WORKPLACE ISSUES: ONE IN A SERIES

Assessing Workplace Intangibles

Techniques for Understanding

Steelcase

How do I love thee?

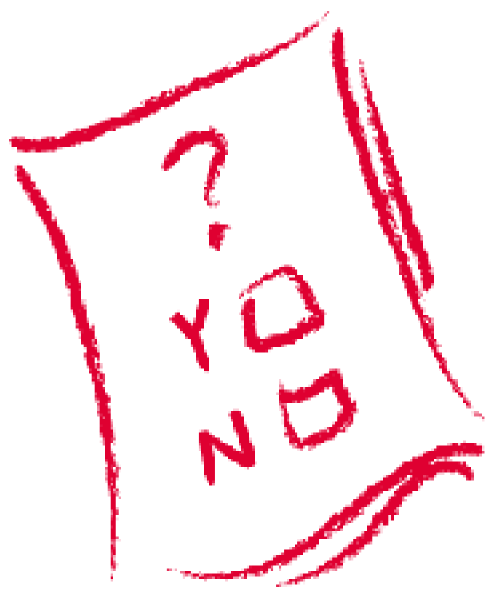
Let me count the ways.

I love thee to the depth and breadth and height

My soul can reach, when feeling out of sight

For ends of Being and ideal Grace.

Elizabeth Barrett Browning



A Decision-making Tool

Since the beginning of time, people have sought to express the essence... to understand the emotion... to seize the spirit… of intangible forces in their lives.

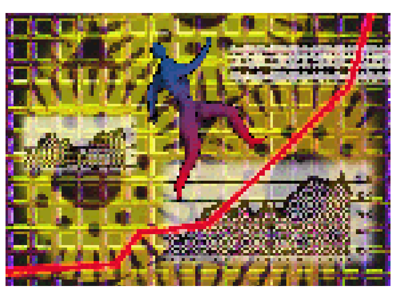
The workplace web

In science, in business, even in poetry, we seek the comfort zone of facts, numbers, and ratios. Sometimes the comfort zone is easily attainable. Some factors are concrete: a high number means one thing, a low number means something else.

But sometimes the comfort zone of hard numbers is out of reach. Some factors can only be understood in relation to other factors. We are challenged to push our understanding beyond a single number, a solitary fact, a simple ratio... to comprehend a web of interrelated factors, relationships, and intangibles.

The workplace is just such a web.

In the workplace, evaluation of tangible factors and intangible forces enables us to chart our past, assess our present, and manage our future. Sound measurement and assessment techniques offer an important set of tools to help managers augment their judgment, enhance their understandings, and validate their decisions.



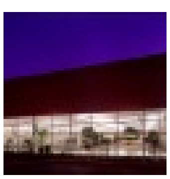
Understanding Tangibles and Intangibles

The workplace is a system that contains tangible and intangible variables for performance. In this system, one thing affects another and behaviors are intertwined.

Tangibles

Tangible variables are direct, quantifiable, and easily measured. For example, most environmental factors are measured with precise, specialized instruments that leave little room for interpretation. If readings are collected correctly, measurements are clear. The connection between workplace changes and these measures is direct and easily understood: adding more people and equipment may require more air conditioning capacity. The effectiveness of the air conditioning is direct and easily measured with temperature and humidity readings.

Financial results fit the same mold. Units of production per hour is a direct measurement, easily obtained for routine processing jobs or work that has little variation. Likewise, profit margin, cycle time, and cost of sales are all quantifiable measurements, easily attainable with good record keeping and accounting. If methods are sound, results are clear.



When BMG Direct, the world's largest distributor of music and books, needed to evaluate the success of a major facility renovation, it looked at two kinds of tangible measurements: financial results and environmental factors. Workplace objectives included increasing natural light, improving light quality, reducing glare, and managing air quality and temperature. Research conducted by Carnegie Mellon University, BDO Seidman, and BMG management revealed significant improvements in health and safety, as well as user satisfaction.

