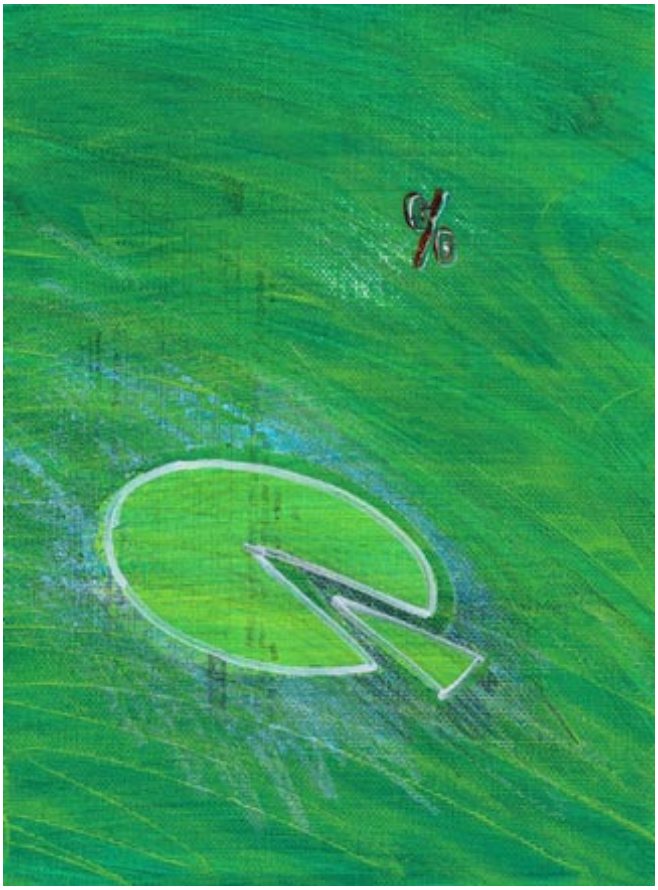
Measuring Business Results

The Role of the Workplace



Organizational goals and change 3

The role of the worker . 5

Business results and workplace design 7

An approach to workplace measurement 9

Developing measurements 11

Three examples 12

Workplace measurment guidelines 16

A quick summary . . . 18

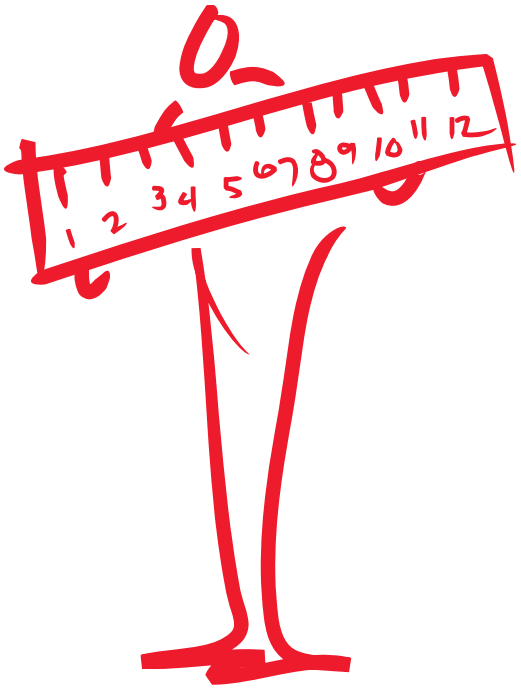
For further reading . . 19

Steelcase®

“From a very early age, we are taught to break apart problems, to fragment the world. This apparently makes complex tasks and subjects more manageable, but we pay a hidden, enormous price. We can no longer see the consequences of our actions; we lose our intrinsic sense of connection to a larger whole.”

Peter Senge

The Fifth Discipline



Organizational Goals and Change

As business leaders seek to improve worker performance, guide corporate efforts, and reach organizational goals, tracking and measuring business results is key to wise decision-making.

The opportunity

A business is a system... a unified interaction of separate, but related forces. Whether the workplace is an office or a factory, it functions as a system, with each component affecting all other components.

As Peter Senge writes in *The Fifth Discipline*, the challenge to business leaders seeking improvement is to find ways to change things effectively and, with the least amount of effort, find the leverage points in a system.

