

white paper

Achieving Measurable Value:  
Optimizing the IT investment and demonstrating value.

visibility

Deliver business value. That is one of the greatest challenges facing IT organizations today. Most believe they do, but the trick is how to demonstrate the value delivered in a way that is convincing to the business. Emerging processes and methodologies allow businesses and government agencies to tightly align their resources to their organization. The approaches, ultimately, distill down to a network of measurements that allow IT managers to accurately control infrastructure so that it is clearly and quantifiably enabling the enterprise.

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This paper explores using Kaplan and Norton's Balanced Scorecard methodology to first align an IT organization with the business it serves, then assist in driving continuous improvement and demonstrating the value delivered in a clear way. CIOs and other IT executives, faced with the challenge of increasing the focus of partnering with the business, and more importantly demonstrating the results of that pursuit, are encouraged to follow the points outlined in this paper.

## The Challenge Facing IT Organizations Today

Many IT organizations face increasing cost reduction pressure and a shrinking capital budget, and it is arguable that this would still be the case even if the economy had not taken a downturn. The weaker economy, however, has certainly amplified the pressure. Globalization, increasing competition, faster times to market, shorter cycle times, and an increasing dependency on technology have prompted the business to place new demands on its IT organization.

"Align yourself to our needs, adopt our sense of competitive urgency, and demonstrate the value you deliver in terms we understand"—that's what many businesses are increasingly demanding of their IT organizations. IT organizations today must intimately understand the businesses they serve, must be able to speak the language of business, and must emphasize delivering demonstrable business value through the proper application of technology - ahead of simply being technology-savvy. In many IT organizations, this requires a re-invention at some level. Ask any CIO today and he or she is likely to tell you that "focus more on partnering with the business" is one of the primary goals of the IT organization. The question becomes, how is that done.

## Optimize—Adopt a Strategy

"We are pursuing a corporate-wide standards program, we will be adopting a 'lock-down' of the desktop, we have selected Microsoft's .NET as our single development platform for all future application development, and we will continue converging our networks while increasing bandwidth and security." This may represent a typical response from an IT organization when asked, "What strategy are you pursuing this year?" While that may represent a technology strategy, of what benefit will all that be to the business?

How will that help the business achieve its strategic objectives? To demonstrate business value, an IT organization must start by adopting a strategy that is derived from, and traceable to the overall enterprise business strategy.

The enterprise will typically be pursuing broad statements such as "become the recognized market leader", "continue double-digit growth", "maintain tight cost controls," and "increase brand awareness", along with specific financial targets such as earnings per share (EPS), return on assets (ROA), and cash flow. In many enterprises, the IT organization is now being tasked to demonstrate a clear return on investment (ROI) for all capital requests, and is increasingly being asked to measure the actual ROI delivered.

ROI implies measurable benefit to the business and therefore an alignment to the strategy of the business at the initiative level. However, ROI often fails to cover the day-to-day activities of running the IT infrastructure, such as operating the help desk, performing tape backups, installing/de-installing desktops as well as maintaining strategic applications. IT must adopt a business strategy, therefore, in order to align all that it does to the strategy of the enterprise.

Most strategies can be reduced to between four and six strategic objectives, which are generally statements that communicate an envisioned end state. Even if an enterprise fails to produce a strategy, one can often be derived from the annual report—often directly from the letter to the shareholders (for public companies). Most Government organizations develop and publish a mission statement and a set of strategic objectives. The enterprise's strategic objectives should be the starting point of an overall IT strategy, and language from those objectives should be traceable to the strategic objectives published by IT. For example, if the enterprise publishes "attract and retain the best people", as one of its objectives, then that statement, in its entirety, should be published as one of the IT strategic objectives. Other strategic objectives that may be appropriate for IT include "maintain a strong customer focus and shared sense of competitive urgency," "maximize value delivered," and "become a recognized leader in the application of technology to produce business outcomes." IT strategic objectives should be carefully chosen to maximally influence the achievement of the overall enterprise objectives. It

should be clear to the casual observer that the strategic objectives published by IT have been derived from the enterprise strategy. Once an IT business strategy has been derived and published, all other pursuits of IT, including the technology strategy or architecture, infrastructure design and maintenance, application development and maintenance, and capital requests should be aligned to that strategy—in a measurable and demonstrable way.

