

**INSET 2.6: ISO AND WORKPLACE VISUALITY—WHEN & WHY**

One of the great benefits of committing to ISO certification is the requirement that a company identify and document its technical and procedural standards—every single one of them.

This is an intense task for any company, even those that have stable and consistent standards. For a company that does not have a foundation of standards, the task becomes daunting, often requiring not months but years to complete.

I am often asked if one should initiate ISO first or a visual workplace. Company-by-company differences apply here which may persuade one to begin with ISO, especially if the company is seeking a global market. There is almost no means of delaying that level of mandate.

When given a choice, however, I recommend beginning with an implementation of visual order, the indispensable first step on your journey to a visual workplace.

As you will read in later chapters, there is no shortage of information in a company. The question is: What of it is true—and timely, accurate, complete, and relevant? The question is: Can the workforce access it easily when and as needed?

When you begin your ISO initiative with a rollout of workplace visuality, you can begin to sort out the true from the false and provide a platform for the kind of interpretive research ISO requires. Doing so can reduce the usual time required for ISO certification by 30% to 60%.

**Remember:** Only the finest manufacturing facilities have completed the groundwork that allows them to know and apply, without hesitation, the details of their technical and procedural standards. All other companies must play catch up.

value gets added and how, we are sharing our technical and procedural standards—the *what* in “what is supposed to happen”.

### Building Block 3: The Six Core Questions

Look closely at technical and procedural standards and notice that they consist of answers to the same set of questions—the same set of six questions. We call these the *Six Core Questions*. They are: Where? What? When? Who? How many? and How?<sup>3</sup>

The answers to these six core questions are the details of the answers to the need-to-know and need-to-share that drive the visual workplace (Figure 2.5).

Yes, that’s right: Answer these six questions and you also have the details of your



### Driving Visuality Through the Six Core Questions

If you knew no other visual concept than the Six Core Questions, you could go far in populating the company with visual answers to them and come very close to achieving a well-functioning visual workplace. They are that powerful.

## The Six Core Questions Made Visual

### The Visual Where (floor) ▶

The darkened edges around this floor border & stenciled address reveal a secret: Two coats of sealant can ensure a brightly-defined *visual where* for 18 months or more—even in heavy fork lift traffic. (Fleet Engineers, Flint, MI)



### The Visual Where (shelf) ▶

Visual evidence of excellence is everywhere at Delphi Deltronics (Matamoros, Mexico), including inside this HazMat cabinet where the address component of the *visual where* is on a driver-license level—common name, part number, and photo of the thing itself—all the information you need to take value-add action.



### ◀ The Visual What

This binder of critical assembly operations was compiled by Luis Cataao of United Electric Controls (Watertown, MA) to visually answer exactly “what” the tricky elements were in building switches and controls in his area. While he listed all specs, he only photographed the most critical steps.

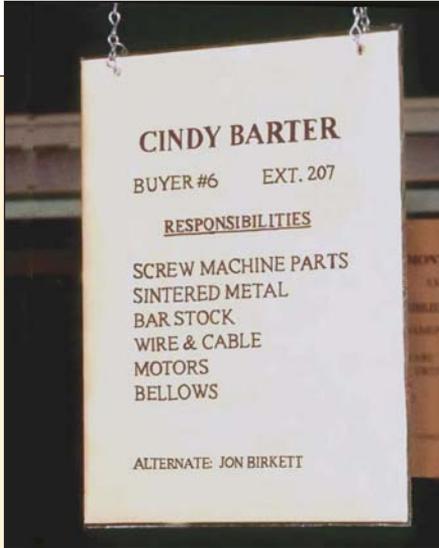


### ◀ The Visual When

Camilla prepared the daily report. Looking for the report each morning, Nate, an engineer, hovered around Camilla making her annoyed. Fine visual thinkers, the two decided to answer the when question (*When will the report be ready?*) with a visual device—the blue bin and red clothespin resulted.

## Imagination is Everything

Using the six core questions as drivers does not produce a cookie-cutter result if people are encouraged to use their imaginations. When they do, this process can ignite high levels of diverse and personal inventiveness.