- A survey of 261 users showed increased satisfaction with acoustics, lighting, air quality, access to electrical outlets, shared facilities/daylight, and overall aesthetics.
- Air quality improved drastically as CO_2 levels fell from 1,000 ppm to less than 500 ppm.
- Lighting levels fell from 800 lux to 400–600 lux, improving the quality of lighting and reducing glare on computer screens.
- More than 80% of workers have seated views of natural daylight.

Understanding Tangibles and Intangibles

(continued)

The connection between workplace changes and these measures, however, is indirect and may not be as readily understood. For example, adding more people and equipment may result in increased absenteeism and lower productivity. While increasing worker density may improve the bottom line for real estate costs, it may create negative financial results elsewhere.

One initial cause can create trickle-down effects, the consequences of which must all be measured to get a true picture of all financial impacts. Here's where intangible variables come in.

Intangibles

Many workplace variables are indirect, highly qualified, and much more difficult to measure. Behavioral patterns, such as interactions and communications, for example, are organic and fluid by nature. These factors require more sophisticated assessment techniques.

"Studying human behavior is like working in a living lab," says Pam Brenner, Steelcase Manager of Workplace Issues. "You can't freeze it... it's constantly changing. Not only can't most variables be held constant, the interdependencies between the variables also change. Each time management restructures, new technologies are introduced, people switch projects, or priorities shift, it impacts how people get their work done."

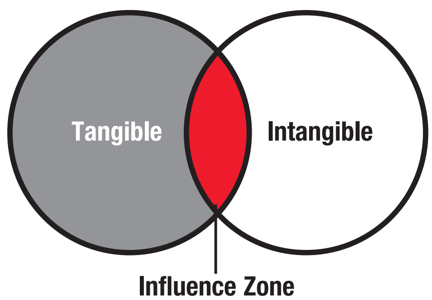
Evaluating conditions and assessing progress in this shifting, organic environment cannot be accomplished with one snapshot in time. Because so many variables exist in the workplace, it may be necessary to measure multiple variables with one technique, or use multiple techniques to measure one variable.

Understanding Tangibles and Intangibles

(continued)

Combining tangibles and intangibles

Tangible measurements are relatively well understood. But to truly assess the full impact of the workplace in business, tracking tangible results is not always enough. Because physical space is a profound influencer of human behavior, small changes in the workplace can affect big changes in behavior and attitude: patterns of interaction, channels of communication, and development of relationships. These intangible forces may be stronger indicators of long-term business success than this quarter's financial results, and evaluation techniques for both tangible and intangible forces need to be employed. In many cases, the factors affecting tangible and intangible conditions overlap, creating a zone of influence.



For example, a claims processor may produce a consistent volume of work for two years. The tangible measure of productivity: number of claims processed per hour. When an intangible factor is introduced — for example, the threat of a layoff — the claims processor may boost personal productivity in an effort to avoid being laid off.

This scenario points out the importance of using multiple evaluation and assessment techniques. If just one technique were employed, management might not understand the cause and effect relationship between intangible conditions and tangible results.

"For many of today's executives, if it cannot be measured, it is not of value. And yet, as we now understand the productivity paradox, we realize that even intangible factors must be defined, monitored, and evaluated in the knowledge economy."

Debra M. Amidon in
Innovation Strategy for the Knowledge Economy: The Ken Awakening

Classifying Intangible Factors

Intangible factors may be difficult to identify at first. Here's a framework that can help.

Identify, measure, and manage

In his book about managing and measuring knowledge-based assets, *The New Organizational Wealth*, Karl Erik Sveiby presents a model to classify intangible assets. He organizes intangibles into three categories: competence, internal structure, and external structure.

According to Sveiby, competence refers to the personal market value of individual professionals: those who plan, produce, process, or present the products or solutions for the business. Internal structure refers to the processes and systems that contribute to operational efficiency and corporate intelligence, while external structure refers to attributes such as brand recognition and customer relations that create value in the market.

