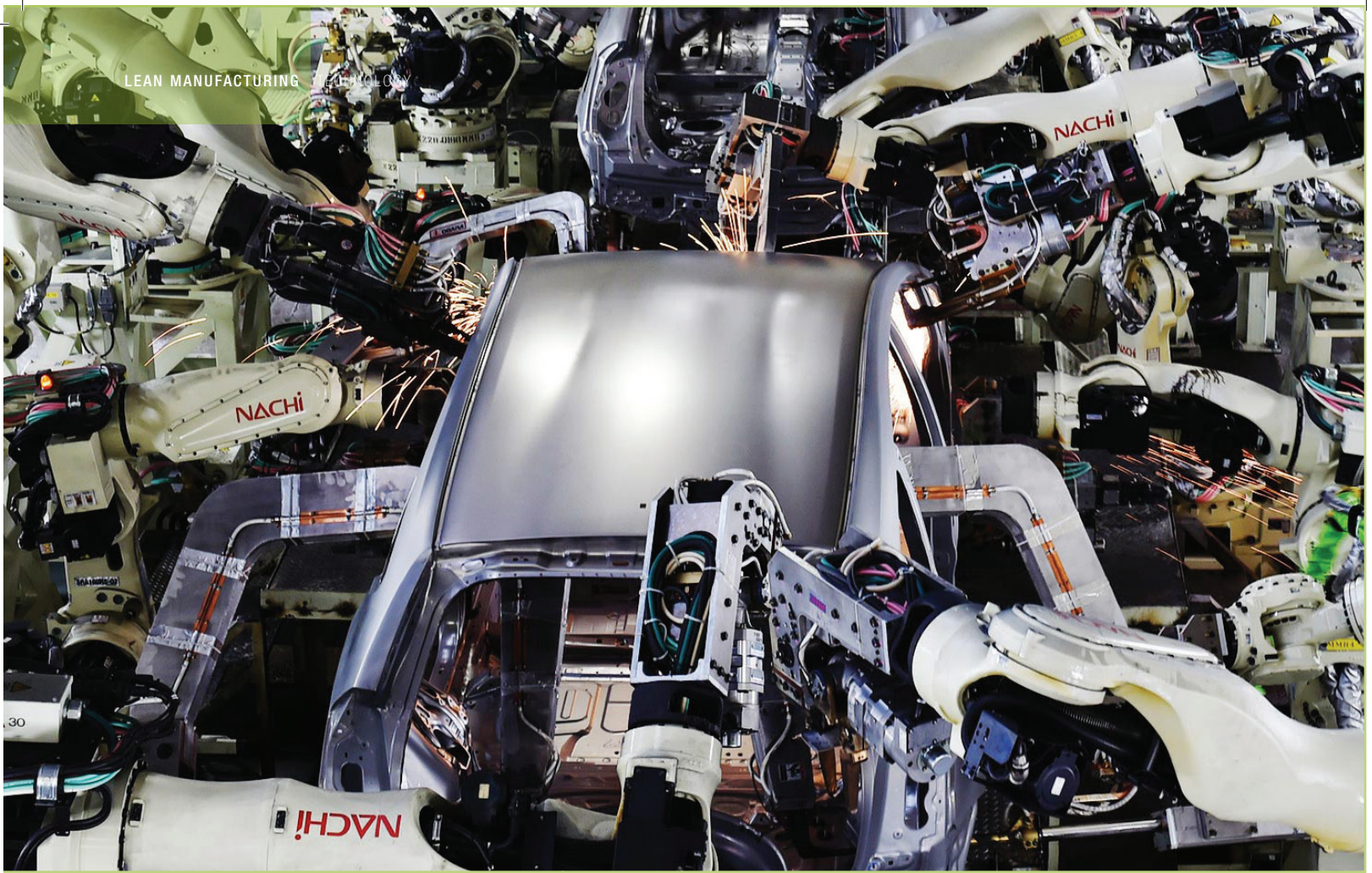




Why Lean triumphs?

The article describes how Lean production management can be considered a high risk – high return venture



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In a lesser-known part of the world, there was a machine tool factory that was truly remarkable. The workers not only performed the machining and assembly tasks, but also quality control, inventory management, pulling material from external vendors and internal suppliers, identifying and solving problems, thereby, improving productivity, quality and reducing cost through the elimination of wastes.

What was remarkable was, once the customer order came in and was recorded, based on the principle of First In First Out (FIFO) the workers controlled all activities until loading the machines on the trucks with little or no intervention from the supervision or management staff, like a 'human automated factory in motion'! The teams were autonomous, did not require white-collar staff, and could react to shifts in production content. That is the gold standard today for manufacturing. It was this similarity to their system that caught the eyes of Toyota and paved the way for their India entry.

Operating principles

Compared to the manufacturing culture of the time, everything here was different. The operating principles were pull production, moving inventory, quality control by process and not by inspection, production planning done by the customer and not the PPC department, stopping the process when a defect surfaces to eradicate it, and developing people who will be able to identify waste, solve problems, and eliminate them. Many companies of that time visited us to study what we were doing and how, some came repeatedly, but success eluded those whose CEO's or top management did not get involved. IIM Ahmedabad invited Mysore Kirloskar to teach this case in their Operations Management program, and subsequently, this case has been used by universities in Europe and the USA, besides becoming a reference for manufacturing industries.