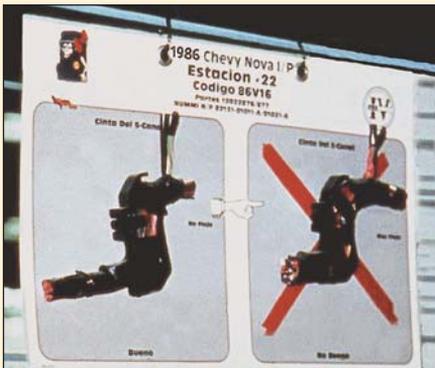
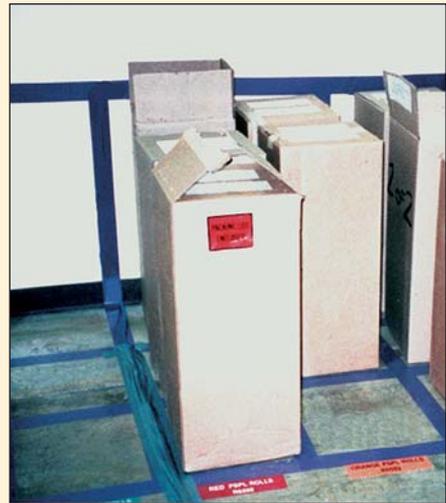


### ◀ The Visual Who

Cindy Barter at United Electric Controls (Watertown, MA) developed this splendid double-sided airborne address that provides much more than her name in defining the visual who.

### The Visual How Many ▶

You can tell at-a-glance that this storage grid at Seton Identification Products (CT) limits the size and height of what fits in each cell as well as the total quantity: 3 deep X 5 long X 1 high. I got it! 15 units!



### ◀ The Visual How

This visual standard (how to tape this harness unit correctly) hung in Rio Bravo IV (Juarez, Mexico) in the mid-1980s when then Packard-Electric (now Delphi Automotive) had just begun its march to excellence. Now, decades later, Delphi is a giant in the industry—and in the field of workplace visibility as well.

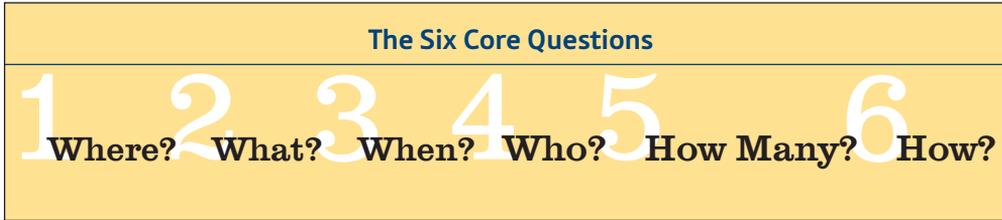


FIGURE 2.5: THE SIX CORE QUESTIONS

technical and procedural standards. After all, that is all your standards are—over and over again, the answers to the six core questions in precise detail. Answer these questions *visually*—translate them into visual devices—and your standards become built into the process of work and into the environment that supports that process.

The set of six core questions, another visual building block, expresses the synergy between standards, information, and visibility. We focus on making the answers to these six core questions visible—available at-a-glance—and install them as close to the point of use as possible. When we do, the workplace speaks, able at last to tell us where things are, what needs to be done, by when (or for how long), by whom (or by which machine or tool), in what quantity, and precisely how.

See Photo Album 4 for visual answers to the six core questions.

With the six core questions in hand, the task becomes simple: identify the missing answers and install them visually as close to the point of their use as possible. Another term for missing answers is: *Information Deficits*.

### **Building Block 4: Information Deficits**

An information deficit occurs when information vital to the task on hand is missing, wrong, late, unavailable or unknown.

Deficits in information have a vast and disastrous impact on all performance indicators—from quality metrics such as defect and scrap rate, to machine repair and changeover times, to inspection and material handling costs, to accidents and safety-related issues, to cycle time and overall manufacturing lead time. That means that information deficits, by extension, impact the entire business cycle, including sales forecasts and collection activities. Their power is in their absence—the absence of answers.

Information deficits in the workplace trigger costs on every level and, as such, are major profit-eaters. When companies speak of the war on waste, they tend to

**INSET 2.7: THE FIRST-QUESTION-IS-FREE RULE****Managers Get on Board with Visuality**

Questions are one of the most virulent forms of motion, especially on non-value-add levels where managers can sometimes entertain the mistaken notion that their actual job is to answer questions—day in and day out, all the time.

In truth, the need-to-visually-know and -visually-share spans all organizational levels.

