What is NIST and Why Should I Care?

The National Institute of Standards and Technology (NIST for short), is an agency under the Department of Commerce. This article will outline why it is so important to know this non-regulatory agency, how your tax dollars are spent investing in future business, economy, and the standardization of technology that drives capitalism, and how this knowledge will make you profitable.

First, let’s take a look at the word Technology. Most people think of computers or IT when they think of Technology, but in the truest sense technology is “…the use of information in business or industry”. Or, in other words, how to apply knowledge to make money. In this context technology is less about computers and more about how a computer is used, or what a computer is used for. In this context a computer is merely a tool, a tool that processes information for a particular purpose. For most companies, at least those who practice capitalism, that purpose is to make money.

Second, let’s look at the word Standardization; standardization is defined as “the process of making something conform to a standard”. Note that this implies a process, and that process has an outcome, and the outcome is something we can all agree on, like the value of a dollar, or the length of an inch. Standards are imperative and are arguably the basis of capitalism, for without the standard for a dollar or an inch, there would be no economy, no way to “measure” anything, and society would break down.

As part of its mission, NIST supplies industry, academia, government, and other users with over 1,300 Standard Reference Materials (SRMs). These artifacts are certified as having specific characteristics or component content, used as calibration standards for measuring equipment and procedures, quality control benchmarks for industrial processes, and experimental control samples used as baselines for other measurements. This may sound ambiguous, but the reality is that virtually all of societies guidelines draw directly or indirectly from these standards and are applied to virtually all aspects of your life. Indeed, life as we know it simply could not exist without them. These standards include things like cybersecurity, election technology, and of course; weights and measures. Its mission is to promote innovation and industrial competitiveness. NIST's activities are organized into laboratory programs that include nanoscale science and technology, engineering, information technology, neutron research, material measurement, and physical measurements just to name a few. Truly, without a government that sets a standard that the entire economy relies on, there would be no economic system.

So why is this so important? In the day and age where terms like “alternative facts” are a thing, it is imperative for society to be able to agree on a “standard of truth”. Imagine if you sold rope by the foot. How would you feel if your customers did not agree on the actual length of a foot? How could you prosper if there was not an agreement as to what a foot actually is? Imagine the disruption to our economy if an inch wasn’t and inch, a mile not a mile, and anyone could just disagree on the standard of measurement. It would be utter chaos. Yet this is happening as we speak, as more and more misinformation is propagated through media outlets, other aspects of standardization are also being eroded behind the scenes. Take for example cybersecurity, and all that implies. While there are debatable aspects of information security standards and practices, the foundational principles of confidentiality, integrity, and availability (which are the pillars of IT security), collapse when either challenged as a convenience, or not enforced fairly across the economic system - in which case anarchy ensues. Therefore, standards for equal application are just as important as the standards being referred to or applied. This leads to the notion of compliance, which itself is a standard. What is important to a business owner in this context is how industry standards are applied and thus how they affect profitability.

One cannot argue the importance of keeping information confidential, or maintaining the accuracy of information, or ensuring you can get to that information; but when it comes to things like regulatory compliance, we shutter at how that will impact our bottom line, and consider it a burden on company resources. And while we can agree it is important to business, the question remains; why is it so important to my business?

Simply put, NIST is important because it gives a business the reference material to be profitable. Let me unpack that for a minute. According to Marcus Lemonis of *The Profit (TV Show)*, there are 3 key principles to business success; People, Product, and Process. If you know of this program or have ever heard this statement before then you might agree; there is a lot of wisdom in that edict. It underscores the formula for success, and in that formula all 3 dimensions are underpinned by hundreds of standards. Standards for how people perform, standards for products, and of course standards for process. They all garner their foundations in the underlying standards of information and the use of that information. Knowing where to find the information you need to be successful is half the battle, and building your business on a foundation of standards gives you a competitive advantage for myriad a reason, the least of which is not having to figure out what someone else has already spent a lifetime doing.

But there’s more! Overarching and intertwined in all standards are what we call frameworks. Frameworks are a structure of ideas that a standard is attached to that give it a mechanism to be effective. Let’s take for example the Risk Management Framework or RMF. This too is a standard. Most people hear this and cringe because it is so misunderstood. But when you look at risk management in the context of capitalism, it simply means to avoid losing money. I do not think I have to make an argument for why loosing money is bad, but I often have to make an argument for why Risk Management is good! Risk Management is misunderstood because it is often implemented as a layer on top of something that already exists and frequently driven by a compliance or regulatory requirement. This practice is not only costly; it does not work.

Truly managing risk means you are making informed decisions, really, it’s that simple (as long as you are addressing the right decisions of course, which is a whole other article). Compliance on the other hand is documenting those decisions. Sounds easy, right? It really is when you have the right tools. I wish someone had told me this 30 years ago when I started my career, but alas some things cannot be taught, …only learned. Nevertheless, despite the trial and error that perturbs risk management, when performed the right way and with the right information, is not only easy, becomes second nature. All that said, we are led to one self-evident truth; to make a sound decision, you need to know the standard of truth.

You cannot have truth without standards, for they are interdependent. Without a common standard to draw upon, no two people can agree on anything. It is in this context, and for these reasons, I wish to impart some “truths” upon a generation of businesses that are at war with information, at war with truth, and at war with each other. And these truths are this; standardization equals compliance, compliance equals efficiency, and efficiency equals profit. At the same time, compliance does not mean you are practicing risk management, but practicing risk management makes you complaint.

For the average SMB, this article is relatively abstract, but let me close by providing some final thoughts. If you are a startup looking to expand, or a small business looking to grow, or even a large company making course corrections, do not reinvent the wheel! Hidden within the US Department of Commerce, and throughout other industry standards like ITIL, ISO, NIST and others, you will find the collective knowledge of expert thinkers on all manner of business operations, from the best use of an A4 Envelope, to the inner workings of Kubernetes Clusters.

You don’t have to have all the answers, you just need to know where to look.

Thanks for reading, if you need helping to find your answers let me know, I am the founder of the National Institute of Standards and Technology Assistance Program (NIST Assist) in the Microsoft Partner Network. We can help you find what your looking for, or at least point you in the right direction.