Steelcase believes that in most companies, the physical space of the workplace is one of those leverage points. Based on our research and learning, we know that small changes in the environment can effect big changes in behavior. It works in the classroom, retail stores, and sports arenas. Changing physical space can modify relationships, alter buying habits and direct the flow of pedestrian traffic.

Today, organizations apply measurements and benchmarking techniques to a broad range of activities. To develop and employ measures that add value and improve results, the measurement should align directly with the organization's goals. New measures help track the role that the workplace plays in:

- Enabling new ways for people in organizations to work
- Valuing the individual
- Implementing new technology
- Shifting or reinforcing culture and image
- Leveraging real estate
- Facilitating simpler, faster change
- Achieving financial objectives—tracking how workplace changes help achieve the organization's goals

Organizational Goals and Change

(continued)

The Challenge

While quantitative financial and operational measures are standard in all companies, qualitative measures of performance, effectiveness, and outcomes are less common.

Properly designed and implemented measurement systems focus the management and company resources to areas that can most benefit from change. But metrics that fail to measure all outcomes may portray an inaccurate picture of what really happens within the organization.

The challenge for businesses is to monitor and measure all outcomes—both the intended results and the unintended consequences—of any given change. Because systems thinking is not always applied to workplace measurements, facility changes can produce unintended consequences.

- A move to cut real estate costs may save hundreds of dollars in rent, and also have the unintended consequence of costing thousands of dollars in increased turnover and absenteeism.

- A shift to a more egalitarian environment may save hundreds of dollars in reconfiguration costs, and also have the unintended benefit of speeding product development time.

By developing and implementing a systemic approach to workplace measurement, businesses can better track and assess both the anticipated and unanticipated results of change.

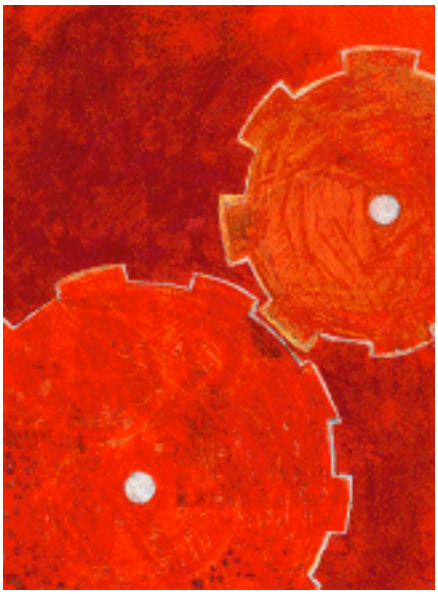
The Role of the Worker

Each worker is an integral part of the business system, although the role of the worker—and the methods for measuring worker productivity—varies widely.

From industrial age...

In an old-line factory, the worker was part of a predictable, repetitive production process. The goal of management was to neutralize worker differences in an effort to achieve consistent performance and results. Workers accomplished clearly defined tasks. If one quit, a replacement was quickly found, and given the exact same tasks. Opinions were not sought; individuality was not encouraged. Conformity was highly valued.

Measuring performance was easy: quantity, quality, and speed of work were assessed as a direct correlation of product volumes, defects, and production times. Similarly, it was simple to track and assess the effects of physical changes to the workplace. If changes slowed production, they were bad. If changes increased production, they were good.



The Role of the Worker

(continued)

...to knowledge age

At the other end of the spectrum, in a contemporary office of knowledge workers, the role of each worker in the system is much more dynamic and influential. The individual's contribution defines the individual's value. The goal of management is to stimulate stronger performance in an effort to achieve improved business results. Because highly valued knowledge workers are difficult or impossible to replace, another important management goal is the retention of these workers.

Measuring the performance of knowledge workers is much more qualitative than the cut and dried assessment of old-time factory workers. Performance measures may be tied to overall business results, such as profitability, market share, and customer satisfaction.

Assessing the performance of knowledge workers is an important, but challenging component of workplace measurement. Knowledge workers often depend on the ability to collaborate with other workers to produce results. They may need to analyze problems and create original solutions. They may require mobility and flexibility to accomplish a wide variety of tasks. Given these environment–based needs, the workplace can have a huge impact on the quality and pace of their work.