Within each category, Sveiby evaluates progress according to three key indicators: growth/renewal, efficiency, and stability. With this approach, Sveiby asserts that managers can effectively measure the value of intangibles... people, processes, and structures... that are increasingly important to market value in today's knowledge-based economy.

Sveiby notes, "As in all measurement systems, it is the comparisons that are interesting. A measurement tells nothing at all unless it is compared against a yardstick of some kind: another company, a previous year, or a budget, for example. When we measure intangible assets, we must therefore be prepared to keep doing so for at least three measurement cycles before attempting to evaluate the results. Ideally, measurements should be repeated yearly."

In the workplace, this holds true. The value of assessments is realized when multiple variables are measured over time.

Like Gardening and Fishing

Collecting tangible measurements and intangible assets is a lot like gardening and fishing.

Tangibles and gardening

A gardener knows exactly where the carrots, the beans, and the tomatoes are planted. Often, tidy stakes label the crops planted in each row. An experienced gardener knows how well the crop did last year, and bases expectations for this year's yield on past performance. Sunshine, rainfall, and temperature can influence the yield, but will never change what has been planted.

Like gardeners who know what is planted and where it is in the garden, facility managers and accountants know where to go for tangible readings. They know turnover rates, churn rates, and health care claims. They can measure lighting levels, acoustical levels, and pieces per hour. In most cases, benchmarks and tangible goals and expectations for the future have been established. Just as the weather affects a gardener's yield, environmental factors such as indoor air quality, humidity, and lighting can affect productivity in the workplace.

Intangibles and fishing

Collecting intangible assessments is more like fishing. A change in weather can have a profound effect on the day's catch. The fisherman rarely knows what kind of fish is biting and where they are in the water. The business leader seeking information may be in the same boat.

The workplace can help people to interact more, to more easily accommodate technology. Enhanced ergonomic support can lead to improved employee health and comfort. A well planned, aesthetically pleasing environment certainly must correlate with improved employee satisfaction. These are the intangible impacts on productivity. Quantifying these impacts requires more study and different measurement techniques.

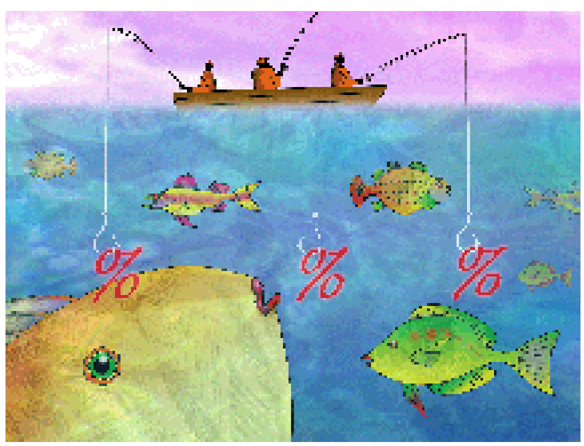
Like Gardening and Fishing

(continued)

As in fishing, technique and selection are important in measuring intangibles. Because of the dynamic nature of human behavior, and the complexity of multiple variables in the workplace, it's important to embark on measurement programs with a clear vision. Otherwise, results may be difficult to understand.

"When it comes to evaluating intangibles, it's essential to focus on what you want to know," says Pam Brenner of Steelcase. "Be prepared to cast a wide net. Know what you want to catch. But be willing to let a few fish slip back into the water. Avoid getting sidetracked by inconsequential details and be open to the opportunity for discovering something totally unforeseen."

Sveiby also cautions against the collection of meaningless information. The problem is not that intangible measures are difficult to design," he writes. "Rather, the outcomes seem difficult to interpret." This often occurs when the same survey is used in every situation, rather than designing or modifying a survey that focuses on specific issues.