### **Use Strategic Alignment to Demonstrate Value**

Given an IT business strategy that has been derived from and is traceable to the strategy of the Enterprise, IT is now in a position to demonstrate the value created by its actions. This statement requires some thought. That is, many organizations have continued to pursue a way to measure, in financial terms, the actual impact of the application of technology and infrastructure management to the business. The challenge has always been proving the impact, mainly because most agree that the application of technology influences business outcomes indirectly at best. Therefore, attempting to demonstrate direct financial impact as the value delivered by IT tends to meet with skepticism, and is often viewed as a ploy by IT to remove focus from its perceived poor performance within the organization. Aligning, in a demonstrable way, to the organization's strategy, then measuring successful pursuit of the aligned strategy, can allow an IT organization to show the value delivered in a convincing way. Instead of attempting to calculate the direct financial impact, demonstrate the alignment of strategy to the business and continue to prove the statement "given we have aligned ourselves with your goals, and that we can now demonstrate and measure that alignment, then our activities are by definition delivering value to you."

The definition of an IT business strategy, derived from enterprise strategy, is often a new concept to an IT organization. However, defining and publishing strategic objectives, while a critical step, represents only part of the answer. Performance against those objectives must somehow be measured. Those objectives must be used to derive a measurement system that will in turn be used to demonstrate how well IT is doing in pursuing the published strategy. One methodology in use today for deriving a measurement system from a set of strategic objectives is Kaplan and Norton's Balanced Scorecard. Its premise is fundamen-

tally sound—derive a balanced measurement system from a given strategy, set targets, then drive for sustainable performance at break-through levels. By managing a set of linked measures that span several perspectives (ways of looking at strategic performance through the eyes of individual groups of stakeholders), then driving to hit specific stretch targets, not only can the strategy be made clear to the lowest level of the organization, but performance can be sustained. Performance can be sustained because of the visibility of the underlying fundamental activities that produce strategic success afforded by the Balanced Scorecard. For instance, using a properly constructed Balanced Scorecard, it is possible to see that current performance levels are at risk of falling off because performance in the learning and growth perspective—where things such as investment in systems and training are managed—is lacking. That is, if you have stopped investing in the future then you can expect that decision to catch up with you eventually. The Balanced Scorecard will make that decision visible, allowing you to "balance" your decisions to continue to drive sustained performance.

Balanced Scorecard is actually an unfortunate misnomer. Its name implies measurement only, however the Balanced Scorecard is much more. Many attempts at implementing the Balanced Scorecard as strictly a measurement tool fail, as too many implementers look no further than the name in attempting to understand the methodology. When that happens, the implementation group tends to look around the organization for current measures, lumping them into one document and dividing them among four quadrants, and calling the result the Balanced Scorecard. This common implementation mistake misses the point entirely, and the so-called Balanced Scorecard that results is nothing more than a repackaging of current reporting, failing to properly capture the strategy of the organization. The Balanced Scorecard is intended to be a measurement and management framework, along with a communication vehicle, and its implementation must start with a crisply defined set of strategic objectives.

### **Understanding Cause-and-Effect (Causal Analysis)**

Probably the most important concept in deriving a measurement framework from a given set of strategic objectives is the linkage of the resulting measures. All measures, often

called Key Performance Indicators (KPIs) in a strategic framework must link together in a cause-and-effect relationship. If a measure does not link to another, then it is not a strategic KPI. The result is a network of strategic KPIs, often called a Strategy Map, because it is the strategy. That is, your strategy should be visible and obvious when viewing the map. Kaplan and Norton use the term transparent. Consider the following partial Strategy Map that is common for any strategy that emphasizes the customer experience.

