand, but it does not speak to the organisation's performance. It would certainly be important to measure in order, ultimately, to be able to size capacity; however, it would be considered an input to a process. The measurement of organisational performance depends not simply on the number of customer requests, but is related to how effectively and efficiently the process of fulfilling those requests is managed.

To determine effectively which critical processes should be measured at an organisational level, the various services must first be defined and segmented. Specifically, a taxonomic scheme must be established. One of the problems facing CRE is the diversity of services provided. The most common manner to view processes is by segmenting them into functional areas. Planning, transactions, project management and facility management would be typical examples of functional areas. These are referred to as *service lines* and appear to have been fairly widely adopted by the real estate industry as to their general definitions. In addition, even

within a functional area, such as transactions, there can be multiple discrete processes. For instance, transactions may be made up of the acquisition process as well as a disposition process. The process for acquiring a parcel of land is quite different to the process related to the subleasing or disposing of a vacant facility. Project management could be made up of the move/add/change process and the new build process. Facilities management could be made up of maintenance and repair, janitorial and business operations. These are referred to as *service line components*. The definition of service line components has not reached the same level of industry adoption as has service lines. As such, it is currently much more in the purview of each organisation to define specific or discrete service processes. This categorisation of services will create a taxonomy structure that can be used to communicate the business model of service segmentation throughout the organisation. This structure will also lay the foundation for the data architecture that will be critical in order to track the information necessary to manage the process. As such, it is important to make the arrangements in a manner that seems natural to the organisation. The objective is to have a least one set of performance indicators over each of the primary service delivery processes.

The second segmentation that should occur is by asset class. Many companies manage only one primary asset class, such as commercial office space. Yet most companies have the added challenge of managing multiple asset classes, such as retail, warehouse, manufacturing or technical space. Typically, the business strategy as it relates to a given asset class will vary from the business strategies for the other asset classes. A further division is therefore necessary to distinguish between these processes. As a result, the primary service line components will be defined for each



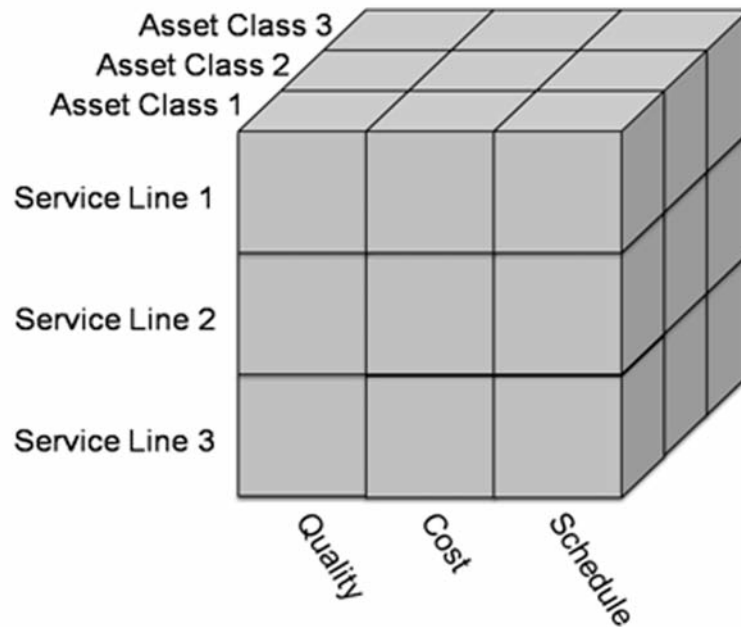
Figure 1: Cost-quality-schedule triangle

asset class. Now the appropriate performance indicators can be developed within this structure. Often, asset classes will essentially segment pursuant to business units. If this is not the case, then further segmentation by business unit will be required, as again, strategies can differ. Ultimately, the key aim is to align each specific customer strategy with the set of performance indicators responsible for the support of that customer and the related assets.

WHY ONE IS NOT ENOUGH: COST, QUALITY AND SCHEDULE

Within the realm of performance management, the ‘airline example’ is often cited. In this measurement, the selected performance indicator is ‘on-time arrivals’. It is suggested that, by the selection of this single output indicator, the process can be effectively managed. Unfortunately, a single performance indicator for a process is rarely sufficient. For example, were they not bothered about getting their passengers or luggage on board, it would be relatively easy for airlines to keep flight departures on schedule. Likewise, were fuel costs not a consideration, late-running flights could always increase their airspeed and burn more fuel. Process measures can typically be categorised into cost, quality

Figure 2:
Performance
indicator
segmentation
model



or schedule. It is generally possible to achieve one at the expense of the other two. Of course, in almost any situation, all three are equally vital. This is often referred to as the cost-quality-schedule triangle (Figure 1).

