Manufacturing In 2025, Part One

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From the shop floor to the order desk, manufacturing has become quite volatile, complex, and dependent on far-flung operations and partners. But that’s a walk in the park compared to what the next 15 years will bring. Here’s how to prepare for the challenges just ahead and, in turn, how you can translate manufacturing prowess into a true competitive advantage.

No time to catch your breath

If you’re like most operating executives at firms that manufacture goods, you’ve been running hard just to keep pace in recent years. You’ve embraced innovations in automation and cost management, leaned out operations without sacrificing quality, extended the supply chain to low-cost sources globally, and made inroads to serving customers in emerging markets.

Yet despite all these smart moves, there’s that nagging tug in your gut: it’s not enough. Manufacturing’s traditional focus on cost efficiency and quality has become table stakes; the real opportunity now is for manufacturing excellence to enable profitable revenue growth and competitive advantage.

Indeed, you no doubt realize that the manufacturing group is not always in sync with the rest of the organization, and the metrics are not always aligned. You lack clear visibility upstream into product research and development (R&D) and customer research, and downstream with marketing programs and channel initiatives. You’re contending with volatility in many different variables, from energy and material input prices to foreign exchange rates to political instability.

The global recession, for example, had a disproportionate impact on manufacturing: in the G8 countries, the decline in manufacturing output was three to four times the decline in GDP. Now, many investors and economists in the larger, developed economies worry about stagnation and deflation, while inflation is an immediate worry in many emerging economies and, over the longer term, in the rest of the world.

Your customers, meanwhile, have grown more demanding, sometimes even fickle. Customer segments are proliferating, and each segment wants more tailored products and supporting services to suit their specific needs and priorities. Customers expect you to be flexible enough to address the dynamic nature of their own operations—whether through shorter lead times, smaller and more frequent orders, customized bundles of goods and services, or setting up in-plant or co-location facilities. Ubiquitous Internet access now means that business customers and consumers have product comparison information at hand virtually anywhere and anytime. Faster launches and higher quality thus have become expected—and of course everyone wants the “right” price.

Greater challenges ahead

Manufacturers will continue to face these and many additional challenges over the next 15 years. Managing a global supply chain is more complicated than some companies predicted, requiring visibility and robust management tools, including the ability to extract and analyze data from disparate technology systems. Beyond this, manufacturers need to be pursuing risk management initiatives to minimize potential disruptions to manufacturing, which is far more difficult with a global operation. The need for secure supply chains, i.e., tighter controls over all aspects of the operations and production process, are required to insure consistent and safe production and to combat grey and black-market leakage. Another financial consideration is developing a tax-efficient supply chain and manufacturing model, from engineering labor to raw materials to production. Additionally, as multiple stakeholders—customers, shareholders, governments—scrutinize companies’ sustainability practices, organizations will need to revisit sourcing, production and distribution resources.

Global operations are increasingly challenging as the current and emerging “low cost” sources are shifting. The rate of change as to which country has the comparative advantage will likely continue to accelerate over the next 15 years. The labor market in China is changing as the country experiences wage growth; at the same time, unions appear to be crumbling in more developed markets. One country may currently have an abundance of engineers but may be predicted to have a shortage within a decade. For manufacturers, the timeframe to identify the next “low cost” country or resource—and to make capital decisions—is collapsing. As different countries compete with different capabilities, which will change over time, manufacturers need to be oriented toward short-term trends and resulting structural changes.

Driving execution excellence aligned toward customer value creation

All these pressures on manufacturers will undoubtedly intensify over the next 15 years. Manufacturers will need to develop new, effective ways to sense and respond to customer demands and market fluctuations, while simultaneously working smarter with their supply partners. Better yet, manufacturers will want to be able to predict shifting customer priorities and competitor moves, to quickly deliver the right solutions to high-value customers in the right places. That’s how high performers position themselves ahead of their competition.

We believe this is a pivotal time for manufacturing. The same factors that create challenges also create opportunities for manufacturing to enable sales and marketing effectiveness. Beyond cost containment, companies that create flexible, agile operations to meet customer needs can realize a competitive advantage.

How can a company seeking high performance leverage its manufacturing prowess, so that the function of manufacturing shifts from being just a cost center to being a true means of competitive advantage? To thrive by 2025, manufacturers will need to excel along five dimensions that have just begun to unfold.

Winning manufacturing attributes for the next 15 years

1. Segment of one: Will you be able to suit customers’ increasingly specific needs?

The migration to highly customized products is accelerating in both consumer and business-to-business markets. The trend started first in high-technology markets such as personal computers. Dell's website, for instance, was one of the first to allow customers to configure their PCs with the components they wanted before placing the order. At the back end, advanced manufacturing and logistics technologies allowed for just-in-time assembly and delivery.

- Customize products (and ancillary services) to serve customer's unique, specific needs and priorities—both spoken and implicit.
- Differentiate by integrating the product with a compelling customer experience.

2. Ready to produce anywhere: Can you move operations every few years to balance local customer expectations with local supply capabilities?

In the past, global sourcing and location decisions centered on chasing low-cost labor, as long as quality was acceptable. But the real, total cost of managing extensive manufacturing networks has risen. Many manufacturers moved too much production capacity off-shore to places quite distant from the centers of demand—driving up costs with complex network management, and reducing their agility in responding to customer needs. After all, North America remains the largest market for many manufactured goods. Now, some firms have reversed their offshoring moves to return to domestic facilities, where they can respond more quickly to customer needs and shifts in local demand: they are rebalancing regional supply with regional demand.

- Design the network footprint according to total "landed" value chain costs and customer service needs.
- Balance regional demand with regional supply.
- Learn to migrate modular components of the operation to the next new low-cost, appropriate-quality country or countries.
- Ensure that the global network has excellent visibility and high service levels.

3. Extended family: Can you truly rely on strategic partners for your most sensitive activities? If so, they might be your new secret weapon.

Many suppliers to the manufacturing process, especially those that are strategic partners, have become integral in delivering the value proposition, rather than being arms-length vendors. As such, they require more information and tight business process alignment in order to be able to respond faster and with flexibility.

- Adopt differentiated models and processes to support increasingly diverse channel and customer needs.
- Shift fixed costs to variable costs, in order to accommodate market changes.

4. The shop floor and beyond: Are you executing for agility?

The strategic activities and new models that we anticipate manufacturers will need to adopt can never be static.

- Use reliable, efficient equipment that is highly configurable and easily transportable.
- Leverage advanced analytical capabilities to build predictive business knowledge.
- Determine and obtain the right mix of skills and resources.

5. More than environmentally-friendly: Are you preparing methods of sustainability that will differentiate your brand?

Despite the recent recession, environmental and social sustainability remains a high priority among many major companies. One key motivation is that heightened customer awareness about sustainability increasingly influences purchasing decisions. Investors, too, are demanding greater corporate attention to sustainability, as they file more and more shareholder resolutions involving issues related to “responsible” business practices, climate change, health, and safety. Another motivation is reducing operational costs: when implemented in conjunction with operational efficiency programs that help firms minimize waste, sustainability initiatives can also help reduce costs over the long-term by reducing usage of water, electric power, transportation fuel, or other commodities.

- Give customers visibility into the complete product lifecycle, from design through disposal.
- Learn to negotiate and ‘partner’ with governments and regulators in nations that control key materials and commodities.

Take a look at part two of the series here [1].

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