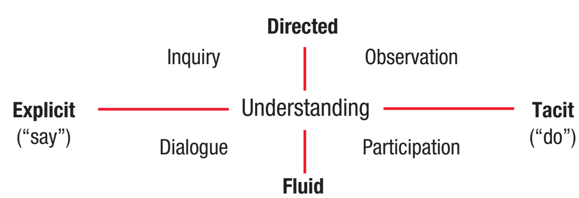
Categorizing Evaluation Techniques

Capturing knowledge in the workplace requires watching what people do, as well as listening to what they say.

A model

Evaluation techniques follow a progression of complexity: from direct conversation to sophisticated gaming/simulation scenarios. For information requirements and assessments involving small numbers of people, a direct conversational technique is appropriate. When more subjects are involved, a questionnaire or survey might be required. When subjects may not be able to verbalize knowledge, observation techniques are of great value. And when researchers seek a holistic, in-depth understanding about complex relational issues, user participation studies may be required.

In the following matrix, Mark Baloga, of Steelcase Research and Business Development, has created a model for categorizing techniques for understanding. His approach acknowledges the free-flowing way that work is accomplished in a knowledge environment... that it is not merely the production of parts and pieces.



Explicit/Saying

The two left quadrants, Inquiry and Dialogue, involve the communication and capture of explicit information. Baloga characterizes these as the "say" quadrants because techniques employed here rely on self-awareness and reporting — using spoken or written words. Facts or perceptions must be understood and verbalized to be captured with these techniques.

For example, management may survey a customer service department to discover why transaction rates slowed down after new furniture was installed. Completed questionnaires reveal that in the redesign of the workplace, agents gained acoustical privacy for customer phone calls, but lost the ability to communicate informally with other agents. When they had to leave their workspace to seek help from other agents, it took longer to serve customers.

Categorizing Evaluation Techniques

(continued)

Tacit/Doing

The more complex capturing of tacit knowledge is represented in the two right quadrants, "Observation" and "Participation." Baloga characterizes these as the "do" quadrants. Techniques employed here rely on secondary observation of behaviors, attitudes, and interactions. These techniques are useful for discovering insights that may not surface in self-reporting.

As an example, questionnaires completed at a call center failed to reveal the source of increased errors. When surveys did not produce the information that was sought, management pursued the issue by delving deeper.

To study the possible causes of the problem, the firm set up a camera to videotape activities in the call center. Careful review of the tapes indicated that several new hires were assigned to workspaces that were not equipped with shelves, so supplemental print reference materials were located outside the workspace. Managers observed that instead of leaving their workspaces to use the reference materials, the new hires were simply entering orders without complete information. Managers did not report the problem on initial surveys because they were not sufficiently aware of the shortcomings. Other agents were not in a position to observe new hires, so they were also unaware of the problem.

Directed

From top to bottom, the quadrants are differentiated by the degree of direction. In the top two quadrants, "directed" measurement begins with defining what information will be sought and how it will be captured. Using Inquiry and Observation techniques, one carefully defines the parameters of the measurement project.

In both examples above, the management used directed measurement techniques. They were seeking specific information: the root cause of increased customer complaints. These approaches are useful when project leaders know exactly what information they are looking for and therefore can structure questions or observations to capture and measure information.

Categorizing Evaluation Techniques

(continued)

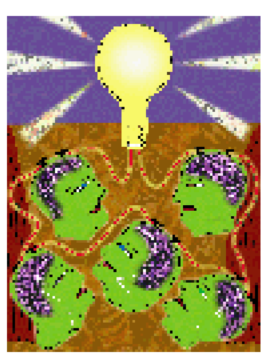
Fluid

In another situation, management is better served by employing techniques from the bottom two quadrants. Using "fluid" measurement techniques of Dialogue and Participation, one can collect a wide range of information and insights. These techniques are more explorative: they leave room for discovering learnings that may never have been anticipated.

From left to right, these two quadrants are differentiated by their degree of fluidity. They are very useful when looking at intangibles in the workplace — or when trying to learn more about the "zone of influence."