Each element effectively constrains the other two. What the airline example really measures is the goal to *improve* on time performance (schedule) while maintaining current levels of customer satisfaction (quality) and operating expenses (costs). Therefore, when devising performance indicators for a process, presumably initially focusing on output indicators, it will be necessary to develop one for all three areas of schedule, cost and quality. If there are informal controls in place to manage the other two, it may be possible to establish just one initially; ultimately, however, in a mature system all three must be accounted for and managed. By applying three performance indicators to each service line component, namely cost, schedule and quality, the foundation for organisa-

tional performance management is established as shown in Figure 2.

ORGANISING FROM THE TOP DOWN – LINKING TO STRATEGY

After performance indicators for each critical process have been created, it will become evident that the numeric quantity of the performance indicators will far exceed expectations for a CRE scorecard. It would not be unusual to have over 100 performance indicators for an organisation.⁶ Indeed, were multiple asset classes supported, this number would be extended even further. The sheer number of performance indicators can often be overwhelming. However, when viewed in the context of functional management, the number of measures is much more manageable. Each process requires performance indicators in order to manage the outcome effectively. Few in management, if any, would suggest that resources of any significance should be consumed by a

process without measures and controls.

How, then, do these hundreds of performance indicators get distilled down to the most important ones — the *key* performance indicators? How do they link to the business strategy itself? After a multitude of performance indicators have been developed, what comes next? In essence, the performance indicators have been created from the ‘bottom up’. It is now necessary to organise and classify them from the ‘top down’.

This can be done by identifying the strategic goals of the organisation. These goals should be aligned with the organisation’s core business strategy as embodied by the specifically supported business unit. Strategy mapping and alignment to the enterprise strategy are essential to the development of any performance management programme.⁷ For CRE, strategic goals that align with enterprise strategy might be lower costs for the commercial office asset class, speed of deployment for the retail asset class, or continuous operations for the technical asset class. Next, the objectives necessary to attain the goals are defined. For instance, the objective might be to lower average square footage costs by 5 per cent to support the lower cost goal for the commercial asset class. Specific performance indicators must now be developed to allow concise, actionable and predictive measures regarding the objectives. Hypothetically, a portfolio might contain one million square feet of vacant space that can be leased. The leasing of this space to tenants would generate income and therefore reduce average square footage costs over the entire portfolio. Based upon comparable competition and absorption rates in the market as well as an assumption of how much market share will be obtained from successful leasing, one can establish a target to lease 500,000 square feet of the space in the coming year. It is then possible to establish performance

indicators based on the output of the leasing process. The *cost performance indicator* could be the measure of the lease rate per square foot that is achieved. Typically, this will be developed through the use of market comparables and will be quantified with a numeric value, such as US\$25 per square foot. The *quality performance indicator* would be compliance with a minimum set of approved contract terms. Finally, the *schedule performance indicator* would establish the leasing of the 500,000 square feet of space within the calendar year. The target output of the leasing process is the objective. Intermediate (process) indicators can be established with targets to measure progress towards the final results, such as number of tours performed for prospective tenants and number of requests for proposal (RFPs) submitted to prospective tenants. A certain attrition rate would be assumed when setting the objectives for each performance indicator. For instance, historical extrapolation might indicate that only one in four RFPs result in successful leasing, meaning it would be necessary to issue RFPs totalling 2 million square feet to achieve leasing of 500,000 square feet. In addition, the same extrapolation might indicate that only one in three tours result in an invitation to submit an RFP, meaning it would be necessary to tour 6 million square feet of space to achieve the objective.