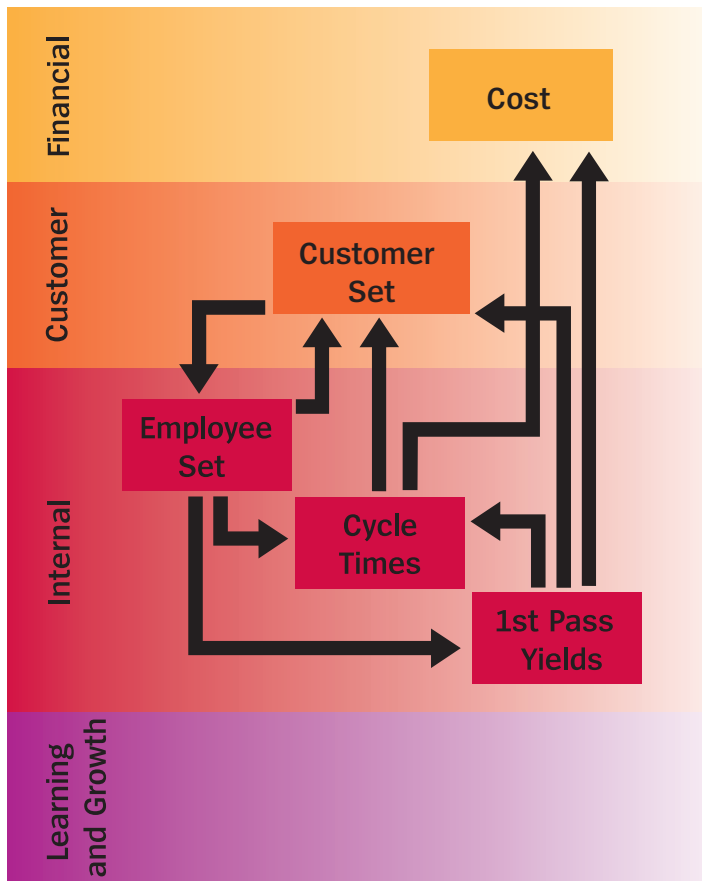


Figure 1. Partial Strategy Map

**A customer’s experience is greatly influenced by three things:**

1. Was the work performed in a timely fashion (relative to my expectations)?
2. Was the work done right the first time?
3. What was the attitude of every representative I encountered?

**The measurement classes that capture performance along those three influencing activities, in the strategy map, are depicted by:**

1. Cycle times (how long it takes to get things done)
2. First pass yields (how often things are done right the first time)
3. Employee satisfaction (what is the likely attitude of my employees as they interact with customers?)

The strategy map shows that all three activities influence, or drive, customer satisfaction, so a link is drawn with the arrow demonstrating the direction of influence. Notice the arrow coming back from Customer Satisfaction to Employee Satisfaction. This is known as a causal loop. Employee satisfaction influences customer satisfaction, which in turn feeds back to and influences employee satisfaction. This loop can work in the positive direction (good employee satisfaction begets good customer satisfaction which reinforces the good employee satisfaction), or in the negative direction (poor employee satisfaction begets poor customer satisfaction which reinforces the already negative attitude of the employee). Notice that employee satisfaction also influences both cycle times and first pass yields. To better understand this (if it is not already intuitive), recall one of your more frustrating experiences as a customer, possibly at a fast food restaurant. Do you recall the poor attitude of the employee? How that seemed to make him move slower (cycle times)? How you concluded that she didn’t care if she got your order correct or not (first pass yields)? Do you recall feeling that he was somehow blaming you for whatever challenges were creating his poor attitude? Now follow the other impact of first pass yields and cycle times using the strategy map—cost. Doing something over again costs more, as does taking longer to do it. Notice that first pass yields also influence cycle times. Doing something over requires using unplanned resources at higher priority—the very resources that were going to work on current work-in-progress, which now gets set aside until the rework is completed, thereby lengthening cycle times.

Now comes the important part, determining source nodes on the strategy map. Source nodes are visually determined by observing the nodes on the map that have the most arrows coming from them (sources). These nodes are called Management Pressure Points (MPPs). They represent the

root nodes of the strategy—where the strategy should ultimately be managed. Sink nodes—nodes with the most arrows coming into them—represent Critical Outcomes (COs). Critical Outcomes are those activities that your strategy is seeking to produce, and should closely agree with your original strategic objectives. The cause-and-effect relationship of your strategic measures, along with a properly constructed strategy map, speak volumes as to how to properly manage your activities to succeed at the strategy. For many operationally minded people, it is the strategy map (once they understand how to interpret it) that truly communicates the organization's strategy.

