



Lost in the Digital Transformation of Fastener Industry

1. Introduction

Led by AI, technologies including digitization, automation, personal and public cloud storage, machine learning, Moore's Law, Metcalfe's Law has unlimited impact on large and small enterprises as well as organizations, and it is constantly expanding. Government authorities also advocate that enterprises need rapid digital transformation to seize opportunities and increase competitiveness. Leaders must be fully prepared to keep their footing in the digital era. Facing global competition and Industry 4.0, as well as unexpected changes such as the US-China trade war, COVID-19, and issues regarding business succession, the fastener industry is on the crossroad of transformation based on their technology and experience management. Considering fastener market environment, contracts and orders, R&D, and manufacturing knowhow, is there any way for the fastener industry to react efficiently? How to manage more effectively? How to more properly strengthen digital awareness? How to use digital tools? How to manage and make decisions with limited resources? These are all the issues that the fastener industry will face further.

Even in the Internet era with an explosive amount of information, fastener production is still based on pragmatic on-site manufacturing knowhow and R&D. Having multiple uncertain market factors, even if fastener companies come up with a new idea, it doesn't necessarily mean they can change the market trend. The market is still oriented on customer demand. Operating in the market will inevitably be met with bottlenecks. The key is how fast fastener companies can adjust quickly when faced with problems. Taiwan fastener industry mostly comprises small and medium enterprises, with a rich heritage and technical knowhow. Facing AI and digitization, do you tend to think of yourself as being stuck in hardware and software related digital issues? Do you already think you are up to par with the requirements of Industry 4.0 and AI just because you have upgraded your hardware and software? Can hardware and software upgrades change market demand driven by clients' needs? Can bottlenecks be overcome after hardware and software upgrades? Can hardware or software upgrades enhance product quality? Can hardware or software upgrades improve productivity? Are the ERP, CRM and other systems used by enterprises not up to the requirements? Can't these systems handle clients' problems? Can the upgraded and advanced digital transformation technology tools fill the gaps in improving the flaws in fastener industry's management?

When it comes digital transformation and AI, we often hear about the paths that others said should be taken in the Industry 4.0 phase. But in fact, there is no need to aim at the wrong target and spend a lot of time judging which phase it is now or which one to start with. **Be it Industry 4.0, digital transformation or AI, it is all about using technology to solve business problems. Digitalization and smart technologies both describe scenarios that can be achieved with technology. The obsession with hardware and software upgrades and technology tool investments without thinking about the problems encountered by enterprises will result in getting lost along the way.**

2. Transformation Goals for Fastener Industry Management

The fastener industry can use planned production to predict market demand for the production of non-diverse standardized industrial fasteners. However, low-volume and diverse fasteners, such as DIY fasteners for hand tools and automotive and motorcycle fasteners, which make up the majority of the market still require order-based production to arrange for R&D and manufacturing. The main procedures of fastener production include: contract review, R&D, fastener production arrangement, wire drawing, wire heat treatment, fastener forming, threading, semi-finished fastener heat treatment, surface treatment, and packaging. Fastener companies should first examine their internal structure as the top priority, and then set key targets for improvement after straightening out issues. For Industry 4.0, digital transformation and AI, the three key milestones should be:

- 1. Reduce costs, improve efficiency, and build steady advantages:** integrate production supply chain and control production costs;
- 2. High-value customization and expansion of niche markets:** strengthen supply capabilities, supply high-value fasteners with high added values, and avoid price-cutting competition in the market.
- 3. Innovative R&D and exploring growth opportunities:** create new types of high value-added fasteners; apply for certification of fastener products to strengthen market foothold; create bigger gaps among competitors and develop niche markets.