The quality, cost and schedule performance indicators now work in conjunction with one another to assure management of the desired outcome. With respect to this single process of property disposition, management can have a concise perspective by having just five performance indicators to monitor. The performance indicators create a predictive environment, as the likelihood of the outcome is in jeopardy if the performance objectives for the intermediate process steps are not being met. In addition, if output perform-

ance indicators fall behind forecast, it will be readily apparent prior to the end of the calendar year. The performance indicators are also actionable, as management can determine where goals are not being met and review certain issues. If the predictive aspects of the performance indicator are lacking, the extrapolation of the indicator itself may be sufficient to conclude where actions are needed. For instance, if insufficient tours are being conducted, then management could review to determine whether the marketing is sufficient. If the win rate for RFPs is too low, then the proposed lease rate may be too high relative to competitors and need to be reduced. If tours and RFP performance indicators are meeting target objectives, but the performance indicator for actual leasing is not, then perhaps contractual terms are too onerous and need to be modified, or landlord concessions need to be increased. In addition, by using this set of performance indicators, it will become readily apparent if one target, such as lease rate, is being sacrificed in order to achieve another performance indicator, such as leasing the required amount of square footage within the given timeframe.

Assuming the target outputs in this process are all met, then the income generated from the leases would reduce average portfolio square foot costs. Based upon total budgets and lease rate assumptions, the income generated from the leases would reduce portfolio square foot costs by 2.5 per cent — half way to the target of 5 per cent. Another 2.5 per cent in cost reductions would have to be met from other areas. In determining strategies to address this, an opportunity might present itself in the form of janitorial standards in many locations exceeding actual business requirements. By adjusting the service level or standard at each location to the actual business need, one could set a target to match the other 2.5 per cent of the

total goal. A *cost* performance indicator could be placed into effect, to measure the reduction of cost per square foot for janitorial spend. A *schedule* performance indicator could be established, such as total square foot of standards changed within a given timeframe. Finally, end-user customer satisfaction with the new service levels could establish the quality performance indicator. These again create a concise, predictive and actionable set of performance indicators. In an actual operational setting, all service line components would most likely have some type of target relative to the objectives, all contributing to the successful achievement of the strategic goal.

FROM THE MANY TO THE FEW: UTILISING COMPOSITE INDEXES

After establishing the strategic goals of the organisation and mapping performance indicators with the appropriate targets to achieve the goals, the problem of senior management having too many performance indicators to oversee effectively, while narrowed, will still persist. This is not at all unusual, as a large and complex business will have many functions that must perform according to plan to achieve the desired overall results. Rarely are there only one or two processes upon which the entirety of the organisation is exclusively dependent for success. To solve this, it is necessary to employ composite indexes comprised of the previously established performance indicators. The aggregation of indicators into composite indexes is well established in many areas of industry, including finance and manufacturing. Nonetheless, the service industry has seen little, if any, use of this methodology. This is a primary factor in CRE's failure to arrive at a satisfactory set of KPIs. Indeed, the ability to aggregate results is fundamental to arriving at a limited number of mean-