Returning to the example strategy map depicted in Figure 1, would you have guessed that Employee Satisfaction would be a Management Pressure Point? How about First Pass Yields (which is another name for quality)? This strategy map suggests that to produce high customer satisfaction and lower costs, and to sustain that performance, you should emphasize employee satisfaction and quality in your measurement and management practices. Do you find that intuitive? Or, if asked to execute a game plan to deliver on the strategic objectives of increasing customer satisfaction and decreasing cost, would you have fallen into the common trap of managing cost and customer satisfaction? As you can see from the Strategy Map, both are outcomes and it is very difficult to manage an outcome. The value of the Strategy Map is that it allows you to trace desired outcomes to their fundamental root activities, so that you can manage efficiently and thereby produce the desired outcomes efficiently, and you can sustain that performance since you are focused on managing the underlying fundamentals.

### **Aligning Vendors, Capital Investments, and Initiatives.**

If you are part of, or running an IT organization then chances are that you have vendors being managed by contractually binding Service Level Agreements (SLAs). Often those SLAs carry penalties for missed performance as well as possible incentives for outstanding performance. In addition, you may have SLAs established between your organization and the customer base you serve. Now the big question—are those SLAs tied to your business strategy? If you do not have a

business strategy defined, then the answer is obvious. If they are not, how can you be sure you are driving behavior that ultimately agrees with the strategic goals of the enterprise you serve? Conversely, how can you be sure you are not driving behavior that actually works against the strategy?

Have you ever found yourself in the position of having your vendors claiming to be meeting their SLAs, yet still facing end-user dissatisfaction? For SLAs to be relevant to the business, they must first be tied to the overall business strategy of IT, which was derived from the overall enterprise strategy. One way to tie SLAs is to first produce the Strategy Map, and then craft specific SLAs around the Critical Outcomes (COs) of that map. That holds the delivery organization accountable for the same outcomes that are critical to your strategy.

### **But Are SLAs Enough?**

Another factor that leads to end-user dissatisfaction despite meeting SLAs is the tendency SLAs have of looking at service delivery from the service provider's perspective, and not necessarily from the end-user's perspective. End-users typically are concerned about the availability of the applications they use to perform their jobs. They are not aware of, nor do they often care, that the server group, the network group, the hardware maintenance vendor, and the application maintenance group may all have to get involved to solve a single incident. End-users tend to look at their problems from an end-to-end perspective, while SLAs tend to focus on individual service entities and fail to view problems holistically. The Strategy Map can often help as it represents a holistic measurement system that offers visibility into pursuit of an organization's strategy, allowing effective management of that pursuit. The network of strategic KPIs represented by the Strategy Map is the strategy as a whole, without regard to the individual silos that may be participating. It offers a means to view, and manage performance in a way that is similar to how end-users will expect it.

By tying SLAs to the Critical Outcomes of your strategy map, you can take a giant step forward in ensuring that you are holding your vendors accountable for the same strategic outcomes that you are pursuing. However, that still leaves the daunting task of ensuring that the SLA targets that have been set will meet end-user expectations given every possible permutation of individual vendor or internal group involvement for any given incident. Recall the example incident that required the participation of the internal network group, the internal server group, the external hardware maintenance vendor, and the external application support team, along with some overarching management facility (possibly an external service desk). In that example, individual SLAs must exist with all participating parties—both internal and external—with targets set so that the entire end-to-end experience for the end-user falls within expectations. Pre-determining such targets, given the complexities of combining the probability of every incident type possible with the permutations of the number of potential support entities involved along with their interdependencies, likely requires a PhD in number theory and probability, along with attendant supercomputers to enumerate all possibilities. Decoding the human genome was likely easier. Said differently, it is a nearly impossible task to proactively set individual SLAs in such a way as to guarantee any given end-to-end problem will be corrected within a committed time frame, assuming more than one support group must be involved in the solution. If you have experienced this dilemma then you may have already concluded that end-user satisfaction is likely not to be guaranteed using SLAs as the sole management vehicle, even when they are aligned to strategy. Is it possible that as IT attempts to align itself more with the business, that SLAs actually become a constraining factor? Is it time to consider a higher-level measurement and management framework? One that jointly drives outcomes despite the individual entities involved? Is it possible to manage a vendor/partner directly using the organization's Strategy Map—by holding that vendor/partner jointly accountable for strategic KPI targets?