Business Results and Workplace Design

As businesses experience new dimensions of competition, more organizations see how workplace design impacts bottom line results.

A model

Typically business results are measured by revenue, market share, product/service development, operational costs, cost containment, and customer service. Including measurements of the effects of changes to the workplace validates the role the workplace plays in achieving organizational goals, and provides valuable direction for future change.

Using the workplace as a leverage point, organizations can better facilitate structural realignment; implement new technology, redesign business processes, and reinforce the organization's values, culture and image.

Measurements related to the workplace have typically focused on cost per workspace, space efficiency, reconfiguration costs, and energy use—the cost side of the cost/benefit equation. The workplace, however, significantly affects an organization's people, processes and technology. In the business results model shown below, the workplace is one of four key factors that drives business results.

Each of the four areas incurs costs and produces benefits:

Area	Cost	Benefit
• People/Organization • Process • Technology • Workplace	• salary, overhead • development, management • hardware, software, training • real estate, furniture, utilities	• work performed • consistency, communication • increased speed, information • productivity, worker health, technology support

Business Results and Workplace Design

(continued)

The cost/benefit relationship

Efforts in all four areas must be integrated, balanced, and measured. If an organization seeks radical change in a key business result—such as doubling revenues—the organization must integrate radical steps on all four platforms to achieve that result.

For example, adding a global network but failing to integrate it with adequate training, appropriate processes, and ample network connections will restrict the use and value of the new system. Similarly, the organization must balance investments on each platform to optimize results. The investment in technology must leave adequate sources available for training, administration, and connections. Finally, business leaders must measure costs and benefits of any investment—whether in personnel, technology, process, or workplace improvements.

The benefit side of workplace improvements is often overlooked. When the focus of workplace measurement is solely on costs—cost per square foot, cost per worker, cost per month—the measurements may paint an incomplete picture of workplace value. Workplace measurement should also address benefits—impact on worker interaction, level of worker safety. Degree of technological support—to determine the true costs and/or benefits of any workplace change.

When BMG Direct, the world's largest distributor of music and books, needed to measure the success of a major facility renovation, it focused on environmental factors. Research found significant improvements in health and safety, as well as user satisfaction.

An Approach to Workplace Measurement

While there are numerous workplace factors that can be measured, the best practice is to use multiple factors in combination.

Sink's Seven

Sink's Seven is one of many measurement models available. D. Scott Sink identifies a seven-measure system (Effectiveness, Efficiency, Quality, Profitability, Productivity, Quality of Work Life, and Innovation) for assessing organizational performance. This comprehensive model covers virtually every facet of performance, and is an excellent starting point for developing a systemic measurement approach.

Effectiveness	the degree to which the system accomplishes what it set out to accomplish
Efficiency	the degree to which the system accomplishes its work with a defined set of resources
Quality	the degree to which the system conforms to requirements, specifications, or expectations
Profitability	the relationship between total revenues and total costs
Productivity	the relationship between quantities of outputs from a system and quantities of inputs into that same system
Work Life Quality	the way participants in a system respond to sociotechnical aspects of that system
Innovation	the degree to which creativity is applied to develop more functional products and services

The balance between efficiency and effectiveness

Focusing on two of the seven metrics—effectiveness and efficiency—produces a simple, but useful, model of measurement that applies to both the costs and benefits of workplace performance. The balance and trade-offs associated with each factor must be examined when planning changes in the workplace.

An Approach to Workplace Measurement

(continued)

Effectiveness

These measures can be either quantitative or qualitative, but can also be subjective in nature. Management determines what will be accomplished, when and to what degree of precision. Sink writes that three criteria are used to evaluate the degree of effectiveness:

1. Quality – Did goods or service meet predetermined specifications?
2. Quantity – Were all deliverables or tasks produced?
3. Timeliness – Were all deadlines met?

Effectiveness Metrics assess how well resources are employed

- Before/after product development cycle times
- Market share contribution of new products
- Employee retention
- Rate of health–related absenteeism and work–related disability claims
- International sales volume
- Number of laptop connections to network

Efficiency

These measures are internally focused and typically quantifiable and objective. Sink represents it by the following equation:

$$\frac{\text{Resources expected to be consumed}}{\text{Resources actually consumed}}$$

Businesses use budgets, standards, estimates, forecasts, projections, rules of thumb, and intuition to develop quantitative expressions for the numerator—the expectation. Similarly, they use accounting systems, records and inventories to track the denominator—the reality. When the denominator is smaller than the numerator, it implies efficiency. But when the numerator is smaller than the denominator, it implies inefficiency.