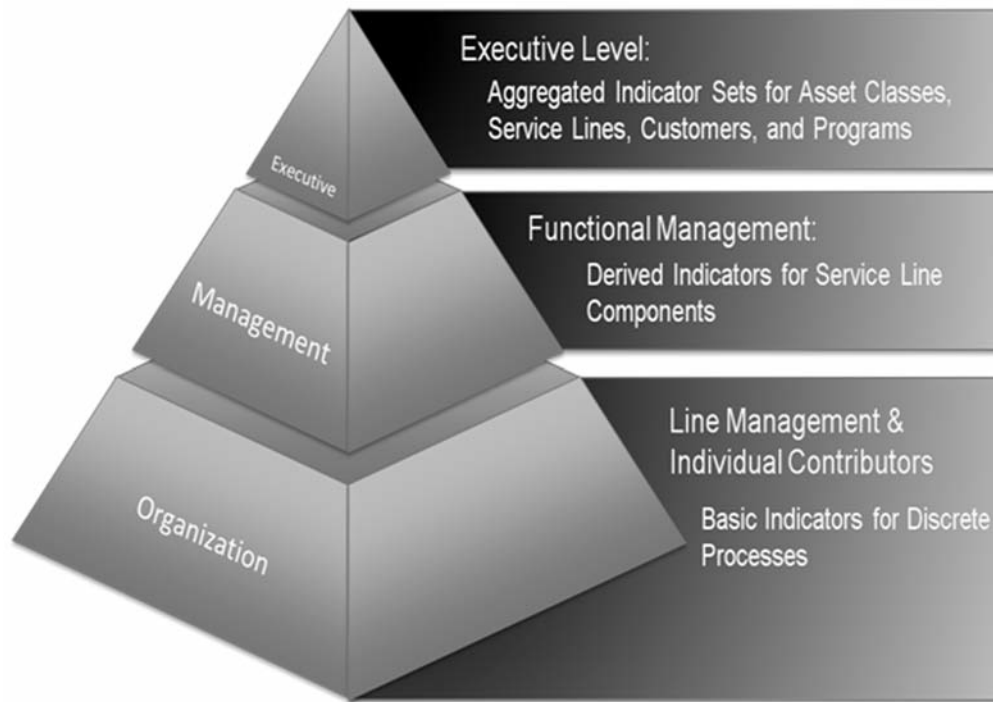


Figure 3:
Performance
indicator hierarchy

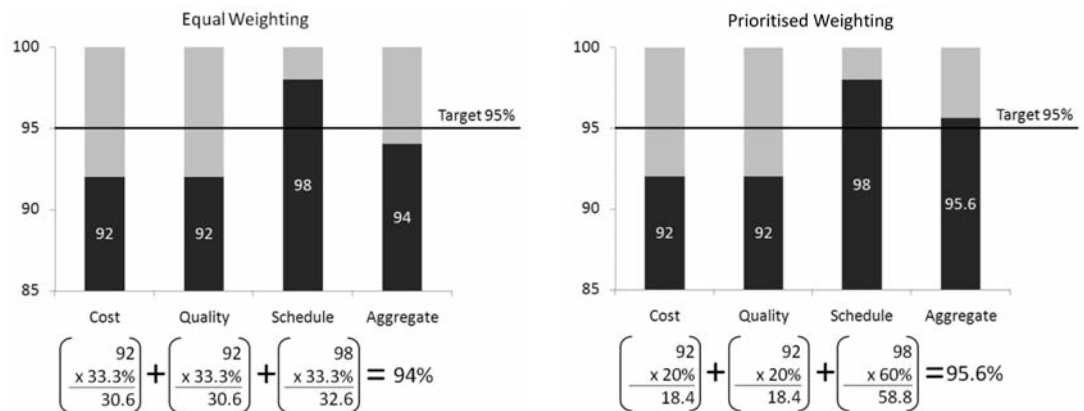
ingful KPIs for the CRE scorecard. Performance indicators can be categorised as *basic indicators*, *derived indicators* and *indicator sets*.⁸ Basic indicators are the direct measures produced by the process. Derived indicators are the synthesis of multiple indicators (which can be basic, derived or a combination of both). Indicator sets are aggregations of basic and derived indicators that represent and regulate a specific process function. Juran sets forth a similar concept in the measurement systems pyramid.⁹ Figure 3 shows this pyramid, which starts at the base with specific measurements of service processes, synthesising the data into operational units, then synthesising additional data around market conditions until the top of the pyramid is reached, representing the overall synthesis of aggregated relationships.

Indicator sets utilised in a performance measurement system represent the highest level of the hierarchy and are responsible

for coordinating indicators across the various functions, and for aligning the indicators from the strategic to the operational level.

If CRE scorecards contain performance indicators as opposed to portfolio metrics, then the performance indicators are almost always basic performance indicators. It is very rare that basic performance indicators can be effective KPIs. They have to be aggregated, but the approach to creating these indexes of performance indicators to form KPIs is a relatively new concept within the service industry. Being new, the creation of derived indicators is certainly a challenge. In spite of this, the challenge can be mitigated by modelling an approach from industries that have long aggregated sets of measurements. The aggregation of financial information is so commonplace that it is taken for granted. Costs at a building level can be aggregated to a regional level and then to a national

Figure 4:
Aggregated performance indicators comparing effects of different weightings



portfolio level. Service costs can be aggregated at a building level for a total cost perspective, or across the portfolio for a single cost for a particular service. Financial aggregation is easily achieved as the data are normalised for a single standard measurement. For instance, yen, euros and dollars are not all measured together: they are first translated into one common currency and then aggregated. To be effective, performance indicators must be handled in the same manner. One of the most straightforward approaches is to translate results into percentages. Regardless of approach, it is necessary to transform the measurement into a numeric scale that can then be compared with related performance indicators and then aggregated effectively. For instance, assume that the project management service line was to be measured, in which there had been established cost, quality and schedule performance indicators. The schedule performance indicator for projects was established as the number of completed projects within the prescribed time limit. This can be given a simple value, such as 98 per cent achieved against the target of 95 per cent. Assume that the cost measure achieved 92 per cent against a target of 95 per cent, and the quality performance indicator was the same. A simple mathematical aggregation

