Redundancy No Longer Out of Favor in Manufacturing

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For decades, to increase efficiency and to reduce costs, manufacturers adopted the just-in-time approach, carefully tying manufacturing and staffing capabilities to meet demands without creating surplus. Recent supply-chain disruptions, especially those caused by the COVID-19 pandemic, however, may have pushed manufacturers to rethink redundancy.

Rise and Fall of Redundancy

In the 1950s and early 1960s, Carling Brewing Co., a relatively minor brewery that made Carling Black Label Beer, grew from the 62nd to the 8th largest brewery in a then-fragmented industry. It achieved this by building new breweries and buying existing ones all over the country — and making a virtue of redundancy, placing itself close to its markets, and promoting quick deliveries and "freshness."

That method of production was used widely during a period of rapid manufacturing growth in the United States and only modest international competition. Having multiple plants making the same thing was popular across many industries and businesses, from automotive parts to wallpaper. However, over time, it began to lose favor, starting with the Japanese automotive emergence in the 1970s and gathering speed ever since.

Particularly driven by the auto industry, but present in many industries, concentrating production in fewer plants and with just-in-time (JIT) deliveries became the rage. Redundancy means more overhead, more costs, and more management. JIT delivery and elimination of redundancy for many manufacturers became a guiding principle and a gold standard to achieve. Why have three plants produce the same thing when two, or even one, could do the same thing?

Problems With JIT

From the perspective of labor and employment lawyers often engaged in the manufacturing space, there are pluses and minuses to the JIT approach. Certainly, cost savings are real. It is sometimes possible to implement better human resources practices, pay top talent better, and be more efficient where there are employees at fewer sites. Incentives from government can also be maximized.

However, at times, having only one or two plants (or suppliers) producing the same product can create a significant pinch point, where a company can become vulnerable to strikes, other employment demands, transportation bottlenecks, Acts of God, or regulatory closures.

A dramatic example of this problem was a nationwide baby formula shortage in early 2022 in the United States. A baby food manufacturer had to shut a Michigan plant that produced several some of its product lines due to multiple regulatory compliance issues, Acts of God, and the COVID-19 pandemic. Another geopolitical example that garnered much publicity was Germany's dependence on Russian gas and oil, which was largely curtailed as a result of Russia's invasion of Ukraine. Germany quickly, but at considerable expense, developed alternative sources of energy supply.

If a single plant makes a product, then labor negotiations themselves can become a pinch point. If that single plant makes a key product, then an unplanned-for labor disruption at that plant can be catastrophic. While some companies and unions have good labor relations and avoid brinkmanship, that is not always the case. A company dependent on a single plant for a key product (especially without planning well in advance) can be vulnerable to unreasonable union demands that are bad for the plant, costly for the company, terrible for customers, and can even hurt the employees in the long run. Increasingly, unions express a willingness to strike in recent years in some industries. The risk of labor disruption must be taken seriously.

Strategies to Consider

As observed in his thoughtful commentary in *Fortune* Magazine on August 15, 2022, Guest Columnist Kal Raman stated, "Organizations that have eliminated all redundancy are now at risk of having a single point of failure."

The difficulty is that supply chains in the world today are just too complex and too interdependent. Russia's invasion of Ukraine, tensions between China and the United States, the near nationwide U.S. railroad strike in December 2022, and the myriad disruptions of the COVID-19 pandemic demonstrate how fraught with risk the usually modern, highly efficient, but complex, supply chain is.

While companies have many options to lower their risks, on the human resources and employment fronts, manufacturers should consider a shift in mindset, among other strategies.

Adopting a just in case mindset for dealing with the potential for supply chain disruption is essential. In the human resources area, it may mean taking the risks of strikes seriously and lining up backup suppliers and good contingency plans. It may mean making sure that personnel at one plant have the ability and technology available to make the same product if another plant goes down for any reason. It may include mothballing some extra capacity to cover shortages if they occur. And, always, it may mean having successorship plans and redundant training in place so that even a single employee's absence or departure cannot cause a major disruption.

Finally, it also may mean a renewed emphasis on closer relationships between employers and employees and manufacturers and suppliers — especially having more open and rapid communications — so that problems can be spotted and prevented earlier.

Outside of the human capital area, having more than one supplier (even if one supplier is primary), or having smart design of products and hardware so that more parts are interchangeable, and retaining more service, warehouse, and manufacturing locations than are strictly necessary when everything is running smoothly is worth considering.

None of this is to say that manufacturers should go back to the “Carling Brewery” 1950s model of plants located in every region. That arrangement is often too expensive, can lead to waste and spoilation, and can prevent a nimble response to customer needs. Other downsides include plant modernization that can become prohibitively expensive, human resources and other management functions that can become too spread out and sparse to be effective.

However, the best qualities of nimble manufacturing and just-in-time delivery need to be balanced with the real risks of supply chain disruption. Redundancy in personnel, facilities, and suppliers — even if it costs more in the near term — may be an essential part of modern manufacturing in the modern world.

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