Based on these milestones, **companies should use their existing ERP, CRM and other systems to effectively utilize supply chain and control production costs. It is not appropriate to implement changes in ERP and CRM systems already in use since it could cause risks on the supply chain and production management.** If supply chain management and production cost control of the existing ERP and CRM systems are not effectively utilized, rash investment in hardware or software technology tools is only an unnecessary capital expense, resulting in a waste of investment getting you lost in the digital jungle. In that case, you would wonder why there is no achievement even if you have purchased the equipment and labeled the products. It's like regarding digital transformation as merely investing in digital tools, only to find, figuratively speaking, having spent a lot of money buying a full-fledged ship but not knowing where to sail it. If the fastener industry wants a successful digital transformation, it must have a deep understanding of what the necessary resource requirements and digital resources are, in order to see the best opportunities. If a fastener company can use existing ERP and CRM systems to obtain appropriate data and information on supply chain and control production costs, it should use the existing data to analyze and apply digital transformation or AI.

Examining the main manufacturing procedures, upstream and downstream technical integration and peripheral collaborators' support— covering dies development, heat treatment and surface treatment—the biggest issues are consumers' demand and regional regulations. Fastener owners should think about and define the

problems that most need to solving in current operations from the perspective of an enterprise's value chain of production, marketing, human resources, R&D, and finance. In particular, small and medium enterprises have limited resources and are unlikely to be able to fully focus on transformation in production, marketing, human resources, R&D, finance, etc., like some large enterprises do. Small and medium enterprises should get the priorities straight, establish a transformation structure and hierarchy, and use digital methods to solve the most critical and urgent parts, and then gradually extend to the less important ones. This is the most efficient way to transform.

If you are basing digital transformation on marketing, and if your existing ERP and CRM systems can provide data on how consumers' needs change towards the same product types, it may not be necessary to upgrade to advanced digital transformation tools, nor is there an urgency to immediately enter automated and smart production on the manufacturing end. Making decisions based on big data analysis of sales channels is a "type" change. The focus of such transformation is increasing production of best-selling fasteners, discover new products to develop, and mass produce and test the waters as early as possible. If market demand increases, we can then make decisions to start large-scale production.

For those who base digital transformation on controlling production cost, the type change should focus on production efficiency of fastener formers and threading machines, dies supply and dies life. **The point in digital transformation is Transformation, not Digital; the point in transformation is "type", not the act of transformation.** Figuratively saying, what kind of butterfly does the caterpillar, or you, want to become? Therefore, the real "type" change is reducing defective products in fastener production, extending the life of dies, breaking through bottlenecks, and reducing consumables. The important thing is to have a clearer idea of what business model to upgrade to in the short, medium and long-term stages of the fastener production process, so as to more effectively implement your vision, stack up protection, and achieve cost control. Transformation is just work performed at different stages in the process. With CBAM, carbon emission intensity has become a cost item for the production and marketing business of the fastener industry. If you don't have the ability of managing and analyzing carbon emission intensity data, you should tweak or strengthen existing ERP and CRM systems to ensure that your future climate and energy policies can meet the set goals and cope with ESG.

For those who base digital transformation on integrating the production and supply chain, like fastener OEM/ODM manufacturers and traders do, if the existing CRM system can accurately manage and master data such as lead time, quantity, cost and quality control, this will give you a grasp of complete production information on the supply end and will lead to the transformation of third parties in the supply chain. Big manufacturers will lead small factories to collect and accumulate information starting from installing sensors or inputting data at the most important parts of the production process. The data will be analyzed, so that big manufacturers will master important production data, and in the future they can combine and analyze other data, and third parties will have also begun to take a step towards digital transformation.



ISO 9001:2015 Certified

Standard Parts: IFI, DIN, ISO, JIS standard,
Drywall screw, Decking screw,
Self-drilling screw, Self-tapping screw,
Machine screw, Tap-tite screw.

Non-Standard Parts: Customized Drawings.



Bear Fastening Solutions, Inc.