of these results, in which all performance indicators are equally weighted, would then create a KPI of 94 per cent against an overall target of 95 per cent for project management. If the project management service line had more than a single component, then the results of each component could be combined so that no matter how many components there were, it would still result in a single KPI for project management. In extending the example, assume that schedule was the primary objective for project management for the retail asset class. While it is desirable to have a comprehensive score on all performance indicators for project management so that cost or quality are not totally discounted relative to schedule, from an objective perspective it is necessary to have predominant emphasis on schedule. This can be accomplished in the way the targets are set for the performance indicators and then how they are weighted for the KPI itself. For instance, in the example and as calculated in Figure 4, if the schedule performance indicator is given a weighting of 60 per cent as opposed to being equal to the other two, then the KPI exceeds the target of 95 per cent.

The effectiveness of a derived indicator strongly depends on the aggregation rules. The search for the minimum number of

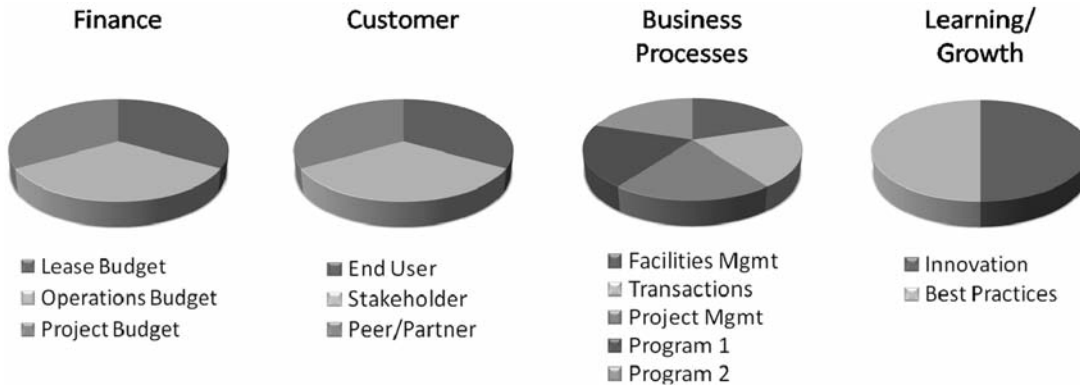


Figure 5: CRE balanced scorecard

indicators to cover all representation targets is the classic combinatorial optimisation problem, known as the set covering problem.¹⁰ This is one of the most complex aspects of aggregating performance indicators and much time and effort is required to fine-tune the combinatorial optimisation and keep it calibrated so that results continue to align with strategy.

Besides functional aggregation, processes can also be seen from the perspective of an aggregation of multiple functional processes, such as the deployment of a new facility, which would involve all the functional areas. These are typically described as programmes. Processes can also be viewed by efforts around improvement or changes in the business itself, often referred to as initiatives. The CRE scorecard and dashboards will ultimately make use of all such process measurements. Furthermore, functional processes differ between asset classes. There may therefore be a transaction performance indicator for acquisition for the commercial office asset class, and another for retail acquisition.

THE CRE BALANCED SCORECARD – IT ALL COMES TOGETHER

Now that the method to create composite indexes of aggregated sets of performance

indicators has been established, it is necessary to determine which will be used on the executive scorecard and which will be used by functional management. Utilising the approach of the balanced scorecard, four primary perspectives are used, namely finance, customer satisfaction, business processes and learning/growth.¹¹ It is now necessary to narrow down the hundreds of primary performance indicators, derived performance indicators and aggregated sets of performance indicators to a select few. Kaplan and Norton recommend no more than 20 KPIs.¹² Hope and Fraser suggest fewer than 10.¹³ While the numbers vary from source to source, the overwhelming consensus is somewhere in this range. ‘The most common mistake organisations make is measuring too many variables. The next most common mistake is measuring too few’.¹⁴ These measures can then be set forth in graphical context as represented in Figure 5.

The financial perspective typically contains information relative to budgets. It would be fairly common to see actual spend compared with budget for lease costs, operational costs and project costs, which when aggregated together would comprise the entirety of the CRE spend. In some instances, forecast accuracy is of particular concern and can be used as well. The customer perspective is normally

made up of various customer satisfaction survey results. Again, these can be displayed in a variety of ways, including customer segmentation and service segmentation. An alternative is to show various 'levels' of customer satisfaction, including end user, stakeholder and partner. In all of these scenarios, the ability to pivot to the views is a matter of structuring the proper drill-down capabilities. For instance, were end-user satisfaction a major element of the balanced scorecard, one could drill down to view satisfaction by customer group or by service line. Both finance and customer perspectives are typically outcome indicators and are lagging rather than leading indicators.