The informal, very fluid technique of Dialogue is sometimes referred to as "pouring the coffee"... that is, creating a casual interactive environment for verbal exchange. A manager may engage in a dialogue with one or more workers to access their ideas, perceptions, and attitudes about the workplace in general. During the conversation, the manager may discover that two workers have developed a close working relationship and would benefit from having adjacent workspaces.

The power of Participation is in the structured capturing of fluid information. These techniques engage end users. They involve the enactment of situations and experiences in a defined, but creative and dynamic format. Examples could include a role-play designed to understand diversity issues or an off-site team-building exercise. Techniques can be designed to capture information specific to the workplace — an anticipated move to a new building, end user testing of prototype furniture, or the combining of two departments and the adjacencies necessary to work together on a new floor plan. Fluid discovery is, in effect, captured by the parameters of the actual activity.



Assessment Techniques

Selecting the appropriate technique allows us to understand, establish a benchmark, and then strive to move the mark in the right direction.

Dialogue

In his book *Stewardship*, Peter Block asserts that dialogue is the most powerful source of information. "What truly matters in our lives is measured through conversation. Our dialogue with customers, employees, peers, and our own hearts is the most powerful source of data about where we stand. Using a survey to ask employees to rate their feelings on a scale from one to ten does not make their answer hard data. We fool ourselves with most of the numbers that we read. Trusting the value of personal connections we make with those we are there to serve is real accountability."

The value of basic conversation should not be underestimated. But to be truly valuable as an assessment technique, it must be undertaken deliberately. Good listening skills are essential: it's important to look for repetition, patterns, and trends. How many times do people mention that the space is noisy — or that they don't have enough room to spread out? Have several people mentioned that this is an issue? Is this something that gets mentioned in casual conversations? When using dialogue in a group, understand the dynamics. Know what filter through which you will be sifting information. Structure the conversation to elicit consistent feedback. Keep an open mind; do not judge what is being expressed. Provide an opportunity for everyone to speak.

Make the facility change. Then, talk with people again. Are the original problems solved? Have new ones cropped up? As with other techniques, it's important to take "before and after" readings. This can be accomplished simply through recording detailed notes of a one-on-one conversation. If conversations will be held with more than one subject, it may be helpful to create a topic list, organizing notes for each conversation in a similar format.

Types of dialogue:

- *brainstorming* an unstructured, free exchange of ideas in a group of two or more people
- *free-range conversation* an unstructured conversation between two or more people
- *story telling* a sharing of anecdotes or experiences to communicate a basis of understanding

Tips

Increase effectiveness of free-range conversation by "drawing" key ideas on a shared whiteboard.

Add structure to brainstorming sessions by using storyboarding techniques: record contributions on individual cards and post on the wall for participants to see.

Create a game for groups: toss a small ball around, and whoever has the ball gets to talk… others get to listen.

Assessment Techniques

(continued)

Inquiry

Methods of inquiry range from standardized questionnaires to in-depth, focused interviews. Questionnaires are most useful for discovering trends among large groups of people: identical questions are asked, answers are compared. Questionnaires provide useful data if the investigators know exactly what they are seeking, and if questions are based on a defined hypothesis.

Focused interviews and focus groups can be powerful tools to elicit complex information and perceptions. Focused interviews are an interactive, flexible form of inquiry with four characteristics: subjects share a particular concrete experience; questions are based on situational analysis and hypothesis; questions follow an interview guide; subjects' definitions of the already analyzed, shared experiences are sought.

Types of inquiry:
• *focus group* a group structured conversation
• *interview* a one-on-one structured conversation
• *questionnaire* a written, structured collection of information
• *survey* a written or verbal structured collection of information

Tips

Clearly identify what information is being sought, and how it will be used, before creating tools of inquiry.

Record any interviews or focus groups on videotape to facilitate further review and study.

Be careful not to intimidate in interviews: the number of interviewers should not exceed the number of subjects.