I speak to every executive and manager when I say: You can trigger tremendous visual benefit for yourself and the entire enterprise by simply requiring, or even mandating, that your direct reports implement our *First-Question-Is-Free Rule* in their own work and throughout their own value fields. Here's what you tell them:

*Managers, whenever someone approaches you with a question, answer it politely, truthfully, and as completely as possible.*

- *For example, Diana may approach in a few moments and ask the question she seems to ask every day at about this time: "Hey, Boss, what am I supposed to do (or make) now?"*
- *Answer her politely and clearly; and, as she walks away, note inside your head, "That's one."*
- *Then wait until you are asked that same question again, either by Diana or someone else.*
- *Again answer the question politely and clearly; and as the person walks away, note inside your head: "That's two!"*
- *The first question is free; and the second time you hear that same question from the same person or anybody else, it's time for you to create a visual device—so you never ever have to answer that question again and no one has to ask it.*

In requiring this of your direct reports, you will help them undertake what may be their first concrete steps towards becoming leaders of improvement in their area, instead of a manager of fires and other daily calamities.

overlook the disastrous impact that missing bits of meaning can produce. Information is the context in which all work happens. If that fabric is full of holes, lots of work, lots of value, escapes.

Most of the time these deficits are so chronic and commonplace, the depth to which they affect organizational performance is nearly impossible to determine. To find them, we must look for their symptom, that which they trigger: motion.

## Building Block 5: Motion

The range and extent of information deficits in the workplace are nearly impossible to gauge. We know that they are chronic and widespread, but how do we find them? The answer is to track what they trigger: *Motion*.



FIGURE 2.6: FORMS OF MOTION

In workplace visibility, motion is Corporate Enemy #1. It is defined as: *moving without working*. Motion can take a thousand forms. The easiest way to spot it is to notice when you are wandering about or wondering, searching, asking or answering or any combination of these (Figure 2.6). Doing anything again is another quick way to recognize when you are in motion.

When first learning about motion, people may say, “Yes, but I need to find my pliers to do my work. How can that be motion? How can that be a bad thing? Why is that the enemy?”

The answer lies in the fact that when you are looking for your pliers in order to do your work, by definition, you are not working. And that needs to be examined. (See Inset 2.8 for what motion is *not*.)

From that vantage point, you can easily say that motion is anything you *have to do*—anything you are compelled to do—or you *cannot* do your work. Motion is not elective. You do it in order to get back to your work. You have no choice.

- Hank had to find his pliers or he could not assemble the unit.
- Mary was compelled to find the new materials or she could not run the job.
- Victoria, the supervisor, had to re-verify the spec or the job might turn out wrong.
- Ishmael had to count the units again, otherwise he took the chance of shipping the wrong quantity.
- Nurse Betty had to go to the pharmacy to retrieve a pain medication that was late in arriving.

**INSET 2.8: WHAT MOTION IS NOT**

Here is what motion is *not*:

- Taking a break
- Calling home
- Chatting with a friend
- Going to lunch
- Going to the restroom

If you and the workforce do not understand this, people will feel watched and over-regulated; and they will be. One operator said it like this, "I'd feel like a robot, chained to my work bench!"

The activities bulleted above as "not motion" help to create a sense of community, safety, and personal comfort in the workplace, qualifying it as a location for human endeavor.

Dependant on the company, some of the above activities may be regulated, others discretionary. Whatever the case, for the purposes of workplace visibility, none of these are considered forms of motion.

Motion is the plague you don't even see. Tied so intimately and inextricably to unanswered questions (information deficits), motion almost always looks like *business as usual*.

At the outset, only a well-trained pair of improvement eyes can spot the many forms of motion in the workplace. These activities seem so ordinary and so necessary. They are not. Motion eats up the life of the enterprise in the minutia of the micro-transactions we are forced to engage just to get to the starting line of our work—or just to get back to the work itself. It is a numbing experience.

In the chronic absence of fundamental information, employees everywhere—in offices, hospitals, banks, in the field, engineering offices, and on the production floor—become immune to a sense of urgency at work. People become desperate for the simple answers they require to work or continue to work. No one wants to wander around all day, chasing down teeny tiny informational tidbits. It is hard to imagine a more degrading experience or an activity that is more a waste of time. And should these tidbits be held by a select few but withheld from the many, insult gets added to injury. (See Inset 2.9 for more on this, *Information Hoarders*.)

This is not what most people signed up for when they agreed to work for your company. It is not how most people want to earn their daily bread. Simply put, most people want to earn their daily bread in a rightful way. They want to express excellence. In the face of insanity by tidbits, some people go numb; others go ballistic.