Efficiency Metrics assess how much of a resource is required to accomplish a task or make a product.

- Time required for workplace moves, adds, changes
- Costs incurred for workplace moves, adds, changes
- Workers per square foot, cost per square foot
- Taxes for capital improvements
- Ratio of used to new furniture in reconfiguration
- Cost of combining used and new furniture vs. cost of all new furniture.

Developing Measurements

Regardless of the complexity of the measurement system, developing workplace measurements starts with an organization's mission, values, and goals.

A checklist

It's important to realize that the physical space of the workplace can have a strong impact. In developing a plan and tracking results, three sets of questions must be addressed:

- What do we want to accomplish? How will we measure our success?
- How are we going to accomplish it? How will we assess our process?
- How can space help? How will we measure its impact?

A four–phase process, like the one illustrated below, can help ensure that the measurement system will gather meaningful data and produce meaningful information. It will also help ensure that all relevant results are measured... on both sides of the cost/benefit equation.

Planning/Assessment

1. Review company's mission, goals, and values
2. Define relevant strategic initiatives and elements
3. Confirm goals for unit that will occupy workspace
4. Define objectives for workspace

Development

5. Design workspace
6. Establish measurement team
7. Develop measures and targets
8. Communicate measures and assess feedback

Implementation

9. Assign responsibility to measure and document
10. Communicate measurement results

Review

11. Review results for progress
12. Assess changes/improvement in workspace and measurement system

Three Examples

Steelcase has worked with many businesses to create work environments that help achieve organizational goals.

An overview

These examples were drawn from a combination of actual Steelcase customer experiences. Each of the following examples starts with a clearly defined objective:

- Improve worker interaction and workplace flexibility
- Ensure worker safety and minimize workplace costs
- Implement new technology and improve the balance sheet

Objective	Effectiveness	Efficiency
Workplace A Worker Interaction Workplace Flexibility	Co-locate workers who are on the same team; provide integrated team space in their "neighborhood" work setting to facilitate interaction and communication. *Metric: product development cycle time*	Design workspace with fixed panels, freestanding furniture, and mobile files to accommodate frequent moves without incurring excessive costs. *Metric: cost of adds, moves, changes*
Workplace B Worker Safety Workplace Costs	Provide adequate levels of adjustability and user control to ensure that increased density does not hamper employee retention *Metric: productivity levels before and after workplace change*	Compress workspace footprints to accommodate more workers without increasing real estate costs. *Metric: number of workers per square foot*
Workplace C Implementing Technology Improving the Balance Sheet	Reconfigure workplace to support new, global communications network with ample plug–and–play connections *Metric: rate of networks use before and after workplace change*	Use existing furniture in workplace reconfiguration to save money. *Metric: cost of reuse vs. all new furniture.*

Three Examples

(continued)

Workplace "A"

Objective: Improve Worker Interaction and Workplace Flexibility
In a high-tech electronics firm, allocation of workspace was based on hierarchy, status, and rank. As the firm reengineered and moved to a more fluid, team-based work process, the design of the workplace impeded progress. Members of one team were located on multiple floors, conference rooms were unavailable on short notice, and moving one person took up to 12 weeks.

When the firm redesigned the workplace, members of each team were co-located to encourage informal communication. Collaborative space was integrated into the teamwork setting to facilitate interaction. Freestanding furniture within panels cut the time required for personnel moves from 12 weeks to 12 hours. A modular network and lay-in cabling sharply reduced changes to network connections.

Measure showed that cycle time for product development improved dramatically in the new environment. And facility managers documented that the annual cost of moves, adds, and changes was reduced 72% with the new design strategy. In just five years, the initial cost of redesign will be recovered through these and other savings. Increased revenues and market share are expected to result as well.

