Bob Williamson, Contributing Editor

For want of a nail, the shoe was lost.
For want of a shoe, the horse was lost.
For want of a horse, the rider was lost.
For want of a rider, the battle was lost.
For want of a battle, the kingdom was lost,
And all for the want of a horseshoe nail…

This old proverb—*which can be traced back to the 1390s*—has been used countless times in a variety of ways over the centuries. Benjamin Franklin, for example, included a version of it, preceded by the words, "A little neglect may breed great mischief," in Poor Richard's Almanack in 1758. (That's when the American colonies were tangling with the English Parliament.) Many years later, during World War II, the verse was framed and hung on the wall of the Anglo-American Supply Headquarters in London to remind everyone of the importance of seemingly trivial repair parts and inventory replenishment. I'm borrowing it here to make the same point to today's capacity assurers: We're only as strong as our weakest link.

Case in point

It is highly unlikely that anybody, upon seeing an unshod horse, ever thought a kingdom would actually fall because of a missing nail. In the heat of the battle, hardly anyone would have time to notice the work of the lowly blacksmith. Few would truly appreciate the value of a properly fitted horseshoe affixed with nails when the horse is in full gallop—*except the smithy himself*. When catastrophe strikes, however, 20/20 hindsight really brings the nail into a much sharper focus, and the smithy gets the blame. There are real-life historical examples of the truth behind this proverb.

Consider this: On the bloodiest day in American history—*September 17, 1862*—the Civil War Battle of Sharpsburg (also known as Antietam) resulted in nearly 23,000 casualties. After

crossing the Potomac River into Maryland on September 9, 1862, Confederate General Robert E. Lee divided the 45,000-man Army of Northern Virginia and spelled out the location for each group on written dispatches (Special Order No. 191) sent to various commanders. All but one of these dispatches were delivered by couriers on horseback to the commanders. The one that didn't make it accidentally dropped from the courier's pocket when he he stopped along the way to relieve himself. Unfortunately for General Lee, this secret dispatch—
in an envelope wrapped around three cigars
—was found by a Union soldier a few days later. When it was delivered to Union Army Commander George B. McClellan, it gave him and his 90,000-man army the exact locations of their enemy, leading to a strategic Union victory—
in other words, for the want of a rider…for the want of a message
. (Of course, it is important to remember that such root-cause thinking is typically seen in hindsight. Who would have thought that cigars in a message envelope would have led to foiled military plans and to the loss of a Civil War battle.)

Take-aways for today

Horseshoe nails are not self-installing, so let's go back to the original proverb and explore days gone by to see what happens before the "nail" is ever struck. (My apologies to Ben Franklin and others before him.)

For want of an apprentice, the blacksmith was lost.
For want of a blacksmith, the shop was lost.
For want of a shop, the hammer was lost.
For want of hammer, the nail was lost.
For want of a nail, the shoe was lost.
For want of a shoe, the horse was lost.
For want of a horse, the rider was lost.
For want of a rider, the message was lost.
For want of a message, the battle was lost.
For want of a battle, the war was lost.
For want of a war, the kingdom was lost,
All for the want of an apprentice…

The point here is that while the nail is truly important, the apprentice who is in training to properly shoe the horse with all the skills and knowledge of a blacksmith is by far the most important element of sustainable success. The success of a kingdom rests with apprentices in training! Think about that point a bit deeper—*before the apprentice*.

What if the society in the days of horse-mounted warriors had not really valued the work of the "lowly" blacksmiths. What if that society had not encouraged its younger generation(s) to become skilled at the blacksmith's trade? How would horses have been properly shod? Could they have performed their tasks with ill-fitting, loose and missing shoes? Would riders be lost in battle? The deeper meaning of this proverb is simple: The end result depends entirely on the functional capability of every component, every element or preparation. A process is only as strong and reliable as its weakest link. That's a powerful message for today's business world.

Most of us recognize that the goal of any mechanized, capital-intensive business is to consistently and safely deliver highly valued goods or services to the customers at the lowest cost and the highest profits. Without reliable equipment and processes, competitive advantage is lost regardless of the type of capital-intensive business. So, let's analyze this expanded age-old proverb and see how it fits in today's business of maintenance and reliability.

The apprentice represents a dedicated, young, eager, able student—*the assistant and trainee*. The blacksmith represents a skilled journeyman mechanic or technician who also keeps the shop as a well-organized and stocked workplace. The hammer represents the proper tools used in working with the nail, or a bolt that holds the motor in alignment. The horseshoe represents the motor for a critical pump. The horse represents the machine or unit of equipment. The rider represents the in-control production line or manufacturing process. The message (or mission statement)—
on time, high-quality, low-cost producer
—guides us to success in a battle for on-time customer deliveries. The war most businesses are in is for market share. And, of course, the kingdom is the business of the company that supports investors and employees and benefits the community. Here's the modern-day antithesis of the centuries-old nail proverb:

Because s/he was an apprentice, the journeyman mechanic was highly skilled.
Because of the journeyman mechanic, the shop was also efficient, well-organized and stocked.

Because of the efficient, well-organized and stocked shop, the tools and parts were available.
Because of the tools and parts, the bolts were torqued by the highly skilled mechanic.
Because of the torqued bolts, the motor was aligned.
Because of the aligned motor, the equipment remained reliable.
Because of the reliable equipment, the production process was effective. Because of the effective production process, the mission is possible. Because of the shared commitment to the mission, the customer deliveries were on time.
Because of the on-time customer deliveries, market share was won.
Because of the added market share, the business of the company was victorious,
All because of the apprentice.

Where we are now

The truth is we have neglected to encourage today's younger generation's active and purposeful pursuit of applied skills and knowledge for careers in industrial maintenance and reliability. In fact, most teachers, counselors, parents and students have no idea of how satisfying and financially rewarding careers in industrial maintenance and reliability could be with one to two years of technical education beyond high school graduation. Consequentially, shop classes, industrial arts, career education and career preparation classes are few and far between in our nation's public schools—*making us truly a kingdom at risk!*

To highlight the worsening career education disconnect that began back in the 1960s, I will share one of my favorite and highly appropriate quotes from the 1964 Presidential Medal of Freedom recipient John W. Gardner as a point to ponder:

"The society which scorns excellence in plumbing as a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

And lastly, another of Gardner's memorable quotes from more than 40 years ago:

"Much education today is monumentally ineffective. All too often, we are giving young people cut flowers when we should be teaching them to grow their own plants."

We must do everything we can to help our youth, our executives, our leaders, our educators, our politicians and our governmental agencies appreciate the dead-end road that our nation is travelling. Capital-intensive businesses truly generate original wealth and are one of the most critical building blocks of our nation's economy. Assuring the capacity to produce efficiently and effectively depends on reliable equipment. Reliable equipment depends on our people—*their applied skills and knowledge*
—doing things right the first time.

Think about it. For the want of a nail, the kingdom was lost. For the want of an apprentice, an industry will be lost. **MT**

RobertMW2@cs.com

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