

## Reducing Human Error in the Workplace

Approximately 96% of workplace errors are attributed to what we call ‘human error’, but new research suggests that many ‘human errors’ are not only predictable, but preventable.

**Did you know that many human errors are actually due to a mismatch between the way that human beings think and work, and the design of the systems they are required to work with?**

Key to reducing human error, according to international error reduction specialist, Filomena Sousa, CEO of Talsico International, is a methodology that enables companies to categorize ‘human errors’ and a hierarchy of controls that ensures we have a systematic way of applying the most appropriate control for a given type of human error.

“We need to look at human errors scientifically”, explains Ms. Sousa. “We need to analyze them and control them as we do other risks in the workplace. The common practice of lumping all human errors into one category prevents us from analyzing them objectively. We must have a way of categorizing human errors that helps us identify characteristics of the type of error we are dealing with and guides us to strategies for preventing this error from re-occurring”.

The Talsico Categories of Human Error shown below provides this framework.

### Categories of Human Error

1	<b>Learning Gap</b>	don't know ⇒ lack skill or knowledge, or insufficient understanding of consequence
2	<b>Memory Gap</b>	know but don't remember ⇒ unable to use skill or knowledge at time/situation req'd
3	<b>Inconsistency</b>	“know” but variability in method/standard ⇒ inconsistent performance/results
4	<b>Application</b>	know but applied incorrect action/info ⇒ slips, wrong outcomes, transcription errors
5	<b>Omission</b>	know but missed a step/action/info/“difference” ⇒ missing info or step, used wrong item
6	<b>Decision</b>	wrong decision given situation/info ⇒ inappropriate decisions and/or behavior

Error Reduction: The Human Factors [www.talsico.com](http://www.talsico.com) © 2005



But according to Ms. Sousa, categorizing errors is not enough. Organizations need to understand more about the human brain and the factors that contribute to each category of human error. This enables them to pinpoint the true root cause of the error and to reduce or eliminate future occurrences of this error.

### Case Study:

A recent case illustrates this.

A pharmaceutical company was experiencing a high rate of documentation errors in one of their critical processes called *Line Clearances*, which is used to ensure there is no cross-contamination during the

manufacturing process. As you can imagine, cross-contamination has major financial and legal implications.

Before contacting Talsico, the company had done extensive training and re-training on the clearance procedure. The errors continued. They had tried imposing penalties on individuals when errors were made. This had minimal effect on the rate of errors. When they were advised that an audit by the USA Food and Drug Administration was imminent, they contacted Talsico.

The first thing Talsico did was analyze the types of documentation errors that were being made. They found that most errors were Omission errors. Talsico's research has shown that Omission errors in documentation are principally due to the design of the documents themselves. Was it any wonder that re-training and "punishing" were not working to reduce the errors?!

Talsico redesigned the documentation based on the way the human brain processes information and the client saw a sustained 74% reduction in errors within two weeks.

### **Unexpected Findings:**

Talsico has been focusing on human errors for many years but it is in the last 2 years (thanks to Functional Magnetic Resonance Imaging (MRI), which lets researchers look into a living brain) that the most exciting research has come to light.

One of the most *unexpected* things we have found is that habits and routine tasks are handled by a different part of the brain than are other tasks. Another unexpected finding was that these routine tasks are handled as a sequence, with the brain paying attention at the start and at decision points, but being in "auto-mode" in between. This sounds like a simple discovery, but *the implications are profound!*

Consider this scenario: People have been doing a process for some time and can now do it routinely, without having to consciously think about each step. Due to continuous improvement, there is a simple change to one of the steps in that process. We ensure that each person is re-trained on the new step and understands the importance of this change. But, to our amazement and annoyance, they seem to be forgetting the new step and reverting to the old way of doing things. Sound familiar?

Re-training on the new step alone **WILL NOT** significantly reduce these human errors because the new step is being handled by a different part of the brain than the part handling the familiar "routine" steps. But there are some very simple and powerful techniques you can use to correct this problem.

Talsico runs seminars globally to help leaders understand the principles behind human errors because, unless organizations understand these principles they can spend enormous amounts of time and money and see very little reduction in human errors.

The real value of this information is the results it's helping organizations to achieve. The vice president of a global manufacturing organization summed it up well when he explained to a group of his peers that the reason he had been so forceful in asking them to attend was that "This is the most useful information I've received in 20 years of trying to reduce human errors".

Ms. Sousa will be presenting some of her findings at the National Manufacturing Week Conference and Exhibition in Chicago, at the Donald E. Stevens Convention Center on Monday March 20 from 1:00 pm – 4:00 pm (Session: 1MWS5: Error Reduction: The Human Factors).

People wanting to know more about Error Reduction and Talsico's Error Reduction: The Human Factors seminar can visit the Talsico website [www.talsico.com](http://www.talsico.com). They may also contact Susan Lynn, 1-732-356-5800 x22, [susan.lynn@talsico.com](mailto:susan.lynn@talsico.com) or visit her at the NMW Conference at booth 35033.