

Smart Manufacturing in the Fastener Industry

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The Future of Traditional Fastener Industry

Many experts have been recently encouraging industrial professionals to introduce smart manufacturing into their factories, which have been proved to be very feasible in some high-tech industries. However, the fastener industry is basically a very traditional industry and is not that high-tech as the IT industry, in this article I will explain whether smart manufacturing is suitable for the fastener industry or not and how it can be applied to the current fastener manufacturing procedures and supply chain integration?

Automation has always been a part of the factory to some degree, and even high levels of automation are nothing new. Historically, situations in which machines have made “decisions” have been automation based and linear, such as opening a valve or turning a pump on and off based on a defined set of rules. Automation increases output, quality, and consistency. Additional benefits include:¹

- **Streamlined and automated data:** Intelligent technologies automate data collection for actors in the fastener industry and provide them with advanced production analysis, so the managers of fastener industry can make less defect decisions.
- **Predictive maintenance:** With a better view, fastener manufacturers can anticipate and resolve maintenance issues of their machines before they lead to breakdowns or product quality problems. For example, sensors on machines or devices can transmit status monitoring or repair data in real time, so screw manufacturers can identify problems more efficiently.
- **Significant cost reduction:** Fastener manufacturers can identify waste and have a better insight into supply chain issues such as inventory level and delivery status as well as the demand cycle. Using this information, they can reduce costs associated with excess inventory or unexpected production volumes.
- **Reduce workforce challenges:** Automation helps fastener manufacturers start and complete projects with fewer workers. Real-time access to data across multiple operating systems frees workers to focus on their core responsibilities. This allows manufacturers to innovate faster without investing in additional resources.

- **Enhanced productivity:** Smart and connected systems help fastener factories improve throughput. In a connected enterprise, manufacturers have seamless visibility into bottlenecks, machine performance, and other operational inefficiencies. With this data, manufacturers can make adjustments to increase yields, improve quality, and reduce waste.

Another type of intelligent manufacturing in the fastener industry is “Additive Manufacturing”:

Additive manufacturing allows production costs to stay the same rather there are one or a thousand units. This has several implications:²

- It makes production available to small businesses that don’t have access to expansive funding and don’t know in advance whether they will have many buyers;
- It reduces the time between conception and sale; it allows each piece to be customized and unique; it allows greater risk-taking by reducing the cost of failure.
- It reduces lead time for short production runs and permits the creation of very complex shapes without added costs.

The main point of Additive Manufacturing is still less competitive than traditional manufacturing when it comes to mass production, perfectly smooth finish, production of very large objects and the use of certain materials. Additive Manufacturing is more customizable, and more adaptable.

What is the Key Challenge of Technology in the Fastener Industry

The above definition of technology era has a very clear message, all fastener factories’ production will have close quality with super competitive prices; and therefore how factories should sell their production in a super competitive market is their biggest challenge.

As high-tech fastener producers, buyers’ expectation would be increased. In this market-driven kind of situation, when the buyers bargaining ability has expanded, R&D, top managers and marketing department should be able to find a new category for winning the competition. Here, marketing’s role is more traditional. Advertisement, pricing and distribution are all important for a smart fastener producer; however, they are not considered as essential elements in order to be the winner in the competitive market. Moreover, all the other contestants act the same; therefore, this kind of traditional thinking does not really work, in other words, marketing should be more creative, and they should think like the entrepreneurs. In brief, niche marketing can be a pattern for the smart fastener marketing department.

If a Chinese company, which is active in the fastener industry, wants to be successful in the super competitive market, it must introduce itself as a leader in a specific category. The era of producing everything and selling everything has been finished. It is the professionalism era. In the professionalism era, every fastener producer needs a “rock” in order to leave a lasting impression in prospects’ minds of its consumers.

So, the question is how a Chinese company competing with other fastener companies in the countries better known for technology like Germany and Japan can introduce itself as a professional fastener producer?

There is a strongly-held perception in the minds of most consumers. The better brand wins in the marketplace. Being first makes this company the leading company, at least in the short term. When competitive companies are introduced, consumers think, they can’t be any better

1. <https://blogs.oracle.com/5-benefits-of-shifting-to-smart-manufacturing>

2. <https://www.sculpteo.com/blog/2016/05/25/when-is-3d-printing-the-best-solution-for-production/>

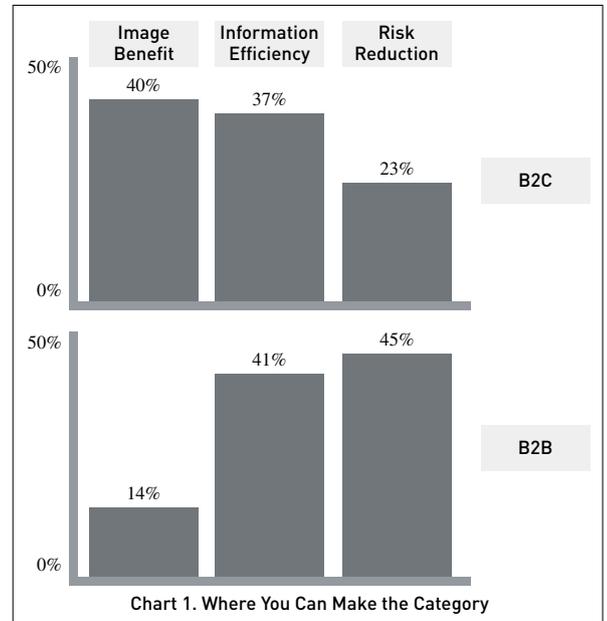


because they're not the leader. That's why leadership is the most powerful position it can own.

"Fastener" is a business to business production, in this type of companies, it is better that they make their own categories and become a leader on information efficiency or risk reduction. The right image shows where you can make the category and depicts that how consumers opt to buy from different companies in the B2B sector including the fastener industry.

It is apparent from the information that 45% of fastener consumers prefer to purchase from a fastener producer which can decline their "usage risk." In other words, if a fastener company aims to be fruitful in a competitive market, they can make a new category as a "guaranteed fasteners".

Furthermore, 41% of fastener consumers tend to buy from a fastener producer which gives them "information efficiency"; hence, another fastener producer may create the category of "being 24/7 responsible for their fasteners." The last one is the "image benefit" on which 14% of fastener consumers tend to focus; therefore, the fastener producer may talk about "the biggest exporter to Germany;" which implies that it has a good quality; and therefore, German fastener users (Germany is the industry leader) purchase their products.



Last Word

Many companies' managers will see failure in the future, because they don't take advantage of this basic positioning strategy. Why? Because many managers disagree with the concept. Being the first in the market is what many managers call "The first mover advantage." And, there is almost universal agreement that "the first-mover advantage" is not an advantage at all. Rather, it's a disadvantage because it gives potential competitors a target they can shoot at. What they confuse, however, is being "first in the market" as opposed to being "first in the mind."

Being first in the market, "the first mover advantage," is not necessarily an advantage if you don't also get your brand into prospects' minds.

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