The business processes are responsible for delivering the results contained in the financial and customer perspectives. The business process KPIs are not only critical in the measurement of the service lines, but for driving the results of the balanced scorecard in its entirety. This is also where the greatest opportunity exists to create leading indicators that are predictive in nature. A typical business process set of KPIs could contain composite indexes of the service lines, such as project management, facilities management and transaction management. In some organisations, it would be preferable to view results segmented by customer or by asset class. Were a composite index for each service line shown as the balanced scorecard KPI, drill-downs would allow for more granular views of customer or asset class segmentation, along with performance indicator type, including quality, cost and schedule. Programmes are often viewed in conjunction with other business process KPIs. Programmes are typically aggregations of multiple service line performance indicators that are assembled to achieve a specific organisational objective. Finally, innovation/growth is the final perspective. Historically, this has contained perform-

ance indicators such as target training hours for the organisation as a whole. A more effective set of performance indicators in this area would focus on the number of process improvements realised, number of best practices reviewed and adopted, number of change management initiatives implemented or number of innovations adopted.

In creating a visual representation of KPIs it is often beneficial to use signalling rather than just the underlying numeric values themselves. A common form of this is the red, yellow, green (RYG) scheme, which uses colour codes to reflect the relationship of the results to targets. Green normally shows that the results are favourable to target, red usually indicates that results are unfavourable to target, and yellow indicates when a result is precariously close to becoming unfavourable. The actual calibration will be unique to the preferences of the organisation. It is worth setting tolerances so that the RYG methodology offers value to management. For example, while having all performance indicators show up as green is, on the face of it, desirable, it offers little guidance into which areas need attention. By setting tolerances to levels that assign yellow or red to a portion of the performance indicator, management can focus on those areas that need improvement relative to other areas that are performing at a higher level. If all performance indicators show up as green, it may also indicate a need for changes to the measurement methodologies for existing performance indicators, or, if the organisation desires to drive constant improvement into the processes, the need for additional performance indicators. As sophistication develops, it is possible to show trending by shading the various colours from darker to lighter. For instance, dark green can indicate a performance indicator that is improving month over month; medium green can

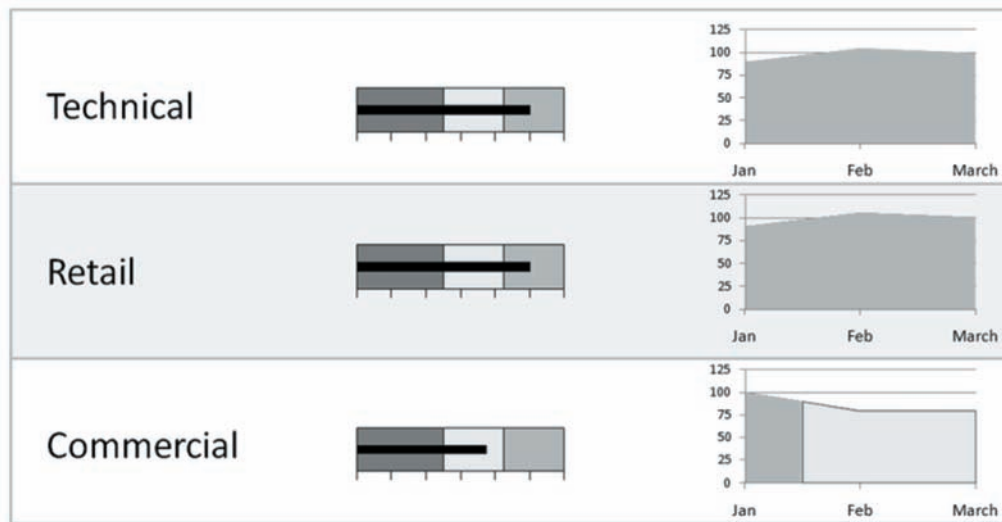


Figure 6:
Drill-down view of
CRE balanced
scorecard utilising
bullet and trending
graphs

show a performance indicator that is relatively static; and light green can indicate that the results of a performance indicator are deteriorating. These are but a few methods that allow the performance indicators to become actionable and predictive. Further drill-downs with charting, such as bullet charts and trending graphs (Figure 6), will allow users even more directive ability. Ultimately, it is possible to deploy sophisticated charting such as box plots and scatter diagrams. The choice of how the performance indicators are visualised for different KPIs depends on which methodology best represents the needs of the organisation as it continues to mature in its use and understanding of the graphical representation of data.