Assessment Techniques

(continued)

Observation

Instead of focusing on the words people use, observation techniques zero in on their actions. Observation techniques can be targeted at specific behaviors, use patterns or physical traces. Different tools are employed to record and document observations depending on the evaluation technique.

Observation helps to highlight things of which people are not consciously aware. Empathic design, a set of techniques employed for product development, is founded on observation conducted in the customer's own environment — in the course of normal, everyday routines. In the natural context, observers gain valuable information not accessible through other methods.

The same philosophy applies to the workplace. Observation techniques for studying behaviors within a real environment are easily applied to studying the environment itself.

People, in general, are very adaptable. One walks around a chair before moving it out of the way. Another tapes a piece of cardboard to a computer to block glare. Still another pile papers on the floor when work surface space is full. By observing what people do to their spaces — how they adapt themselves or how they change objects in the workspace — one gains a better understanding of the workplace. Observe — make a change — observe again.

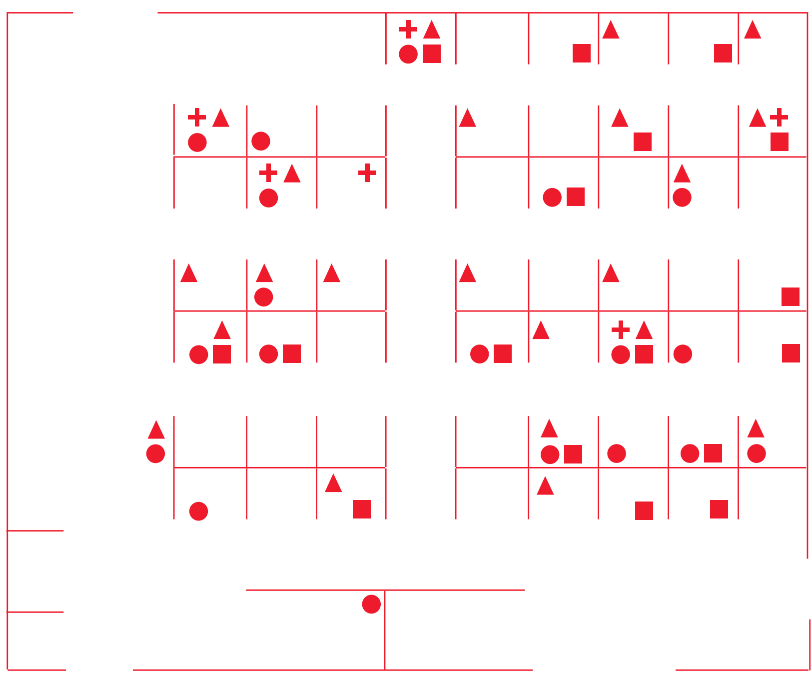
Is the cardboard still on the computer? Are piles of paper still on the floor? When Steelcase did observation research during the development of the Personal Harbor® workspace, investigators observed workers using trash cans as pencil cups. They learned that the prototype workspace afforded no place for pencils. This discovery led to the inclusion of Details® worktools that would increase the storage and function in the workspace.

Assessment Techniques

(continued)

Types of observation:

- *archives* print records or computer files of historical data; used to evaluate usage patterns such as meeting room occupancy, customer waiting times, printer cartridge replacements
- *physical traces* artifacts that reveal environmental conditions or usage patterns are observed and mapped on a floor plan; used to analyze workplace conditions: sweaters, fans, space heaters indicate user discomfort; cardboard shielding a computer monitor shows that glare is a problem
- *shadowing* following a designated subject for a defined period of time; used to gain insights on individual's work patterns
- *still photography* participants or investigators photograph stages or steps in a process; may reveal product flaws, logic gaps, or compensating behaviors
- *time-lapse video* a photographic technique that combines the efficiency of still photography with the progressive recording benefits of video; used to monitor behaviors such as use of a shared team environment
- *video ethnography* on-going videotaping of behavior patterns in a given environment; used to monitor behaviors in prescribed periods of time



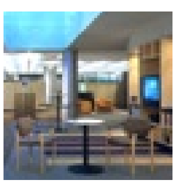
A set of symbols is used to map behavioral traces of workplace inadequacies in this workplace.