The internal dialogue, eyes turned up to Heaven, goes something like this: "Is this what You made me for, dear Lord? This? Chasing down answers to the same

old questions, the same ones I asked yesterday, and the day before that, and the day before that? O dear Lord, give me strength!”

For those less religiously-inclined, the inner protest sounds something like: “What the heck is this? Chasing down the same stinkin’ answers, day in and day out! I’ve had it! I’m outta this stinkin’ place!”

Neither person may actually quit. Employees on the value-add levels have loved ones to support, mortgages to deal with, bills to pay, and limited alternatives to the job they are doing for you. But make no mistake: They do leave—if only in their minds, if only in their hearts. They make their bodies stay as they consent to a form of modern-day slavery that, to many, is as onerous and soul-bending as the slavery of old.

I see this everywhere when I walk the production floors and offices of the enterprise. People stay. And yet they and we both know that more is possible and wonder why it cannot happen.

That is the destructive power of information deficits (missing information) in the workplace. Motion is merely their symptom.

## **Motion as the Lever**

Every improvement method looks for ways to build a high sense of problem ownership in people. Because information deficits can populate a work environment like grains of sand on a beach, it is easy to make them management’s problem on a systems level. When this occurs, however, people quietly disconnect from any responsibility for the problem or for its solution. The problem and the solution are someone else’s job. “That’s what managers are for,” people say.

In a visual workplace, motion is not only corporate enemy #1. It is the main leverage point for making the problem of information deficits detectable and, therefore, for eliminating those deficits and the motion they cause. This is the work of the visual thinker.

The inner discussion goes something like this:

“When I am in motion, it is my own legs that carry me around looking for my pliers; it is my own hands that search through the pile of papers looking for the right work order; it is my own mouth that asks, ‘Do you know what I am supposed to do next?’ or ‘Have you seen my supervisor?’”

Because it is “I” who is doing these things and engaging in these behaviors, I can connect with the fact that there is a problem. I can own the problem as my own. I can identify it and identify with it (here read the word “identify” in two parts, as in I-identify.)

Understood in this way, motion represents a tremendous advantage if the problem of information deficits is ever to be solved. More than half of the battle in continuous improvement is first getting the workforce to actually own that there is a problem; and then people need to name the problem correctly. Only then can they go after solving it.

In fact, many employees disassociate from problems in the workplace. They either don’t see the problem at all, or if they do see it, they expect management to solve it or they blame management for causing it—or both. In paternalistic, traditionally-run companies, most employees do not consider problems as their concern. They do not own them. Employees in the above scenarios do not see problems as their responsibility, either as something they caused or are able to help solve. This in itself is a huge problem.

Let me say that another way: One of the great challenges in deploying continuous improvement as a strategy in the enterprise is getting people to own workplace problems—and then getting enough people to own them.

When motion (moving without working) is named as the enemy, the company suddenly has a compelling tool for helping people see workplace problems and, once seen, own them. People can I-identify with motion because they used their own legs, hands, and mouth to search for missing answers. Once I-identified with motion as the problem, it is so much easier and more natural for people to go down

### INSET 2.9: THE EIGHT DEADLY WASTES VERSUS MOTION

Here you see the wheel of the seven classic wastes that Toyota has been using for over 30 years—plus one more waste: the opportunities you lose by having to deal with the other seven.

For the reasons explained on this page, we have found it extremely useful to collapse them all into the single waste called motion.



### INSET 2.10: INFORMATION HOARDERS—INFORMATION CZARS: A DAMAGING ALTERNATIVE

In far too many companies, information deficits are chronic and widespread. In some, these deficits can become so extreme and persistent that we rightfully ask how the company can stay in business. Part of that answer goes back to the natural resourcefulness of humans and our ability to figure things out and make “stuff” up, however thin the data stream and confusing the circumstances. The other part attests to our willingness to summon up courage and take our best shot. In this, we are both self-serving and heroic.

More times than not, the “stuff” we make up and put in place works, maybe not as well as the actual answer would have, but we get by. And when we do, we add weight to the claim that *people are a company's most important resource*.

In such companies, information deficits can become so habitual that chasing down answers is an expected part of the workday. Some call these *chronic abnormalities*. Perversely, these same workplaces tend to stockpile or even withhold information. This, in turn, can give rise to a new work function—the information hoarders, always a double-edged sword.