OVERCOMING BARRIERS TO SUCCESS

Objections are highly predictable: ‘it’s too complicated’; ‘people won’t have time for their “real jobs”’; “my” services are too unique to be measured’; ‘it will cost too much’. Fortunately, such objections can be overcome, although not without extensive resolve. Essential to success is the culture

of the organisation and CRE leadership’s ability to deal with change management. Juran identifies opposition to change, or in his terms, ‘cultural resistance’, as the root cause of quality issues.¹⁵ This results in high cultural barriers to success. When services were small isolated offerings, the value proposition of an individual was their unique knowledge of how to perform and manage the deliverable. With the paradigm shift into the information age and the consequential changes in the service industry, the value proposition changed as well. Now, the value proposition is the ability to scale a service offering effectively and efficiently, to integrate it with other services and align services with strategy. Most knowledge workers seem to cling to the former as opposed to understanding and adopting the latter. It is management’s responsibility to lead this change by assisting individuals in recognising the new value proposition.

Being complicated in this context is a relative definition. The need to measure depends upon the scale and resource being consumed in a process. Changing paper at a copy machine would be something of large scale, but very little resource.

Litigation relative to a real estate claim might be resource-intensive, but the one-time effort would not justify or require extensive process measurements. Being complicated is also relative to the maturity of a process. Attempting to place a complex process into one that has not traditionally been measured normally fails before it is completed. These items must be initially assessed to determine the appropriate amount of resource required to standardise and measure the process. Processes must be matured over time.

Complaints regarding time for the real job are fairly easily addressed. That is, if it is an important element of the deliverable, people are already tracking and managing it. What they are not doing is tracking and managing it uniformly, meaning that it cannot be leveraged into corporate knowledge. Typically, costs are not recognised relative to measuring and controlling service offerings. Rather, they are embedded within the labour of the people involved. That is, a certain amount of time has been traditionally allocated to 'management by observation'. As discussed, upon scaling a service, management by observation is no longer possible, never mind cost-effective. What occurs is that even more time is spent in attempting to 'observe' by increased manual interventions, daily status meetings and other mechanisms to track and manage progress and activities. Even worse, much of the management and controls often simply do not occur, normally to the detriment of the process involved. The issue is that the expenses necessary for measurements and process controls are not accounted for in the planning stages of a new or a changed service offering. As such, the funding needed to assure proper controls is not put into place at the outset. It is often difficult to justify funding for these items after the fact, even though it has become

evident that the manual controls are not effective. Regrettably, at this point it is often much less cost-effective than if it had been engineered into the original process, as the budget is normally not available and the process owners are inundated with the inefficiencies caused by the lack of controls at the start and perceive a lack of time to fix the problem.

A MATTER OF SURVIVAL, NOT MATTER OF CHOICE

Proper segmentation and the use of aggregation techniques can create predictive, actionable and concise KPIs. The effort to build a true performance management framework is extensive. What are the benefits of such a significant undertaking? If history serves as any indicator, the first and most important benefit is survival. It is manifestly clear that manufacturing companies that have failed to adopt practices related to quality and the associated performance management frameworks have been quickly eradicated from the competitive landscape. Relying on the legacy management practices of the service industry to assure quality and execute strategy in a scaled and distributed services environment is no longer a sustainable competitive practice. Perhaps not immediately, but eventually, those entities that do not undertake these efforts will be dominated by those who do. Those that do will reap considerable benefits, including:

- actual visibility into organisation performance;
- understanding the effectiveness of strategy;
- direct focus on areas under CRE control;
- highlighting risk and opportunity;
- decision support for management;
- ability to discern performance trends;

- real-time reporting and visibility;
- transformation from reactive to predictive;
- communicating performance to customers, stakeholders and to the organisation.

The ability to define strategy that is aligned with the customer and then to execute it at all levels of the organisation will bring a total shift in the benefit from CRE that is perceived by the enterprise. The value proposition of the CRE organisation will be significantly enhanced.

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