+ Adjustable keyboard
● Fan
▲ Footrest
■ Sweater

Source: Carnegie Mellon University

Steelcase has partnered with E-Lab, a behavioral research firm based in Chicago, to study how changes in the workplace affect human behaviors, interactions, and patterns of use.

E-Lab uses systematic, structured methods to identify patterns and evaluate them for insights and recommendations.



In the Steelcase Leadership Community, for example, E-Lab has used video ethnography to document increased communication and interaction among members of the executive management team.

Assessment Techniques

(continued)

Participation

Organizations vary greatly and the factors and issues that affect them are dynamic and ever changing. Any tool aimed at understanding the workplace, and the specific work performed there, must also be dynamic. Gaming and simulations, role-plays, and action research meet that need.

Multi-faceted simulations provide an opportunity to examine work methods and environments through a variety of creative learning modules. In some simulations, these modules are flexible, interchangeable within a framework, and their individual application is dependent on the focus of the participating organization. Use professional researchers for these types of sophisticated approaches.

Tip

Employ professional researchers to field these sophisticated approaches.

For more than two years the Research and Development department at Steelcase, in collaboration with the University of Michigan School of Architecture, explored the concept of end users as innovators. In a multistage research project Steelcase used a combination of survey and simulation techniques in real organizations to investigate a wide range of issues: worker effectiveness and workplace efficiency and comfort; emerging trends in the use of knowledge work technologies; workspaces; and teams.

Types of participation:
- *action research* puts solutions into place, then studies results; used to simultaneously implement and test solutions
- *gaming/simulation* simulates real-world situations by creating an artificial world in which subjects role-play, interact, problem solve; used to define, manage, and map multiple variables in complex situations

A Quick Summary

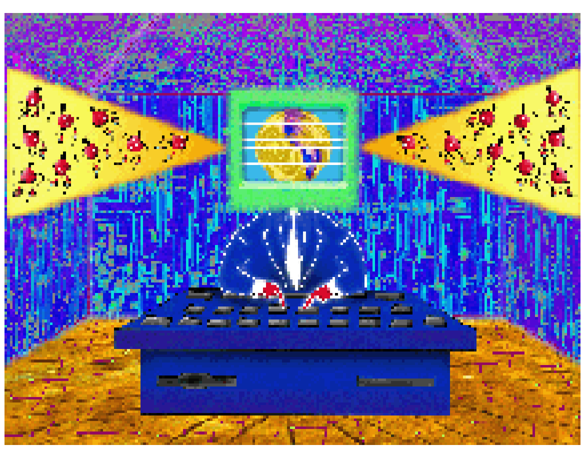
In the workplace, as in other facets of business, understanding intangible factors is just as important as understanding tangible financial results. Comprehending the association between them, and the influence each has on the other, is critical as well.

Understanding intangibles, however, is not for the faint of heart. It is, by its very nature, an endeavor that requires an ongoing investment of effort, study, and time. The time and money that an organization can dedicate to assessing workplace intangibles may determine the techniques at one's disposal.

Advanced techniques, such as a three-year program of video ethnography and simulations, require significant resources. It is, however, possible to develop an assessment program on a budget. Regardless of the resources available, any evaluation must be based on a clear vision... and techniques must be chosen based on available time frames and dollars.

Different corporate cultures will allow different techniques. The tolerable "life cycle" of any evaluation project must be considered in light of the culture. When an evaluation project begins, it's always wise to inform workers up front: the steps that will be taken, which employees will be involved, and in what time frame.

Finally, evaluation should be undertaken with a spirit of adventure, a quest for discovery. Gathering new insights, assembling new understandings, finding new perspectives is exciting work; the workplace can be a living lab. By striking a balance between measuring the tangible and understanding the intangible, it's possible to reap a great harvest of workplace knowledge.



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