Business Goals

- Increase market share
- Accelerate product development process
- Cut operational costs of reconfiguration

Business Objectives

- Implement self–directed work teams
- Provide workplace flexibility to support frequently changing work teams

Workplace Objectives

- Increased worker interaction within product development teams
- Move people and equipment, not furniture and cables

Workplace Effectiveness Measures

- Before/after product development cycle times
- Market share contribution of new products

Workplace Efficiency Measures

- Time required for workplace moves, adds, changes
- Costs incurred for workplace moves, adds, changes

Three Examples

(continued)

Workplace "B"

Objective: Ensure worker safety and cut workplace costs
A growing distributor of books and music was out of space for call center workers. A top priority for new space was the retention of these valuable, trained workers. After an in-depth property search and thorough financial review, the company chose to renovate an old warehouse on the property.

The comprehensive renovation included a combination of traditional capital improvements, depreciable on a 39 1/2-year schedule, and innovative interior fit-out strategies, depreciable over seven years. Using curvilinear, adjustable workspaces, more workers were accommodated in less square footage. Improvements in ergonomic support, indoor air quality, thermal control, and daylight access boosted employee retention rates.

The facility manager documented several before and after measures: indoor air quality, thermal control, daylight access, square feet per worker, call volume per hour, time per transaction. In addition, the corporate finance director calculated the tax savings realized by employing a modular interior fit-out strategy. Measurements document increased employee retention, a healthier environment, and over one million dollars in tax savings.

Business Goals

- Improve customer service
- Increase revenues
- Cut operational costs

Business Objectives

- Retain trained work force
- Manage growth while minimizing real estate costs
- Accelerate depreciation of assets
- Reduce worker's compensation and health care claims

Workplace Objectives

- Retain current location by converting warehouse to office space
- Accommodate more workers per square foot
- Use modular interior components
- Minimize repetitive strain injuries

Workplace Effectiveness Measures

- Employee retention
- Rate of health related absenteeism and work–related disability claims

Workplace Efficiency Measures

- Workers per square foot
- Cost per square foot
- Taxes for capital improvements

Three Examples

(continued)

Workplace "C"

Objective: Implement new technology and improve the balance sheet
The leaders at an international building products firm were on a mission to expand their overseas markets through the improved use of technology. Goals for the new workplace were simple, but radical: reshape the workplace to align with a flatter, more horizontal organization and provide ready access to a global communications network. There was one catch. With an existing multi-million dollar investment in systems furniture, it had to be accomplished with intelligent redesign and reuse.

In the new environment, multiple hoteling workspaces support mobile workers who carry computers instead of briefcases. Teleconferencing rooms connect workers from all over the globe. Every workspace, from lobby to private office, features plug and play capability and modem access.

In evaluation the new workplace, executives, business managers, and facility managers documented a wide range of performance measures: from new international sales to the number of daily connections to the communications network. Results indicate the new workplace has helped boost corporate performance, speed acceptance of new technologies, and increase global communications.

Business Goals

- Increase revenue from international customers
- Contain operational costs

Business Objectives

- Implement global communications network
- Minimize new capital expenditures

Workplace Objectives

- Allow easy connection of laptops to power and data
- Minimize expenditure for new furniture
- Maximize existing furniture investment

Workplace Effectiveness Measures

- International sales volume
- Number of laptop connections to network

Workplace Efficiency Measures

- Ratio of used to new furniture in reconfiguration
- Cost of combination of used and new furniture vs. costs of all new furniture

Workplace Measurement Guidelines

Key Cosiderations

Several key factors significantly impact the development and implementation of workplace measurements: establishing agreed-upon priorities, tailoring measurements to needs, and gaining worker support. As needs change, reassessing and refining the measurement system itself is important for long-term success.

1. **Focus measurements on the organization's top priorities.** The adage, "what gets measured gets done" holds true. Directly relate measurements to achieving the organization's goals. Revise or eliminate measures that are no longer meaningful to organizational goals.

2. **Realize that measures are context dependent.** A measurement that is appropriate for a particular situation may not provide the desired impact or have any meaning in a different setting. Customize measures to the activity and to the organization's goals.

3. **Involve employees.** The team that will develop, deploy, and manage the measurement system needs to include workers at various levels of the organization. Measurement systems devised by "experts" and imposed on an organization are likely to be rejected and ineffective. Sink recommends combining what expert facilitators know about measurement development with workers' knowledge of activity and work process. This will generate worker buy-in. Leverage worker involvement in measurement processes to refine the goals, metrics, data collection, and improvement opportunities.