Whether formalized into an actual position (e.g., expediter) or simply the informal *go-to person* (the one in the know), information hoarders erode the culture of the enterprise. They represent an unofficial system, put in place to make the official systems work, or work better. In such organizations, no decision is final until informal (and more reliable) sources have validated its wisdom. Information-based fiefdoms emerge that a company can come to depend on as the only reliable source, giving rise to information czars.

Information hoarders represent a damaging alternative when information vital to work and sound decision-making is scarce, wrong, unavailable, irrelevant, incomplete, unreliable, late or just plain unknowable. This is a work environment that tells lies—lies to itself and others. They are the people we go to to learn the truth—what's really happening, what's really going on, what's really required, what's really in the forecast. Being the single trustee of the truth is simply too much power for any to hold; and when this power resides in one special person or one special group, whatever their intentions, the rest of us become disempowered.

Information hoarders in the enterprise are almost always a sign of trouble—but not the trouble itself. The trouble itself is the existence of information deficits. Such an environment (and I find them everywhere) is destructive to a fundamental requirement of the workplace: our need for the truth and our need to trust the information we are given as the truth. The upshot is an incapable, unstable production system that creates value at the highest possible cost.

When the time comes to initiate a change, the task becomes doubly difficult and doubly important if information hoarders are already deeply imbedded in the fabric of the workplace.

the causal chain and find solutions—visual solutions.

You may be wondering why I do not use more common terms for naming the enemy—*muda*, waste, or non-value-adding activity (Inset 2.9). My decision *not* to use these was made many years back. I believe you will understand the reasons.

1. **Muda:** *Muda* is not an English word; it has no meaning except in its translation. When given a choice, I prefer to use an English language equivalent to foreign language terms.
2. **Waste:** The term “waste” is very broad. Although it can be useful for just that reason—to generalize the problem into a single, homogenized cluster—I grew up in a house surrounded by weeping willow trees. The term “waste” still triggers not-so-pleasant memories of boots, shovels and buckets, and a deep desire to run away, run away, run away.
3. **Non-Value-Adding Activity.** Using the term “non-value-adding” is a genuine problem for me. For far too many years in the 1980s, I would discuss the concept of non-value-adding activity to a room full of inspectors, expeditors, rework operators, material handlers, and the like—as well as their supervisors and managers.

Although I would explain clearly the importance of identifying all non-value-adding activities (NVA), at the end of the day most people in the room, in effect, thought I meant they were non-value-adding. That was the moment I lost them as potential participants in minimizing or even eliminating NVA.

Although their bodies continued to show up for subsequent sessions, the hearts, minds, and hopes of these fine individuals remained permanently outside the room. They refused to identify with the NVA problem; therefore, it was impossible to get them seriously involved in solving it.

Getting individuals to I-identify behaviors as their own is the first massive step in getting these same people to own the problems triggered by those very behaviors. In this case of the pursuit of workplace visuality, when that level of self-identification occurs, the chances rise exponentially that these very same people will want to get involved in erasing those behaviors by removing the source of motion—information deficits.

Why throw this all away to parade around expert language that may well alienate the very people whom you are trying to win over? That is one of the main reasons I have adopted the term *motion* to refer to the enemy.

But we have several more building blocks to understand before we truly appreciate the role of motion in driving workplace visuality.

### Building Block 6: Work

We cannot adopt the definition of motion as moving without working without also specifying what is meant by “working,” for without that detail the definition of motion is ambiguous and incomplete.

Working means *moving and adding value*. That is, we must move in order to add value, in order to work. Value does not get added by magic. This isn’t the Starship Enterprise where Captain Jean-Luc Picard simply speaks into the Replicator and instantly gets a cup of “Earl Grey tea, hot!”, Wedgwood china and all. In our world, we must move in order to create—in order to add value. We have to move our muscles and engage the material world in order to build a sub-assembly, grind a housing, load the cable, check a part, administer a medication or produce a proposal.

We must move in order to add value. We must work.

Work is the polar opposite of motion. If work is *moving and adding value*, then motion can be defined as *moving and not adding value*. Motion becomes anything we are compelled to do or we could not do our work.

### Building Block 7: Value Field

When and where do people add value? When—and only when—they are in their *Value Field*. Their value field is where they add value. It’s as simple as that. A person’s value field is a specific location. It is where work happens.

This, the seventh building block of visual thinking, is a remarkable aide in helping people use motion as a diagnostic. The same crisp logic dictates that when a person is not in his/her value field, they are not working—because they are not in a location where they can add value. They are somewhere else. *They are in motion*.

Conversely, when people are in motion, they are moving without working and therefore they cannot be in their value field.