After all, the Strategy Map represents the organization's holistic strategy. Should not everyone in pursuit of that strategy, both internal and external, participate and be held accountable for the same targets collectively? Possibly unrealistic, possibly radical, but worth consideration given the growing concern over the shortfalls of using SLAs to effectively manage to end-users' expectations.

Once the Strategy Map has been created, you must then define specific strategic KPIs for the activities defined by your map. Those strategic KPIs serve to determine your performance within each activity. Once strategic KPIs have been defined, the next step is to set targets. Targets allow you to drive your collective organization to achieve the outcomes you desire. Once targets have been chosen, then you are ready to align the rest of your activities to your strategy.

### **Portfolio Management and the Strategy Map**

Many organizations are experimenting with concepts for prioritizing capital requests such as Portfolio Management. Most concepts require that individual capital requests stand on some sort of ROI analysis (the intended capital investment will produce a positive return). In addition, investment opportunities must also show linkage, in some fashion, to the overall strategy of the organization. These two parameters, along with possibly others, are often used to produce a "score" which is then used to prioritize investments.

The cumulative investment amount is then matched to available capital funds and a line is drawn, according to rank ordering, above which investments get funded and below which they continue to wait for future funding.

One of the challenges with such concepts is the loose connection with strategy. Often the investment opportunity requires a simple explanation of how it is expected to address one or more of the strategic objectives. The required explanation is generally subjective in nature and the opportunity exists to finesse the approval process by being highly creative with the explanation.



The better way to align capital investments is to align them to the targets of the measures derived from the Strategy Map, and not directly to the strategic objectives. In essence, an initiative exists (or will exist) specifically to drive one or more targets for one or more strategic measures. The correlation between the proposed investment and the target it is intended to drive is more readily discerned, and more importantly, measured. The resulting initiative can be said to be successful, therefore, if the target is achieved on the date it is expected to be achieved. This removes the need to independently measure ROI delivery on each project. The project either assisted in producing the target or it did not, and if it did, then by definition the value was received.

As an example, consider a project to roll out remote control of the desktop for your help desk. Under a typical portfolio management discipline, you are required to describe how the project will address one or more strategic objectives. Assuming cost reduction is a strategic objective (it almost always is), then you might argue that by reducing the number of times a technician has to be dispatched to the desk side, as well as the ability to solve an end-user's problem the first time, you will be able to reduce cost. Most likely, this argument is quantified and factored into creating a proposed ROI for the project, and the project takes its place in the rank ordering among the other proposed and active projects in the portfolio. That's typically as far as success measurement for the project extends—the proposed ROI in order to get the project approved.

Given a Strategy Map with actual strategic KPIs such as Dispatch Rate and First Call Closure Rate, along with baseline measures to determine the starting point, the project can be aligned with driving both strategic KPIs to new targets. The targets, having been set as stretch goals representing an appreciable improvement in both metrics, then become the means by which project success is determined. If the targets are hit, as driven by the project, then by definition the project has delivered its value. This eliminates the need to perform a follow-up ROI, which is typically never done anyway. The cause- and-effect relationship of the Strategy Map demonstrates how such strategic KPIs ultimately impact cost reduction, which was the initial strategic objective on which the project was sold. Over time, the relationships between the strategic KPIs can be determined more precisely, allowing more accurate target setting for all strategic KPIs. Initially targets are set using the “half-life” method, where the target is set to double performance, then studied to see how fast the strategic KPI can be driven toward its target. Once it has been studied, then a realistic stretch target is set.