Worker involvement in developing, implementing, and reviewing phases of the measurement process builds:
- Knowledge of work activities
- Buy-in on measurement goals and processes
- Knowledge or measurement techniques
- Ownership in developing and implementing improvements.

Key objectives of the planning stage are:
- Clearly communicate the measurement goals
- Develop the linkage between worker activities, organization goals, and the customer. Give each employee a "line of sight" to the organization's goals and the customer.

Workplace Measurement Guidelines

(continued)

4. Prioritize improvement opportunities to identify the leverage points of highest priority.

5. Track, evaluate, and follow through on measurement results. Establish and support a clear, well-defined process.

6. Understand the underlying objective: to improve the organization's performance in a particular aspect or activity. As the activity improves, evaluate and revise the measurement. To achieve continuous improvement, integrate the process for developing and implementing improvements into the measurement system.

It is important to define objectives clearly—know how you will use the information that you gather. For example, if you are tracking the frequency of laptop connections, you should know why you want the information. Are you validating a plan to install more telecommunications receptacles? Are you assessing how often portable equipment is used? Or, are you monitoring personal use of Internet connections?

Some tips

When developing tools...

1. Ask just one question with each query or term.
2. Clearly separate fact from opinion questions.
3. Ask questions clearly and directly, without "leading the witness".
4. Provide clear directions for answering—direct people to circle, underline, or check a response.
5. For most efficient tabulation, quantify answers. For example, use a scale of 1 to 5, or multiple choice.
6. Clearly explain the meaning of numerical ratings (e.g., 1=low, 5=high).
7. Tell people how much time that it will take to complete the questionnaire or survey before they begin.
8. Instruct the administrator of the tool to read or repeat questions verbatim, without interpretation or explanation, if the subject does not understand.
9. Include one open-ended question at the end to seek information or opinions.
10. Test the measurement tool with a control group before using it with the real audience.

A Quick Summary

Historically businesses have focused on measures such as revenue, market share, and operational costs, cost containment and customer service to target areas where change can impact the overall performance of the company.

Increasingly, businesses are realizing that the design and functionality of the workplace can also have a significant impact on results. The workplace affects an organization's people, processes and technology, in addition to cost per workspace and reconfiguration costs.

When measuring the performance of the workplace it's important to look at a number of factors and to pay attention to the balance and tradeoffs associated with each factor. Efficiency and effectiveness, in particular, should both be considered.

For further reading

Christopher, W.F., and Thor, C.G., (Eds.). Handbook for Productivity Measurement and Improvement. Portland, OR: Productivity Press, 1993.

Davenport, T.H., Jarvenpaa, S.L., and Beers, M.C. "Improving Knowledge Work Processes." Sloan Management Review. Summer, 1996: 53-65.

Kopelman, R.E. Technology and the Transformation of White-collar Work. Hillsdale, NJ: Lawrence Erlbaum Associates Publishers, 1987.

Landauer, T.K. The Trouble with Computers. Cambridge, MA: The MIT Press, 1995.

Senge, P.M. The Fifth Discipline. New York: Doubleday/Currency, 1990.

Sink, D.S. Productivity Management: Planning, Measurement and Evaluation, Control and Improvement. New York: John Wiley & Sons, 1985.

Steelcase Inc. Eliminating Barriers to Communications: Hitachi America, Ltd. Case Study (S10452). Grand Rapids, MI: Steelcase Inc., 1997

Steelcase Inc. Giving Shape to a New Work Culture: Owens Corning Case Study (S10519). Grand Rapids, MI: Steelcase Inc., 1997.

Steelcase Inc. Reinventing the Organization: National City Bank Case Study (S10507). Grand Rapids, MI: Steelcase Inc., 1997.

Steelcase Inc. Transforming an Unused Warehouse into Total Interior Space: BMG Case Study (S10575). Grand Rapids, MI: Steelcase Inc., 1997.

Von Hippel, E. The Sources of Innovation. New York: Oxford University Press, 1988.

S510561 Updated 9/00

© 1998–2000 Steelcase Inc. All rights reserved.