Some production philosophies produce better results than others. There are some links between high productivity,

quality and product complexity. High technology is often not a solution for poor performance if technology is employed without suitable production management policies.

Eliminating potential failures

When I ask people, why do you design a factory with a store? Are you a warehouse or a manufacturing company? They look stunned. Who said that a manufacturing company needs to have a store? The concept of doing everything from a huge inventory is an old American concept! They find it difficult to comprehend the possibility of running a very busy factory without a store or a minimal amount of it. This is because that thinking is founded on 'what if something fails' rather than Poka Yoking or eliminating potential failures, which may be harder than the status quo.

We demonstrated this possibility in a Tier 1 company where they eliminated a few months of inventory and replaced it with a daily moving requirement, and when the vehicle business was low, they came out with flying colors. As the saying goes, 'shoot at the star; if you miss, you'll still be high'. So, however inordinate, thinking about and working towards these five good zeros can take you there: accidents, delays in delivery, defects, inventory, and lead times.

Case Study – BPMT, Indonesia

The tropical islands of Indonesia are known for their synthetic fabrics and garments. Despite textiles being a major export, they are little known for engineering goods, let alone machine tools. Bridgeport Perkasa (BPMT) limped for over five years without generating any revenue, they had neither produced a single machine, nor acquired any customers. When we changed our thinking, in less than six months, BPMT was flooded with orders from Europe and Asia, thumping out production.

A sight that brought the President, ministers, and ambassadors to see the magical change! When Electronica was in a dire state of losing money, a different way of working made their monthly P&L profitable in six months. When the technical textile unit of Precot had not made money for over five years since its inception, a different way of working turned their monthly P&L profitable in seven months and put them on a roll. And there are so many such examples and more of people who, during bad market conditions, saved their companies from colouring their P&Ls red.

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Lean production can be considered a high-risk – high return venture, much of which can be mitigated with experience, a well-trained work force, responsive suppliers, and good product design.

So, what is this new way of thinking that has made such a big difference? What is this outperforming philosophy?

Unfolding the transition

The Henry Ford era saw manufacturing transition from craftsmanship to mass production. Scientific management became the buzzword where leagues of industrial engineers and foremen broke down tasks into simple elements, removed wasteful motion, and set job standards to match the ever-increasing pace of the assembly lines. The byproduct of standardisation was increased efficiency. The craftsmen who built automobiles before Ford used both hands and heads. The Ford way of thinking removed the head, leaving only hands-on work like a machine's gears. The Toyota Production System (TPS) was a great innovator, making use of both philosophies - the use of hands and mind by the operator, multiskilling them for an assortment of tasks, standardisation and flow—with the added glue of teamwork to produce astonishing results.

Inventory is one of the distinguishing features differentiating efficiency from inefficiency. In a perfect world, inventory would ideally be low, as it frees up the company's resources since idle parts & assemblies add zero value. Many factories have mimicked the west by carrying large inventories and will argue to reason the 'Just In Case' (JIC) failures such as supply shortages, breakdowns, rejections, strikes, etc. We can also call this a 'Buffered Production System' where one buffers against fears instead of solving problems. They have all eschewed the 'Just-in-Time' (JIT) philosophy & embraced the 'Just-in-Case' philosophy. Efficiency is minimising the time between the start and finish of a part or product's manufacture. Ford is known to have used high inventories, standardised products, huge volumes, and vertical integration. Toyota adopted a large-scale, highly efficient, constant-flow production philosophy. They built a local network of adaptable suppliers and integrated them with assembly plants, helping them grow to become JIT suppliers. Today, mastering this type of flexibility provides a significant competitive advantage.

Maximising efficiency with Lean

Lean production management philosophy presents some higher risks, as any hiccup will stop production. But the potential gains are stupendous. Thus, lean production can be considered a high-risk – high return venture. Much of the risk can be mitigated with experience, a well-trained work force, responsive suppliers, and good product design. A good Sensei can guide where one does not know how. With superior systems and deep thinking, JIT companies Poka Yoke all potential failures. The most successful lean companies have all developed these characteristics. The buffered production management, or JIC policy is a safe bet for steady but "unexceptional" returns. The short-term risk may be low, but so is the potential for long-term gains.

Why is there such a huge difference in the efficiencies between a lean company and a buffered or Just in Case managed company? Lean management systems encourage the full development and integration of all existing technologies, policies, and human resources in a way that traditional or buffered policies seem to miss. At Mysore Kirloskar, we had one person in every cell who had no direct responsibilities but was responsible for activities performed by operators (self-inspectors), audit quality, a trainer, and other specialists. This involvement is key to the integrated, continuous incremental improvement of skills, machines, and processes that elevates a lean production system over its buffered counterpart.

The answer is Lean

Where the desire is high returns, enhanced customer value, low order to delivery times, happy employees, a fast-responding, agile company, delighted customers, etc., then lean management, lean manufacturing, or just-in-time production is the answer to best fulfil such requirements. Think no more; partner with an experienced Sensei who has experience in transformational successes, not a random tool trainer, and embark on your journey. □