Does this mean that ROI should be abandoned in favor of aligning investments to strategic measure targets? No, during the approval process, each substantial investment should still demonstrate a potential positive ROI. What can be reconsidered is the need to prove the ROI was delivered using some follow-up ROI process after the project has completed. First, it is often very hard to establish when a project has completed. Second, ROI studies tend to be a subjective argument disguised as an objective analysis—therefore the follow-up would tend to be subjective as well. Third, the resources that would do the follow-up are usually already buried in forward-looking work. Finally, and probably most importantly, why attempt to measure an independent ROI if you can demonstrate that the strategic measure target to which the investment was aligned had been hit? If that represents successful attainment of strategy then that is all that is relevant.

Taking this one step further, in order to prioritize capital expenditures to handle the case when insufficient capital budget exists to cover all proposed investments, then those investments that can demonstrate direct impact to the targets of Management Pressure Points must receive priority over all others. Logic dictates that focusing on the Management Pressure Points will ultimately drive the entire strategy, so that's where investment should be made first. The only exception to this might be if the performance gains are being sought on a timescale that does not allow for Management Pressure Point investment— that is it is expected to take too long for the Management Pressure Point impact to ripple up and create the performance outcome desired. Note, however, that this scenario represents typical management decision-making and tends to lead to sub-optimization. A well constructed Balanced Scorecard and Strategy Map will at least detect such sub-optimization, allowing you to funnel funds to the Management Pressure Points after having first bought some time creating the perception of short term performance.

What about initiatives currently underway that cannot demonstrate impact to any targets within the Strategy Map? Either they must be re-purposed (to drive impact directly to targets) or reconsidered altogether. As they stand currently, they are not delivering value as it has been defined by the IT strategy.

## Continuous Improvement: Measurable and Demonstrable

What is continuous improvement? Would you agree that it simply means to be in perpetual pursuit of a better state? If so, then what defines that better state? Is that not defined by the strategic objectives? After all, they serve to communicate the vision state of the organization. If that is true, then you should conclude that continuous improvement must also be connected to the organization's strategy—pursuing any state other than what is communicated by strategy is more than likely counterproductive. Therefore, to derive a measurement system from a set of strategic objectives, to prepare a cause- and-effect linked Strategy Map of those strategic measures, to set targets against those measures and actually drive the organization to hit those targets— together comprise the means to pursue, measure, and demonstrate continuous improvement. Possibly all that is needed to place this process into perpetual motion (to ensure the “continuous” part of continuous improvement) is the periodic establishment of new targets once the old targets have been hit. To follow the recommendations in this paper is to establish a means to drive continuous improvement that is relevant (based on strategy), measurable, and demonstrable to all stakeholders.

The business climate, possibly accelerated by the new bar established during the now-defunct Internet bubble, continues to evolve at a hastening pace. That hastening evolution - toward shorter cycle times (both to-market and delivery), higher quality and efficiency, and global reach and consistency, continues to exert increasing change pressure on existing IT organizations to become more and more connected to the businesses they serve. Business is now looking for proof of value delivered by IT in terms it understands, which in many cases is causing IT organizations to undergo a self-reinvention of sorts.

One way to consider in proving value delivered is to adopt a business strategy for IT that is derived from, and traceable to, the overall enterprise strategy. Kaplan and Norton's Balanced Scorecard methodology fits nicely in this pursuit. Doing so allows an IT organization to demonstrate that its activities are in direct support of the desired strategic goals of the enterprise.

Once the IT business strategy is published, it should be translated to a proposed set of measures, or strategic KPIs, some of which are likely not being produced today. Those measures should then be used to produce a cause- and-effect relationship diagram, known as a Strategy Map. The resulting Strategy Map will then allow the identification of both Management Pressure Points (activities that represent the roots of the strategy—where the strategy should be managed) as well as Critical Outcomes (activities that represent the most important desired strategic outcomes). Armed with the Management Pressure Points, along with the other defined strategic measures, organizations are then encouraged to set stretch targets and manage the strategy to success. The portfolio of capital and other initiatives should be aligned with the targets that have been set, and not with the strategic objectives (as many portfolio management schemes suggest). Finally, by deriving a measurement system directly from strategy, then formulating a strategy map and setting targets, an IT organization can drive continuous improvement that is relevant.

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