Office: 2F., No. 140-1, Zhuanzijing, Madou Dist.,
Tainan City 721008, Taiwan.
Tel: +886 6 571 5928 Fax: +886 6 571 2845
Email: lionel@bearfs.com.tw

www.bearfs.com.tw








3. The Best Way of “Type” Change for Fastener Industry Management

The key to the success of "digital transformation" is usually not technology. After all, the computing capabilities of digital technology tools are advancing rapidly. From early PCs to industrial computers and servers, the development of AI is no longer stuck in a bottleneck. Start from the perspective of problem solving, and you will find the key is to clearly "define the problem". Technology is just a means to the goal and the goal is the top priority.

"What are the core problems that cannot be solved by conventional workforce?"

"What are the core problems in the fastener industry that should be solved via changing 'types' ? "

"What kind of digital tools can help with the core problem?"

"How do digital technology tools and workforce complement each other?"

These questions seem simple, but surprisingly, many fastener manufacturers have not found objective answers before planning the tools and paths for digital transformation, and have become lost in operational, technical, and investment issues.

Even with the best digital technology tools and AI, if the workforce and processes are not in place, having digital systems can easily result in only half the result with twice the effort when changing types. Fastener companies should think from another perspective, which is from the existing fastener production and management process. Orient product modularization towards customer value, give priority to making good fastener products, and lastly work on vertical or horizontal innovation. I believe this will improve the efficiency of product R&D and project management. All fastener products and services are to solve customers' problems and meet their needs, not just for selling. Market differentiation lies in the fastener companies' knowledge of the industry and expertise. Only by fully understanding the pain points and needs of clients can you become more down-to-earth and become the expert in the industry, rather than keep changing the needs.

Today, most fastener manufacturers have established basic management systems, such as ISO 9001, ISO 14001, and ISO 45001, all of which have been standardized. However, most of them are still stuck in paper-based operations and lack automatic integrated analysis, making it impossible to grasp the process in real time and turn experience into output value. Therefore, the combination of future leadership and digitalization of the fastener industry is the "new digital thinking" that is the key to the strength of an enterprise. In this new concept, digital transformation is not just an IT issue. Digitalization is only a tool and not the ultimate goal. What is more important is whether the company's system and thinking have been in sync with the digitalization trend.

The production process of the fastener industry is conventional, relying on manufacturing equipment, dies and manual adjustment and monitoring. Different processes will have different quality conditions and anomaly handling. Without comprehensive understanding and integration with fastener quality management, adding IT equipment is not the “type” change in "new digital thinking".

Should the fastener industry start digital transformation or is this already in process? This can be answered with 3 steps— A. Collect core issues and define them, B. Determine whether the issue is a core fundamental issue, C. Prioritize important/urgent issues. By setting priorities, the real critical needs can be clarified as quickly as possible. The best way to transform the management of the fastener industry could be to make good use of data analysis to ensure that information is in place, or to make good use of operation experience to manage knowledge and create a knowledge economy.

In the “type” change of fastener industry management, continuation and passing down of fastener production experience and knowledge is not something that software and hardware system tools of IT technology can solve. The habit of using IT software and hardware system tools internally and the corporate culture of using existing data for analysis and reporting should be properly established by senior managers. In the first step to avoid getting lost in digital transformation, the most important thing is to put more effort into rectifying and developing the mentality and cognition of the entire company. ■

Copyright owned by Fastener World / Article by Wei-Ming Wang

Chang Bing Enterprise Co., Ltd.
彰濱企業有限公司

No.49, Xingong Rd., Shengang Township, Changhua County 50971, Taiwan
 Tel: 886-4-798-0619 Fax: 886-4-798-0622
 E-mail: changbing@hangers.com.tw; changbing@cbtw.com.tw
www.cbtw.com.tw www.hangers.com.tw

ISO 9001:2015

• Miscellaneous Hardware
 • Picture Hangers
 • Pegboard Hooks

• Bolts
 • Hooks

歡迎貿易商合作內外銷